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CURE Data Response Set 3 (Responses to Data Requests 242 to 248)

Submitted to
California Energy Commission

Prepared by
Black Rock Geothermal LLC

With assistance from
Jacobs

Black Rock Geothermal Project
(23-AFC-03)
January 19, 2024

Introduction

Attached are Black Rock Geothermal LLC's[1] (Applicant) responses to the California Unions for Reliable Energy's (CURE) *Data Requests Set 3* regarding the Application for Certification (AFC) for the Black Rock Geothermal Project (BRGP) (23-AFC-03). This submittal includes a response to Data Requests 242 through 248.

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as presented *CURE Data Requests Set 3* and are keyed to the Data Request numbers.

New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request 28 would be numbered Table DR28-1. The first figure used in response to Data Request 28 would be Figure DR28-1, and so on. Figures or tables from the BRGP AFC that have been revised have a "R" following the original number, indicating a revision.

Additional tables, figures, or documents submitted in response to a data request (for example, supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end of each discipline-specific section and are not sequentially page numbered consistently with the remainder of the document, though they may have their own internal page numbering system.

[1] An indirect, wholly owned subsidiary of BHE Renewables, LLC ("BHER").

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Acronyms and Abbreviations

AFC	Application for Certification
BHER	BHE Renewables, LLC
BRGP	Black Rock Geothermal Project
CEC	California Energy Commission
CEQA	California Environmental Quality Act
DR	Data Response
DRR	Data Request Response
ENGP	Elmore North Geothermal Project
IID	Imperial Irrigation District
ISO	Independent System Operator
MBGP	Morton Bay Geothermal Project
MW	megawatt
SIS	System Impact Study
TN	Tracking Number

1. Electric Transmission (DR 242-248)

Background: (DR 242)

The Application for Certification ("AFC") at page 3-2 describes the Black Rock Geothermal Project's ("BRGP") transmission study evaluation as follows:

The Applicant applied to IID to interconnect the proposed generating plant to the IID transmission system. IID performed a cluster System Impact Study (SIS) to examine the impact from BRGP, along with nearby proposed projects, in the Salton Sea region near Calipatria, California. The SIS used power flows on the existing gen-tie line, transformers, short circuit duties of the existing transmission facilities, substations, and stability of the interconnected system, considering various contingencies and fault conditions, which determined the proposed plant and the collective 357 MW, creates system impacts and stability problems. The SIS identified necessary mitigation measures (IID system upgrades) required to be in place prior to BRGP connecting into the IID transmission system. The required mitigation plan upgrades are described in the SIS and provided as a confidential filing. When the mitigation plan is implemented, the addition of ENGP ***[BRGP]*** *and related gen-tie line will increase operator flexibility for maintaining the transmission system during steady state and contingency conditions. The single-line drawing for the project is provided as Figures 3-2a and 3-2b…*

The SIS analysis indicates that the proposed Project can be connected to the IID transmission system at the proposed IID 230 kV switching station to be constructed as part of the IID system upgrades. ***A redacted version of the SIS analysis is provided as Appendix 3A.***

Although the AFC states that a redacted version of the System Impact Study ("SIS") is provided, no such document is publicly available on the BRGP docket.

Data Requests:

242. Provide the redacted SIS (System Impact Study), which is referenced at AFC page 3-2 as provided as Appendix 3A.

Response: Please see Attachment DR 242.

Background: (DR 243-248)

California Energy Commission ("CEC") staff requested information related to the BRGP's SIS in Data Requests Set 1, nos. 83 through 98 (TN 252096). To support its requests, CEC staff explained:

The California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment." The Application for Certification requires discussion of the "energy resource impacts which may result from the construction or operation of the power plant." For the identification of impacts on the transmission system resources and the indirect or downstream transmission impacts, staff relies on the Phase I and Phase II Interconnection Studies for ensuring the interconnecting grid meets the California Independent System Operator (California ISO) reliability standards. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause a violation of reliability standards, the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include the construction of downstream transmission facilities. CEQA requires the analysis of any downstream facilities for potential indirect impacts of the proposed project. ***Without a complete Phase I or Phase II Interconnection Study, staff is not able to fulfill the CEQA requirement to identify the indirect effects of the proposed project.***

Specifically, Data Request No. 83 (TN 252096) requested a copy of "all the appendix and attachments" to the SIS, in relevant part. The Applicant responded that the "Applicant is confirming with IID if additional attachments can be provided." (TN 252492-1) Furthermore, Data Request No.85 (TN 252096) requested a copy of the "IID Switching Station one-line diagram with the proposed project interconnection." The Applicant responded that the "Applicant is confirming with IID if the preliminary one-line diagram for the IID Switching Station can be provided." (TN 252492-1)

On October 3, 2023, the Applicant submitted a Repeated Application for Confidential Designation for the following response to CEC staff's Data Requests Set 1 (TN 252497):

- *Response to Data Request Number 90: Imperial Irrigation District ("IID") BHE Cluster System Impact Study ("SIS"), appendices, and attachments; and*
- *Response to Data Request Number 94: IID Switching Station One-line Diagram*

On October 19, 2023, CEC designated the following data as confidential (TN 252653):

- *DRR 90 – IID BHE Cluster System Impact Study*
- *DRR 90 – Appendix D 2026 Heavy Summer Transient Stability Results*
- *DRR 90 – Appendix E 2026-2027 Light Winter Sensitivity Transient Stability Results*
- *DRR 90 – Appendix F Post Transient (Reactive Margin)*
- *DRR 90 – Appendix G Short Circuit Results*
- *DRR 94 – IID Switching Station One-line Diagram*

To the extent any of the above information may be available in a redacted or excerpted version, CURE is requesting disclosure of this information, which is directly relevant to BRGP's direct impacts on the transmission system as well as the downstream transmission impacts.

Data Requests:

243. Provide the redacted version of the Data Request Response ("DRR") 85 – Imperial Irrigation District ("IID") Switching Station One-line Diagram (TN 252650).

Response: Please see the Notice of Objection filed by the Applicant on January 9, 2024.

244. Provide the redacted version of DRR 83 – Appendix G Short Circuit Results (TN 252649).

Response: Please see Attachment DR 244.

245. Provide the redacted version of DRR 83 – Appendix F Post Transient (Reactive Margin) (TN 252648).

Response: Please see Attachment DR 245.

246. Provide the redacted version of DRR 83 – Appendix E 2026-2027 Light Winter Sensitivity Transient Stability Results (TN 252647).

Response: Please see Attachment DR 246.

247. Provide the redacted version of DRR 83 – Appendix D 2026 Heavy Summer Transient Stability Results (TN 252646)

Response: Please see Attachment DR 247.

248. Provide the redacted version of DRR 83 – IID BHE Cluster System Impact Study (TN 252645).

Response: Please see Attachment DR 248.

Attachment DR 242
Redacted System Impact Study

Appendix 3A
BHE Cluster System Impact Study

This Appendix is filed under a request for confidential designation

Appendix 3A BHE Cluster System Impact Study have been provided under a request for confidentiality.

VERSION: FINAL

OCTOBER 7, 2022

BHE CLUSTER – 357MW (IPP-150, IPP-151, IPP-152) SYSTEM IMPACT STUDY

TRANSMISSION PLANNING

Table of Contents

ABSTRACT

The following report contains the results for an interconnection analysis conducted in order to verify the feasibility of the BHE Cluster Projects (357MW net total), a combination of three (3) Geothermal Projects and discover potentially impacted facilities belonging to the Imperial Irrigation District (IID). The tools used for this analysis were General Electric (GE) Positive Sequence Load Flow (PSLF) and its EPCL script functionalities.

1. EXECUTIVE SUMMARY

BHE Renewables, LLC ("Customer") submitted a completed generator interconnection application to IID, to be connected within IID metered boundaries, for their BHE Cluster ("Projects"). The Projects combined net total output between three geothermal facilities is 357 MW located in Imperial County, California. The Projects are, Black Rock a 77 MW (79 MW Gross) geothermal facility, Elmore North a 140 MW (153 MW Gross) geothermal facility, and Morton Bay a 140 MW (153 MW Gross) geothermal facility. Each proposing a Point of Interconnection (POI) at a new IID 230 kV Switching Station located southeast of the Salton Sea. The Projects plan to deliver to the California Independent System Operator (CAISO) via Southern California Edison's (SCE) 230 kV [redacted]. The project's all share the same Commercial Operation Date (COD) of June 2026.

IID has performed a System Impact Study (SIS), for the Projects, which included power flow, transient stability, post-transient stability, and short circuit analysis. The scope of the analysis was to identify the transmission system impacts caused solely by the addition of the Projects, and to identify the transmission system reinforcements, if any, necessary to mitigate the adverse impact of the Projects under different system operating conditions. The following Scenarios were studied accordingly, due to other generation projects in the queue as year's progress:

- 2026 Heavy Summer
- 2026 Heavy Summer (w/o [redacted])
- 2026-2027 Light Winter Sensitivity
- 2026-2027 Light Winter Sensitivity (w/o [redacted])

Each scenario includes three versions, a pre-case which has all generation in the queue as well as planned IID upgrades, a post case which includes the Projects without system mitigations and a post mitigation case.

1.1 STEADY STATE RESULTS

The steady state analysis which included all generation in the queue excluding [redacted] showed that the Projects overload both the 230kV [redacted] Lines between [redacted] Substation to the future [redacted] Switching Station, and 230 kV [redacted] Line between [redacted] Substation to [redacted] substation under N-0 and N-1 conditions. The Projects also overload multiple 92 kV line sections in the Coachella Valley area under N-1 conditions related to [redacted]. The Projects will be required to build out a new 230kV transmission line from a future IID Switching Station, used to collect all geothermal power in the southern portion of the Salton Sea, to IID's 230kV [redacted] Substation in order to alleviate overloads on the [redacted] Lines. To alleviate the overloads seen on the [redacted] Line as well as the 92 kV overloads the Projects will be required to build out a new 230kV transmission line from [redacted] Substation to [redacted] Substation. It was discovered with the introduction of these new transmission lines, which allow for more flow and less losses to the Coachella Valley area, that new N-1 & N-2 overloads are seen on IID's 92 kV [redacted] Line. The Projects will be responsible for creating a new "[redacted] Line N-2" Remedial Action Scheme (RAS) that will drop [redacted] and [redacted] when specific N-1 and N-2 conditions are met. Additionally, the Projects caused the reactive power net interchange for IID to be negative (i.e. IID was consuming reactive power from its neighbors). In order to correct this deficit, a total of ~75MVAR capacitors will need to be installed at the [redacted] 230kV substation.

The steady state analysis that includes all generation in the queue showed that the Projects caused N-0 overloads on [redacted] circuits #1 & #2 transmission circuits. The Projects will be required to build out a new 230kV transmission line from IID's [redacted] Substation to SCE's [redacted] Substation. Additionally, with the introduction of the Project utilizing the new 230kV transmission line from the new

IID switching station to [redacted] Substation, we see the line start to exceed its surge impedance loading. The Projects will be required to install series compensation to compensate the line by 50%. The project will also be required to install ~75MVAR capacitors at the [redacted] 230kV substation.

1.2 TRANSIENT STABILITY RESULTS

Transient stability analysis which excluded [redacted] indicates that the Projects cause unstable conditions during N-1 and N-2 conditions. These instabilities are corrected with the transmission upgrades mentioned above but also require the new 230kV transmission line from IID's [redacted] Substation to SCE's [redacted] Substation

Transient stability analysis which included [redacted] indicates that the Projects cause unstable conditions during N-1, N-2, and N-1-1 conditions. These instabilities are corrected with the transmission upgrades mentioned above.

1.3 POST-TRANSIENT (REACTIVE MARGIN) RESULTS

Post-Transient analysis indicates that the Projects cause unsatisfactory results and confirm the addition of a new 230kV transmission line is required.

1.4 SHORT CIRCUIT RESULTS

Results indicate that no IID circuit breaker exceeded its interrupting capability as a result of the potential interconnection of this project with proposed upgrades mentioned above.

Disclaimer

Please note that the assessment contained in this study report is specific to the Imperial Irrigation District system only. It does not address impacts on systems belonging to or under operational control of other entities. IID's assessment evaluated delivery of generation from your facility from the point of interconnection to the boundary/intertie point identified in the study report. You will be required to address impacts on the system or systems of others through a separate process. IID will provide a copy of your study report to the affected systems, and will notify you when that has occurred. IID does not make any representation with regard to, but not limited to, the availability of deliverability, resource adequacy, maximum import capability, or other structure specific to the market or operational control of other entities. You should check with the off-taker of your generation or the California Independent System Operator Corporation with regard to how your project will be treated with regard to deliverability, resource adequacy and/or maximum import capability.

2. PROJECT DESCRIPTION

The proposed BHE Cluster consists of three (3) geothermal facilities with a combined output of 357 MW located in Imperial County, California. The cluster is proposing delivering to [redacted] Substation. Please refer to Table 1 for further breakdown.

IID Queue	Project Name	Point of Interconnection	Type	MW at POI	Proposed COD
150	Elmore North	New IID Facilities	Geo	140	June 2026
151	Black Rock	New IID Facilities	Geo	77	June 2026
152	Morton Bay	New IID Facilities	Geo	140	June 2026

TABLE 1 - BREAKDOWN OF PROJECTS IN CLUSTER

2.1 ELMORE NORTH PROJECT DESCRIPTION

The proposed project consists of a 140 MW geothermal facility located in Imperial County, California. Its interconnection point will be to a new 230 kV line via a new 230 kV switching station. The project will feed into IID's new switching station used to collect geothermal in the area and then exported through new 230 kV transmission facilities.

The project's geothermal facilities will operate at a power factor range of +/-.85. The project output will be sold into the California Independent System Operator (CAISO). The proposed commercial operation date is June 2026.

2.2 BLACK ROCK PROJECT DESCRIPTION

The proposed project consists of a 77 MW geothermal facility located in Imperial County, California. Its interconnection point will be to a new 230 kV line via a new 230 kV switching station. The project will feed into IID's new switching station used to collect geothermal in the area and then exported through new 230 kV transmission facilities.

The project's geothermal facilities will operate at a power factor range of +/-.85. The project output will be sold into the California Independent System Operator (CAISO). The proposed commercial operation date is June 2026.

2.3 MORTON BAY PROJECT DESCRIPTION

The proposed project consists of a 140 MW geothermal facility located in Imperial County, California. Its interconnection point will be to a new 230 kV line via a new 230 kV switching station. The project will feed into IID's new switching station used to collect geothermal in the area and then exported through new 230 kV transmission facilities.

The project's geothermal facilities will operate at a power factor range of +/-.85. The project output will be sold into the California Independent System Operator (CAISO). The proposed commercial operation date is June 2026.

3. COST

This assessment proves the feasibility of the Projects through participation in the following:

No.	Upgrade Description	Cost
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
	Total	[redacted]

TABLE 2: COST BREAKDOWN

*Identified line items are considered network upgrades and would therefore qualify for transmission rate credits.

**The following cost is a good faith, high-level estimate. Additional details and precise costs will be provided in the facility study report.

This estimate does not include the new 230kV transmission line from [redacted] switching station to [redacted] and new 230kV transmission line from [redacted] Ssubstation to [redacted] substation. This upgrade is currently assigned to [redacted] and are considered Contingent Network Upgrades for the BHE Cluster. The anticipated cost for these upgrades are [redacted]

Contingent Network Upgrades:

- New 230kV transmission circuit from IID switching station to [redacted] substation
- New 230kV transmission circuit from [redacted] substation to [redacted] substation
- Expansion of [redacted] substation
- Rebuild of [redacted] substation
- Create "[redacted] Line N-2" RAS

Attachment DR 244
DRR 83 – Appendix G
Short Circuit Results

APPENDIX G: SHORT CIRCUIT RESULTS

Short Circuit Results																
			Pre-Project							Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta	
[redacted]	230.kV	KSSO	61.9	61.9%	24754	40000	24754	12.2	71.8	71.8%	28730.9	40000	28730.9	13.5	9.9%	
[redacted]	230.kV	KSNO	61.6	61.6%	24654.8	40000	24654.8	12.2	71.4	71.4%	28555.4	40000	28555.4	13.6	9.8%	
[redacted]	230.kV	H10	61.6	61.6%	24654.8	40000	24654.8	12.2	71.4	71.4%	28555.4	40000	28555.4	13.6	9.8%	
[redacted]	230.kV	CBNO	50.1	50.1%	20024.2	40000	20024.2	12.7	57.4	57.4%	22951.7	40000	22951.7	12.9	7.3%	
[redacted]	230.kV	KNSO	48.3	48.3%	19317.2	40000	19317.2	12.5	55.6	55.6%	22244.6	40000	22244.6	12.7	7.3%	
[redacted]	230.kV	H2NO	48.8	48.8%	19519.4	40000	19519.4	12.9	56.1	56.1%	22436.7	40000	22436.7	13	7.3%	
[redacted]	230.kV	H2SO	48.8	48.8%	19519.4	40000	19519.4	12.9	56.1	56.1%	22436.7	40000	22436.7	13	7.3%	
[redacted]	230.kV	CB10	31.8	31.8%	20024.2	63000	20024.2	12.7	36.4	36.4%	22951.7	63000	22951.7	12.9	4.6%	
[redacted]	230.kV	KSFO	30.7	30.7%	19317.2	63000	19317.2	12.5	35.3	35.3%	22244.6	63000	22244.6	12.7	4.6%	
[redacted]	230.kV	KSSO	30.7	30.7%	19317.2	63000	19317.2	12.5	35.3	35.3%	22244.6	63000	22244.6	12.7	4.6%	
[redacted]	230.kV	H4SO	31.4	31.4%	19771.1	63000	19771.1	12.8	36	36.0%	22693.5	63000	22693.5	12.9	4.6%	
[redacted]	230.kV	H1SO	31.4	31.4%	19771.1	63000	19771.1	12.8	36	36.0%	22693.5	63000	22693.5	12.9	4.6%	
[redacted]	230.kV	H4NO	31.4	31.4%	19771.1	63000	19771.1	12.8	36	36.0%	22693.5	63000	22693.5	12.9	4.6%	
[redacted]	230.kV	H1NO	31.4	31.4%	19771.1	63000	19771.1	12.8	36	36.0%	22693.5	63000	22693.5	12.9	4.6%	
[redacted]	230.kV	KNNO	29	29.0%	18251.7	63000	18251.7	12.8	33.1	33.1%	20879.8	63000	20879.8	12.7	4.2%	
[redacted]	230.kV	KSNO	29	29.0%	18297.2	63000	18297.2	12.8	33.2	33.2%	20913.4	63000	20913.4	12.7	4.2%	
[redacted]	92.kV	CXSO	75.5	75.5%	30201.9	40000	28798	20.4	79.4	79.4%	31771.2	40000	29981.1	21.4	3.9%	
[redacted]	92.kV	CLNO	76.2	76.2%	30465.2	40000	28977.3	20.6	80	80.0%	32001.4	40000	30135.8	21.6	3.8%	
[redacted]	92.kV	CLSO	76.1	76.1%	30456.1	40000	28968.1	20.6	80	80.0%	31992.1	40000	30126.4	21.6	3.8%	
[redacted]	92.kV	CWSO	77.2	77.2%	30874.5	40000	29326.7	20.8	81	81.0%	32396.7	40000	30475.7	21.7	3.8%	
[redacted]	92.kV	CWNO	77.2	77.2%	30874.5	40000	29326.7	20.8	81	81.0%	32396.7	40000	30475.7	21.7	3.8%	
[redacted]	92.kV	X30	73.5	73.5%	29402.7	40000	27882.9	20.9	77.3	77.3%	30921	40000	29048.2	21.8	3.8%	
[redacted]	92.kV	X10	70.1	70.1%	28050.2	40000	26723.3	20.5	73	73.0%	29204.6	40000	27580.9	21.3	2.9%	
[redacted]	92.kV	CNSO	48.4	48.4%	30465.2	63000	28977.3	20.6	50.8	50.8%	32001.4	63000	30135.8	21.6	2.4%	
[redacted]	92.kV	CNNO	48.4	48.4%	30465.2	63000	28977.3	20.6	50.8	50.8%	32001.4	63000	30135.8	21.6	2.4%	
[redacted]	92.kV	X20	63.1	63.1%	25246.4	40000	23777.3	21.6	65.3	65.3%	26121.9	40000	24390.5	22.4	2.2%	
[redacted]	92.kV	X40	44.5	44.5%	28050.3	63000	26723.3	20.5	46.4	46.4%	29204.6	63000	27581	21.3	1.8%	
[redacted]	230.kV	MHO	12.5	12.5%	6259.6	50000	6257.4	16.6	14.2	14.2%	7124.9	50000	7124.9	15.4	1.7%	
[redacted]	92.kV	GTO	47.5	47.5%	19009.6	40000	19009.6	10.5	49	49.0%	19596.7	40000	19596.7	10.7	1.5%	
[redacted]	92.kV	CBO	57.4	57.4%	22963.1	40000	22963.1	12.6	58.7	58.7%	23499.4	40000	23499.4	12.6	1.3%	
[redacted]	92.kV	CB10	57.4	57.4%	22963.1	40000	22963.1	12.6	58.7	58.7%	23499.4	40000	23499.4	12.6	1.3%	
[redacted]	92.kV	CMO	57.4	57.4%	22963	40000	22963	12.6	58.7	58.7%	23499.3	40000	23499.3	12.6	1.3%	
[redacted]	92.kV	H10	57.1	57.1%	22838.6	40000	22838.6	12.5	58.4	58.4%	23370.7	40000	23370.7	12.5	1.3%	
[redacted]	92.kV	H20	56.9	56.9%	22776.7	40000	22776.7	12.5	58.3	58.3%	23306.7	40000	23306.7	12.5	1.3%	
[redacted]	92.kV	KOB	54.1	54.1%	21646.8	40000	21646.8	13	55.4	55.4%	22176.6	40000	22176.6	13.1	1.3%	
[redacted]	92.kV	CB10	36.9	36.9%	14744	40000	13942.2	21.2	38.1	38.1%	15256	40000	14311.7	21.9	1.3%	
[redacted]	92.kV	CIO	53.4	53.4%	21375.3	40000	21375.3	12.6	54.7	54.7%	21863.8	40000	21863.8	13.2	1.2%	
[redacted]	92.kV	TROB	52.8	52.8%	21104.2	40000	21104.2	12.9	54	54.0%	21587.6	40000	21587.6	12.9	1.2%	
[redacted]	92.kV	ROB	52.8	52.8%	21104.2	40000	21104.2	12.9	54	54.0%	21587.6	40000	21587.6	12.9	1.2%	
[redacted]	92.kV	CEO	33.3	33.3%	13306.8	40000	12346.8	23.1	34.4	34.4%	13767.7	40000	12675.8	23.9	1.2%	
[redacted]	92.kV	X10	33.3	33.3%	13306.8	40000	12346.8	23.1	34.4	34.4%	13767.7	40000	12675.8	23.9	1.2%	
[redacted]	92.kV	CAO	32.6	32.6%	13046.8	40000	12047.5	23.6	33.7	33.7%	13496.9	40000	12365.9	24.4	1.1%	
[redacted]	92.kV	KOBE	40.7	40.7%	16286.3	40000	16286.3	10.2	41.7	41.7%	16698.6	40000	16698.6	10.2	1.0%	
[redacted]	92.kV	KOBW	40.7	40.7%	16286.3	40000	16286.3	10.2	41.7	41.7%	16698.6	40000	16698.6	10.2	1.0%	
[redacted]	92.kV	CNO	49.8	49.8%	19933.2	40000	19933.2	12.2	50.8	50.8%	20309.9	40000	20309.9	12.2	0.9%	
[redacted]	92.kV	CLO	49.8	49.8%	19909.9	40000	19909.9	12.2	50.7	50.7%	20285.5	40000	20285.5	12.2	0.9%	
[redacted]	92.kV	CDO	37.2	37.2%	14884.1	40000	14884.1	8.5	38.1	38.1%	15248.9	40000	15248.9	8.6	0.9%	
[redacted]	92.kV	H10	24.9	24.9%	9978.2	40000	8720.8	30.8	25.8	25.8%	10324.8	40000	8961.8	32	0.9%	
[redacted]	92.kV	CB10	40.3	40.3%	16135	40000	16135	8.9	41.1	41.1%	16452	40000	16452	8.9	0.8%	
[redacted]	92.kV	CB30	40.3	40.3%	16135	40000	16135	8.9	41.1	41.1%	16452	40000	16452	8.9	0.8%	
[redacted]	92.kV	CBO	40.3	40.3%	16135	40000	16135	8.9	41.1	41.1%	16452	40000	16452	8.9	0.8%	
[redacted]	92.kV	H20	40	40.0%	16004.5	40000	16004.5	8.8	40.8	40.8%	16317.5	40000	16317.5	8.9	0.8%	
[redacted]	92.kV	CWSO	40	40.0%	16004.5	40000	16004.5	8.8	40.8	40.8%	16317.5	40000	16317.5	8.9	0.8%	
[redacted]	92.kV	CISO	39.6	39.6%	15845.5	40000	15845.5	8.7	40.4	40.4%	16153.7	40000	16153.7	8.8	0.8%	
[redacted]	92.kV	H10	39.6	39.6%	15845.5	40000	15845.5	8.7	40.4	40.4%	16153.7	40000	16153.7	8.8	0.8%	
[redacted]	92.kV	H20	35.1	35.1%	14022.6	40000	14022.6	8.5	35.8	35.8%	14326.3	40000	14326.3	8.5	0.8%	
[redacted]	92.kV	H10	35.1	35.1%	14022.6	40000	14022.6	8.5	35.8	35.8%	14326.3	40000	14326.3	8.5	0.8%	
[redacted]	230.kV	MBO	25.5	25.5%	10209.5	40000	10209.5	14.5	26.3	26.3%	10504.2	40000	10504.2	14.5	0.7%	
[redacted]	230.kV	H2SO	27.2	27.2%	10862.1	40000	10862.1	15.3	27.9	27.9%	11155.4	40000	11155.4	15.3	0.7%	
[redacted]	230.kV	H1SO	27.2	27.2%	10866.9	40000	10866.9	15.3	27.9	27.9%	11160.1	40000	11160.1	15.3	0.7%	
[redacted]	230.kV	H1NO	27.2	27.2%	10866.9	40000	10866.9	15.3	27.9	27.9%	11160.1	40000	11160.1	15.3	0.7%	
[redacted]	92.kV	H20	32.8	32.8%	13118.6	40000	13118.6	7.7	33.5	33.5%	13407.9	40000	13407.9	7.7	0.7%	
[redacted]	92.kV	H10	32.8	32.8%	13118.6	40000	13118.6	7.7	33.5	33.5%	13407.9	40000	13407.9	7.7	0.7%	
[redacted]	92.kV	H10	33.6	33.6%	13437.4	40000	13437.4	8	34.3	34.3%	13725.6	40000	13725.6	8	0.7%	
[redacted]	92.kV	CASO	20.7	20.7%	13046.8	63000	12047.5	23.6	21.4	21.4%	13496.9	63000	12365.9	24.4	0.7%	
[redacted]	230.kV	KNTO	27.9	27.9%	11169.7	40000	11169.7	15.5	28.6	28.6%	11452.3	40000	11452.3	15.4	0.7%	
[redacted]	230.kV	KSNO	27.9	27.9%	11169.7	40000	11169.7	15.5	28.6	28.6%	11452.3	40000	11452.3	15.4	0.7%	
[redacted]	230.kV	KNNO	27.9	27.9%	11169.7	40000	11169.7	15.5	28.6	28.6%	11452.3	40000	11452.3	15.4	0.7%	
[redacted]	230.kV	H2NO	27.9	27.9%	11169.7	40000	11169.7	15.5	28.6	28.6%	11452.3	40000	11452.3	15.4	0.7%	
[redacted]	92.kV	CSO	36.2	36.2%	14498.9	40000	14498.9	8.7	37	37.0%	14780.9	40000	14780.9	8.7	0.7%	
[redacted]	92.kV	CB30	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	CBO	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	H3EO	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	H3WO	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	CB10	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	H20	37.2	37.2%	14889.4	40000	14889.4	9	37.9	37.9%	15170.5	40000	15170.5	9	0.7%	
[redacted]	92.kV	CENO	38.3	38.3%	15315.6	40000	15315.6	8.5	39	39.0%	15594.1	40000	15594.1	8.5	0.7%	
[redacted]	92.kV	CESO	38.3	38.3%	15315.6	40000	15315.6	8.5	39	39.0%	15594.1	40000	15594.1	8.5	0.7%	
[redacted]	92.kV	H20	27.7	27.7%	11099.9	40000	11099.9	13.4	28.4	28.4%	11368.6	40000	11368.6	13.7	0.7%	
[redacted]	92.kV	H10	27.7	27.7%	11099.9	40000	11099.9	13.4	28.4	28.4%	11368.6	40000	11368.6	13.7	0.7%	
[redacted]	92.kV	RSEO	34.3	34.3%	13701.6	40000	13701.6	9.7	34.9	34.9%	13962.7	40000	13962.7	9.2	0.7%	
[redacted]	92.kV	CASO	37.1	37.1%	14832.7	40000	14832.7	8.4	37.7	37.7%	15092	40000	15092	8.4	0.6%	
[redacted]	92.kV	CANO	37.1	37.1%	14832.7	40000	14832.7	8.4	37.7	37.7%	15092	40000	15092	8.4	0.6%	
[redacted]	92.kV	CSNO	29.9	29.9%	11950.2	40000	11950.2	7.6	30.5	30.5%	12209.5	40000	12209.5	7.7	0.6%	
[redacted]	92.kV	CSSO	29.9	29.9%	11950.2	40000	11950.2	7.6	30.5	30.5%	12209.5	40000	12209.5	7.7	0.6%	
[redacted]	92.kV	CDO	35.2	35.2%	14076.6	40000	14076.6	8.9	35.8	35.8%	14323	40000	14323	9	0.6%	
[redacted]	92.kV	RSWO	35.2	35.2%	14076.6	40000	14076.6	8.9	35.8	35.8%	14323	40000	14323	9	0.6%	
[redacted]	92.kV	CINO	33.3	33.3%	13319.7	40000	13319.7	8.7	33.9	33.9%	13562	40000	13562	8.7	0.6%	
[redacted]	92.kV	CWNO	34.5	34.5%	13819	40000	13819	8.8	35.2	35.2%	14060.8	40000	14060.8	8.8	0.6%	
[redacted]	92.kV	CATO	28.3	28.3%	11308.5	40000	11308.5	7.9	28.9	28.9%	11549.4	40000	11549.4	7.9	0.6%	
[redacted]	92.kV	H30	28.2	28.2%	11298.9	40000	11298.9	7.4	28.8	28.8%	11530.5	40000	11530.5	7.4	0.6%	
[redacted]	92.kV	H10	28.2	28.2%	11298.9	40000	11298.9	7.4	28.8	28.8%	11530.5	40000	11530.5	7.4	0.6%	
[redacted]	92.kV	H20	28.2	28.2%	11298.9	40000	11298.9	7.4	28.8	28.8%	11530.5	40000	11530.5	7.4	0.6%	
[redacted]	92.kV	X4EO	29.8	29.8%	11926.7	40000	11926.7	7.2	30.4	30.4%	12157.9	40000	12157.9	7.2	0.6%	
[redacted]	92.kV	X4WO	29.8	29.8%	11926.7	40000	11926.7	7.2	30.4	30.4%	12157.9	40000	12157.9	7.2	0.6%	
[redacted]	92.kV	MW20	43.5	43.5%	17407.4	40000	16545.4	20.7	44.1	44.1%	17632.6	40000	16744.7	20.8	0.6%	

Short Circuit Results															
			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	92.kV	MW40	42.4	42.4%	16946.9	40000	16107.7	20.7	42.9	42.9%	17171	40000	16306.4	20.8	0.6%
[redacted]	92.kV	MW30	42.4	42.4%	16946.9	40000	16107.7	20.7	42.9	42.9%	17171	40000	16306.4	20.8	0.6%
[redacted]	92.kV	CB10	46.7	46.7%	18684.5	40000	17759.2	20.7	47.3	47.3%	18907.9	40000	17955.8	20.8	0.6%
[redacted]	92.kV	MW10	41.7	41.7%	16678.7	40000	15852.7	20.7	42.3	42.3%	16901.8	40000	16050.7	20.8	0.6%
[redacted]	92.kV	H10	29.5	29.5%	11817.2	40000	11817.2	7.3	30.1	30.1%	12038.9	40000	12038.9	7.3	0.6%
[redacted]	92.kV	H20	29.5	29.5%	11817.2	40000	11817.2	7.3	30.1	30.1%	12038.9	40000	12038.9	7.3	0.6%
[redacted]	92.kV	CSO	33.4	33.4%	13362.5	40000	13362.5	8.9	34	34.0%	13580.1	40000	13580.1	8.9	0.5%
[redacted]	92.kV	RNWO	33.4	33.4%	13362.5	40000	13362.5	8.9	34	34.0%	13580.1	40000	13580.1	8.9	0.5%
[redacted]	92.kV	CENO	22.7	22.7%	9067.2	40000	9067.2	14.8	23.2	23.2%	9278.1	40000	9278.1	15.2	0.5%
[redacted]	92.kV	CESO	23.9	23.9%	9542.9	40000	9542.9	13.6	24.4	24.4%	9748.8	40000	9748.8	13.8	0.5%
[redacted]	92.kV	H10	25.1	25.1%	10020.3	40000	10020.3	7.6	25.6	25.6%	10220.8	40000	10220.8	7.6	0.5%
[redacted]	92.kV	CDTO	26.9	26.9%	10765	40000	10765	7	27.4	27.4%	10961.9	40000	10961.9	7	0.5%
[redacted]	92.kV	H20	21.7	21.7%	13856.2	64000	13856.2	8	22.1	22.1%	14162.6	64000	14162.6	8	0.5%
[redacted]	92.kV	H10	21.7	21.7%	13856.2	64000	13856.2	8	22.1	22.1%	14162.6	64000	14162.6	8	0.5%
[redacted]	230.kV	KNSO	18.1	18.1%	11374.2	63000	11374.2	15.4	18.5	18.5%	11674.7	63000	11674.7	15.4	0.5%
[redacted]	230.kV	KFTO	18.1	18.1%	11374.2	63000	11374.2	15.4	18.5	18.5%	11674.7	63000	11674.7	15.4	0.5%
[redacted]	92.kV	CWSO	25.9	25.9%	10361.6	40000	10361.6	7.3	26.4	26.4%	10551.2	40000	10551.2	7.3	0.5%
[redacted]	92.kV	CWNO	25.9	25.9%	10361.6	40000	10361.6	7.3	26.4	26.4%	10551.2	40000	10551.2	7.3	0.5%
[redacted]	92.kV	CIEO	25.6	25.6%	10244.3	40000	10244.3	8.1	26	26.0%	10415.6	40000	10415.6	8.1	0.4%
[redacted]	92.kV	CIWO	25.6	25.6%	10244.3	40000	10244.3	8.1	26	26.0%	10415.6	40000	10415.6	8.1	0.4%
[redacted]	161.kV	H30	18.8	18.8%	7525.7	40000	6624.8	29.7	19.2	19.2%	7695.9	40000	6733	30.7	0.4%
[redacted]	161.kV	NOB	18.8	18.8%	7525.7	40000	6624.8	29.7	19.2	19.2%	7695.9	40000	6733	30.7	0.4%
[redacted]	92.kV	CDTO	24.6	24.6%	9829.9	40000	9829.9	7.2	25	25.0%	9993.7	40000	9993.7	6.8	0.4%
[redacted]	92.kV	RNEO	27.5	27.5%	11017.7	40000	11017.7	9.1	27.9	27.9%	11172.7	40000	11172.7	9.1	0.4%
[redacted]	92.kV	CDSO	22.1	22.1%	8830.2	40000	8830.2	6.7	22.5	22.5%	8984.6	40000	8984.6	6.7	0.4%
[redacted]	92.kV	CDNO	22.1	22.1%	8830.2	40000	8830.2	6.7	22.5	22.5%	8984.6	40000	8984.6	6.7	0.4%
[redacted]	230.kV	MBSO	14.3	14.3%	9022.7	63000	9022.7	13	14.7	14.7%	9260.8	63000	9260.8	13	0.4%
[redacted]	230.kV	H10	14.3	14.3%	9022.7	63000	9022.7	13	14.7	14.7%	9260.8	63000	9260.8	13	0.4%
[redacted]	92.kV	CSEO	21.2	21.2%	8489.2	40000	8489.2	6.7	21.6	21.6%	8638.3	40000	8638.3	6.6	0.4%
[redacted]	92.kV	CSWO	21.2	21.2%	8489.2	40000	8489.2	6.7	21.6	21.6%	8638.3	40000	8638.3	6.6	0.4%
[redacted]	92.kV	CDTO	23.9	23.9%	9553.5	40000	9553.5	6.8	24.3	24.3%	9701.3	40000	9701.3	6.8	0.4%
[redacted]	92.kV	H20	23.3	23.3%	9324.1	40000	9324.1	6.7	23.7	23.7%	9471.6	40000	9471.6	6.7	0.4%
[redacted]	92.kV	H10	23.3	23.3%	9324.1	40000	9324.1	6.7	23.7	23.7%	9471.6	40000	9471.6	6.7	0.4%
[redacted]	92.kV	CWSO	21.6	21.6%	8650.6	40000	8650.6	6.8	22	22.0%	8792.9	40000	8792.9	6.8	0.4%
[redacted]	92.kV	CWNO	21.6	21.6%	8650.6	40000	8650.6	6.8	22	22.0%	8792.9	40000	8792.9	6.8	0.4%
[redacted]	92.kV	CINO	20.7	20.7%	8297.1	40000	8297.1	6.7	21.1	21.1%	8438.5	40000	8438.5	6.7	0.4%
[redacted]	92.kV	CISO	20.7	20.7%	8297.1	40000	8297.1	6.7	21.1	21.1%	8438.5	40000	8438.5	6.7	0.4%
[redacted]	92.kV	CAWO	21.5	21.5%	8598.7	40000	8598.7	6.4	21.8	21.8%	8734.2	40000	8734.2	6.4	0.3%
[redacted]	92.kV	CAEO	21.5	21.5%	8598.7	40000	8598.7	6.4	21.8	21.8%	8734.2	40000	8734.2	6.4	0.3%
[redacted]	230.kV	MBNO	13.8	13.8%	8665.1	63000	8665.1	13.4	14.1	14.1%	8874.6	63000	8874.6	13.4	0.3%
[redacted]	161.kV	LOB	17.6	17.6%	7036.1	40000	6127.7	31.4	17.9	17.9%	7168.7	40000	6205.4	32.4	0.3%
[redacted]	230.kV	MBWO	12.1	12.1%	7597.7	63000	7597.7	13.6	12.4	12.4%	7794.8	63000	7794.8	13.6	0.3%
[redacted]	230.kV	MBO	12.1	12.1%	7597.7	63000	7597.7	13.6	12.4	12.4%	7794.8	63000	7794.8	13.6	0.3%
[redacted]	230.kV	MBEO	11.9	11.9%	7488.1	63000	7488.1	13.6	12.2	12.2%	7685.2	63000	7685.2	13.6	0.3%
[redacted]	230.kV	T10	11.9	11.9%	7488.1	63000	7488.1	13.6	12.2	12.2%	7685.2	63000	7685.2	13.6	0.3%
[redacted]	92.kV	CDWO	18.2	18.2%	7297.8	40000	7297.8	6.3	18.5	18.5%	7412.5	40000	7412.5	6.3	0.3%
[redacted]	92.kV	CDEO	18.2	18.2%	7297.8	40000	7297.8	6.3	18.5	18.5%	7412.5	40000	7412.5	6.3	0.3%
[redacted]	92.kV	CESO	18.2	18.2%	7292	40000	7292	6.2	18.5	18.5%	7398.9	40000	7398.9	6.1	0.3%
[redacted]	92.kV	CENO	18.2	18.2%	7292	40000	7292	6.2	18.5	18.5%	7398.9	40000	7398.9	6.1	0.3%
[redacted]	92.kV	X10	34.5	34.5%	13816	40000	12976.4	21.8	34.8	34.8%	13914.9	40000	13059.8	21.9	0.2%
[redacted]	92.kV	X20	34.4	34.4%	13775.5	40000	12937.8	21.8	34.7	34.7%	13873.4	40000	13020.4	21.9	0.2%
[redacted]	92.kV	CWNO	16.8	16.8%	6713.6	40000	6713.6	6.3	17	17.0%	6810.1	40000	6810.1	6.3	0.2%
[redacted]	92.kV	CWSO	16.9	16.9%	6768.4	40000	6768.4	7.2	17.1	17.1%	6858.7	40000	6858.7	7.2	0.2%
[redacted]	161.kV	LSEO	14	14.0%	5585.6	40000	5585.6	11.6	14.2	14.2%	5675.1	40000	5675.1	11.7	0.2%
[redacted]	161.kV	LSWO	14	14.0%	5585.6	40000	5585.6	11.6	14.2	14.2%	5675.1	40000	5675.1	11.7	0.2%
[redacted]	230.kV	KNSO	13.1	13.1%	5255.2	40000	5255.2	11.5	13.4	13.4%	5340.4	40000	5340.4	11.4	0.2%
[redacted]	92.kV	CDWO	14.8	14.8%	5902.6	40000	5902.6	6	15	15.0%	5986	40000	5986	6	0.2%
[redacted]	92.kV	CDEO	15	15.0%	5998.7	40000	5998.7	6.7	15.2	15.2%	6077.4	40000	6077.4	6.7	0.2%
[redacted]	92.kV	CDWO	16.8	16.8%	6700.8	40000	6700.8	6.3	16.9	16.9%	6777.2	40000	6777.2	6.3	0.2%
[redacted]	92.kV	CDEO	16.8	16.8%	6700.8	40000	6700.8	6.3	16.9	16.9%	6777.2	40000	6777.2	6.3	0.2%
[redacted]	92.kV	CB1O	24.4	24.4%	9752	40000	9467.3	18.9	24.5	24.5%	9817.7	40000	9530.5	18.9	0.2%
[redacted]	92.kV	HL20	24.4	24.4%	9752	40000	9467.3	18.9	24.5	24.5%	9817.7	40000	9530.5	18.9	0.2%
[redacted]	92.kV	HL40	24.4	24.4%	9752	40000	9467.3	18.9	24.5	24.5%	9817.7	40000	9530.5	18.9	0.2%
[redacted]	92.kV	HL10	24.4	24.4%	9752	40000	9467.3	18.9	24.5	24.5%	9817.7	40000	9530.5	18.9	0.2%
[redacted]	92.kV	X10	16.2	16.2%	6462	40000	6273.4	18.9	16.3	16.3%	6526.5	40000	6335.5	18.9	0.2%
[redacted]	92.kV	HL40	14.1	14.1%	5632.9	40000	5624	16.7	14.2	14.2%	5688.7	40000	5688.7	15.7	0.1%
[redacted]	92.kV	H20	15.3	15.3%	6119.5	40000	6119.5	5	15.4	15.4%	6174.3	40000	6174.3	5	0.1%
[redacted]	161.kV	FOB	41.8	41.8%	6685	16000	6685	14.2	41.9	41.9%	6706.3	16000	6706.3	14.2	0.1%
[redacted]	92.kV	KOBE	11	11.0%	4416.4	40000	4416.4	5.9	11.2	11.2%	4468.9	40000	4468.9	5.9	0.1%
[redacted]	92.kV	KOBW	11	11.0%	4416.4	40000	4416.4	5.9	11.2	11.2%	4468.9	40000	4468.9	5.9	0.1%
[redacted]	92.kV	HL40	17	17.0%	6818.3	40000	6818.3	13.9	17.2	17.2%	6867.3	40000	6867.3	13.9	0.1%
[redacted]	161.kV	LNEO	11.6	11.6%	4650.6	40000	4650.6	10.6	11.7	11.7%	4691.7	40000	4691.7	10.6	0.1%
[redacted]	161.kV	LNWO	11.7	11.7%	4688.4	40000	4688.4	8.4	11.8	11.8%	4723.4	40000	4723.4	8.5	0.1%
[redacted]	161.kV	H40	11.7	11.7%	4688.4	40000	4688.4	8.4	11.8	11.8%	4723.4	40000	4723.4	8.5	0.1%
[redacted]	92.kV	H20	19.9	19.9%	4978.5	25000	4978.5	5.4	20	20.0%	4997.8	25000	4997.8	5.4	0.1%
[redacted]	92.kV	JOB	31.3	31.3%	12530.1	40000	12079.9	19.4	31.4	31.4%	12560.2	40000	12109.7	19.4	0.1%
[redacted]	92.kV	H10	11.7	11.7%	4674.9	40000	4674.9	6.4	11.8	11.8%	4704.1	40000	4704.1	6.4	0.1%
[redacted]	92.kV	H20	11.7	11.7%	4674.9	40000	4674.9	6.4	11.8	11.8%	4704.1	40000	4704.1	6.4	0.1%
[redacted]	92.kV	MW10	37.2	37.2%	14878.9	40000	14736.8	17.3	37.3	37.3%	14907.8	40000	14766.2	17.3	0.1%
[redacted]	92.kV	RWO	7.4	7.4%	2965.2	40000	2965.2	5.6	7.5	7.5%	2994	40000	2994	5.6	0.1%
[redacted]	92.kV	REO	7.4	7.4%	2965.2	40000	2965.2	5.6	7.5	7.5%	2994	40000	2994	5.6	0.1%
[redacted]	92.kV	SP2	37.2	37.2%	14899.7	40000	14690.7	17.6	37.3	37.3%	14928	40000	14719.3	17.6	0.1%
[redacted]	92.kV	SPO	37.9	37.9%	15152.4	40000	14971.7	17.5	38	38.0%	15180.4	40000	15000.1	17.5	0.1%
[redacted]	92.kV	521	32.9	32.9%	13168.7	40000	12983.9	17.6	33	33.0%	13196.5	40000	13012	17.6	0.1%
[redacted]	92.kV	522	32.9	32.9%	13152.2	40000	12967.7	17.6	32.9	32.9%	13179.8	40000	12995.5	17.6	0.1%
[redacted]	92.kV	GN10	27.2	27.2%	10886.9	40000	10886.9	12.1	27.3	27.3%	10913.8	40000	10913.8	12.1	0.1%
[redacted]	92.kV	GN20	26.5	26.5%	10585.9	40000	10437.4	17.6	26.5	26.5%	10611.9	40000	10463.6	17.6	0.1%
[redacted]	92.kV	U30SO	108.2	108.2%	43295.2	40000	36559	37.3	108.3	108.3%	43318.3	40000	36579.1	37.3	0.1%
[redacted]	92.kV	H30	49.3	49.3%	9861.2	20000	9861.2	9.6	49.4	49.4%	9872.7	20000	9872.7	9.6	0.1%
[redacted]	92.kV	U31SO	107.2	107.2%	42889.2	40000	36391.1	36.3	107.3	107.3%	42912.1	40000	36411.1	36.3	0.1%
[redacted]	92.kV	TWSO	111.9	111.9%	44770.6	40000	38117.8	35.6	112	112.0%	44793.4	40000	38137.8	35.6	0.1%
[redacted]	92.kV	TENO	111.9	111.9%	44770.6	40000	38117.8	35.6	112	112.0%	44793.4	40000	38137.8	35.6	0.1%
[redacted]	92.kV	TESO	111.9	111.9%	44770.6	40000	38117.8	35.6	112	112.0%	44793.4	40000	38137.8	35.6	0.1%
[redacted]	92.kV	TWNO	111.9	111.9%	44770.6	40000	38117.8	35.6	112	112.0%	44793.4	40000	38137.8	35.6	0.1%
[redacted]	92.kV	ENO	111.6	111.6%	44623	40000	37983.5	35.6	111.6	111.6%	44645.8	40000	38003.5	35.6	0.1%
[redacted]	92.kV	ESO	111.6	111.6%	44623	40000	37983.5	35.6	111.6	111.6%	44645.8	40000	38003.5	35.6	0.1%

Short Circuit Results															
			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	92.kV	U21SO	108.1	108.1%	43244	40000	36821.2	35.5	108.2	108.2%	43266.8	40000	36841.1	35.5	0.1%
[redacted]	92.kV	H3NO	111.8	111.8%	44712.4	40000	38050.8	35.7	111.8	111.8%	44735.2	40000	38070.8	35.7	0.1%
[redacted]	92.kV	H3SO	111.8	111.8%	44712.4	40000	38050.8	35.7	111.8	111.8%	44735.2	40000	38070.8	35.7	0.1%
[redacted]	92.kV	LHSO	111.7	111.7%	44667.9	40000	38022.5	35.6	111.7	111.7%	44690.7	40000	38042.5	35.6	0.1%
[redacted]	92.kV	LHNO	111.7	111.7%	44667.9	40000	38022.5	35.6	111.7	111.7%	44690.7	40000	38042.5	35.6	0.1%
[redacted]	92.kV	BNO	111.4	111.4%	44565.4	40000	37952.8	35.5	111.5	111.5%	44588.2	40000	37972.8	35.5	0.1%
[redacted]	92.kV	BSO	111.4	111.4%	44565.4	40000	37952.8	35.5	111.5	111.5%	44588.2	40000	37972.8	35.5	0.1%
[redacted]	92.kV	EDSO	111.1	111.1%	44436.6	40000	37828.9	35.6	111.1	111.1%	44459.3	40000	37848.9	35.6	0.1%
[redacted]	92.kV	EDNO	111.1	111.1%	44436.6	40000	37828.9	35.6	111.1	111.1%	44459.3	40000	37848.9	35.6	0.1%
[redacted]	92.kV	LUSO	111.7	111.7%	44669.2	40000	38012.7	35.7	111.7	111.7%	44691.9	40000	38032.7	35.7	0.1%
[redacted]	92.kV	LUNO	111.7	111.7%	44669.2	40000	38012.7	35.7	111.7	111.7%	44691.9	40000	38032.7	35.7	0.1%
[redacted]	92.kV	PNO	110	110.0%	43996.8	40000	37484.8	35.4	110	110.0%	44019.5	40000	37504.8	35.4	0.1%
[redacted]	92.kV	PSO	110	110.0%	43996.8	40000	37484.8	35.4	110	110.0%	44019.5	40000	37504.8	35.4	0.1%
[redacted]	92.kV	PWNO	109.8	109.8%	43931	40000	37424	35.4	109.9	109.9%	43953.7	40000	37444	35.4	0.1%
[redacted]	92.kV	PWSO	109.8	109.8%	43931	40000	37424	35.4	109.9	109.9%	43953.7	40000	37444	35.4	0.1%
[redacted]	92.kV	U41NO	102.3	102.3%	40910.2	40000	34834	35.5	102.3	102.3%	40932.8	40000	34853.8	35.5	0.1%
[redacted]	92.kV	U41SO	102.3	102.3%	40910.2	40000	34834	35.5	102.3	102.3%	40932.8	40000	34853.8	35.5	0.1%
[redacted]	92.kV	U22SO	103.2	103.2%	41285.4	40000	35153.5	35.5	103.3	103.3%	41307.9	40000	35173.2	35.5	0.1%
[redacted]	92.kV	RNO	111.2	111.2%	44493.5	40000	37832.3	35.8	111.3	111.3%	44515.8	40000	37851.9	35.8	0.1%
[redacted]	92.kV	RSO	111.2	111.2%	44493.5	40000	37832.3	35.8	111.3	111.3%	44515.8	40000	37851.9	35.8	0.1%
[redacted]	92.kV	EOSO	109.3	109.3%	43713.2	40000	37155.3	35.9	109.3	109.3%	43734.8	40000	37174.2	35.9	0.1%
[redacted]	92.kV	EONO	109.3	109.3%	43713.2	40000	37155.3	35.9	109.3	109.3%	43734.8	40000	37174.2	35.9	0.1%
[redacted]	161.kV	MOB	15.8	15.8%	6330.2	40000	6330.2	14.5	15.9	15.9%	6351.7	40000	6351.7	14.5	0.1%
[redacted]	92.kV	JSO	108.8	108.8%	43515	40000	36989.3	35.9	108.8	108.8%	43536.1	40000	37007.7	35.9	0.1%
[redacted]	92.kV	JNO	108.8	108.8%	43515	40000	36989.3	35.9	108.8	108.8%	43536.1	40000	37007.7	35.9	0.1%
[redacted]	34.5kV	PNO	50.6	50.6%	4254.2	8400	4171.7	18.1	50.7	50.7%	4258.3	8400	4175.8	18.1	0.0%
[redacted]	34.5kV	X30	50.6	50.6%	4254.2	8400	4171.7	18.1	50.7	50.7%	4258.3	8400	4175.8	18.1	0.0%
[redacted]	92.kV	JS20	66	66.0%	13198.6	20000	13198.6	10.2	66	66.0%	13207.6	20000	13207.6	10.2	0.0%
[redacted]	92.kV	JN10	62.2	62.2%	12432.7	20000	12432.7	9.5	62.2	62.2%	12441.6	20000	12441.6	9.5	0.0%
[redacted]	92.kV	JS10	62.2	62.2%	12432.7	20000	12432.7	9.5	62.2	62.2%	12441.6	20000	12441.6	9.5	0.0%
[redacted]	92.kV	H10	69.4	69.4%	27751.4	40000	27751.4	14.3	69.4	69.4%	27768.5	40000	27768.5	14.3	0.0%
[redacted]	92.kV	H20	69.4	69.4%	27751.4	40000	27751.4	14.3	69.4	69.4%	27768.5	40000	27768.5	14.3	0.0%
[redacted]	92.kV	CB10	69.4	69.4%	27751.4	40000	27751.4	14.3	69.4	69.4%	27768.5	40000	27768.5	14.3	0.0%
[redacted]	161.kV	X1EO	24.5	24.5%	9800.8	40000	9478.3	19.2	24.5	24.5%	9817.7	40000	9495.5	19.2	0.0%
[redacted]	92.kV	KOB	35.6	35.6%	14230.6	40000	13879.2	18.5	35.6	35.6%	14246.9	40000	13895.4	18.5	0.0%
[redacted]	92.kV	RSNO	8.6	8.6%	3423.7	40000	3423.7	10.9	8.6	8.6%	3439.9	40000	3439.9	10.9	0.0%
[redacted]	92.kV	H10	12.4	12.4%	4968.4	40000	4968.4	12.3	12.5	12.5%	4984.5	40000	4984.5	12.3	0.0%
[redacted]	92.kV	RBSO	12.4	12.4%	4968.4	40000	4968.4	12.3	12.5	12.5%	4984.5	40000	4984.5	12.3	0.0%
[redacted]	92.kV	UOB	68.8	68.8%	27531.5	40000	27531.5	14	68.9	68.9%	27547.6	40000	27547.6	14	0.0%
[redacted]	161.kV	H10	16.9	16.9%	6754.2	40000	6754.2	10.7	16.9	16.9%	6769.8	40000	6769.8	10.7	0.0%
[redacted]	161.kV	MEO	16.9	16.9%	6754.2	40000	6754.2	10.7	16.9	16.9%	6769.8	40000	6769.8	10.7	0.0%
[redacted]	161.kV	MWO	16.9	16.9%	6754.2	40000	6754.2	10.7	16.9	16.9%	6769.8	40000	6769.8	10.7	0.0%
[redacted]	161.kV	AOB	28.4	28.4%	11350.1	40000	10274.3	25.9	28.4	28.4%	11365.4	40000	10288.7	25.9	0.0%
[redacted]	92.kV	H10	49.1	49.1%	9824.5	20000	9824.5	9	49.2	49.2%	9832.1	20000	9832.1	9	0.0%
[redacted]	92.kV	H20	49.1	49.1%	9824.5	20000	9824.5	9	49.2	49.2%	9832.1	20000	9832.1	9	0.0%
[redacted]	92.kV	H10	25.8	25.8%	10331.2	40000	10331.2	9.7	25.9	25.9%	10346.2	40000	10346.2	9.7	0.0%
[redacted]	92.kV	U30NO	68.7	68.7%	43295.2	63000	36559	37.3	68.8	68.8%	43318.3	63000	36579.1	37.3	0.0%
[redacted]	92.kV	U31NO	68.1	68.1%	42889.2	63000	36391.1	36.3	68.1	68.1%	42912.1	63000	36411.1	36.3	0.0%
[redacted]	92.kV	U21NO	68.6	68.6%	43244	63000	36821.2	35.5	68.7	68.7%	43266.8	63000	36841.1	35.5	0.0%
[redacted]	92.kV	U32NO	67.2	67.2%	42326.5	63000	35901.7	36.3	67.2	67.2%	42349.3	63000	35921.6	36.3	0.0%
[redacted]	92.kV	U32SO	67.2	67.2%	42326.5	63000	35901.7	36.3	67.2	67.2%	42349.3	63000	35921.6	36.3	0.0%
[redacted]	92.kV	LWO	68.3	68.3%	27330.4	40000	27330.4	14.4	68.4	68.4%	27344.8	40000	27344.8	14.4	0.0%
[redacted]	92.kV	U22NO	65.5	65.5%	41285.4	63000	35153.5	35.5	65.6	65.6%	41307.9	63000	35173.2	35.5	0.0%
[redacted]	161.kV	H10	16.6	16.6%	6653.7	40000	6653.7	7.6	16.7	16.7%	6667.9	40000	6667.9	7.6	0.0%
[redacted]	161.kV	M20	16.6	16.6%	6653.7	40000	6653.7	7.6	16.7	16.7%	6667.9	40000	6667.9	7.6	0.0%
[redacted]	92.kV	JN20	40.3	40.3%	8065.8	20000	8065.8	9.4	40.4	40.4%	8072.6	20000	8072.6	9.4	0.0%
[redacted]	92.kV	JEO	15.2	15.2%	6098.4	40000	6098.4	8.7	15.3	15.3%	6112	40000	6112	8.7	0.0%
[redacted]	92.kV	JWO	15.2	15.2%	6098.4	40000	6098.4	8.7	15.3	15.3%	6112	40000	6112	8.7	0.0%
[redacted]	92.kV	X4SO	59.3	59.3%	37327.5	63000	31554.6	37.1	59.3	59.3%	37348.7	63000	31573	37.1	0.0%
[redacted]	92.kV	X4NO	59.3	59.3%	37327.5	63000	31554.6	37.1	59.3	59.3%	37348.7	63000	31573	37.1	0.0%
[redacted]	92.kV	X2SO	99.8	99.8%	39904.5	40000	33484	38.7	99.8	99.8%	39917.3	40000	33495	38.7	0.0%
[redacted]	92.kV	X2NO	99.8	99.8%	39904.5	40000	33484	38.7	99.8	99.8%	39917.3	40000	33495	38.7	0.0%
[redacted]	92.kV	TWO	60.8	60.8%	24329.2	40000	24329.2	10.9	60.9	60.9%	24341.6	40000	24341.6	10.9	0.0%
[redacted]	92.kV	TEO	60.8	60.8%	24329.2	40000	24329.2	10.9	60.9	60.9%	24341.6	40000	24341.6	10.9	0.0%
[redacted]	34.5kV	BVO	84.1	84.1%	7068.5	8400	7068.5	4.3	84.2	84.2%	7071.1	8400	7071.1	4.3	0.0%
[redacted]	34.5kV	H30	84.1	84.1%	7068.5	8400	7068.5	4.3	84.2	84.2%	7071.1	8400	7071.1	4.3	0.0%
[redacted]	92.kV	X10	24.4	24.4%	9762.2	40000	9404.8	19.5	24.4	24.4%	9774.4	40000	9416.8	19.5	0.0%
[redacted]	92.kV	H10	25.2	25.2%	10084.5	40000	10084.5	9.6	25.2	25.2%	10096.1	40000	10096.1	9.6	0.0%
[redacted]	92.kV	JSO	21	21.0%	8386.1	40000	8386.1	9.8	21	21.0%	8397.1	40000	8397.1	9.8	0.0%
[redacted]	92.kV	COO	20.8	20.8%	8307.2	40000	8307.2	9.6	20.8	20.8%	8318.2	40000	8318.2	9.6	0.0%
[redacted]	161.kV	H10	9.5	9.5%	5957.9	63000	5957.9	6.8	9.5	9.5%	5974.9	63000	5974.9	6.8	0.0%
[redacted]	161.kV	H20	12.9	12.9%	8116.4	63000	7714.2	20.7	12.9	12.9%	8132.8	63000	7730.4	20.7	0.0%
[redacted]	161.kV	M10	10.7	10.7%	4285.3	40000	4285.3	12.9	10.7	10.7%	4295.5	40000	4295.5	12.9	0.0%
[redacted]	161.kV	NOB	24.2	24.2%	7501	31000	7501	12.4	24.2	24.2%	7508.7	31000	7508.7	12.4	0.0%
[redacted]	92.kV	H20	33.2	33.2%	13262.4	40000	13262.4	9.6	33.2	33.2%	13272	40000	13272	9.6	0.0%
[redacted]	92.kV	H10	33.2	33.2%	13262.4	40000	13262.4	9.6	33.2	33.2%	13272	40000	13272	9.6	0.0%
[redacted]	34.5kV	HXO	57.8	57.8%	4855	8400	4855	14.2	57.8	57.8%	4856.9	8400	4856.9	14.4	0.0%
[redacted]	34.5kV	X10	32.4	32.4%	2720.3	8400	2720.3	13.8	32.4	32.4%	2722.1	8400	2722.1	13.8	0.0%
[redacted]	92.kV	EOO	26.5	26.5%	10602.1	40000	10602.1	10.1	26.5	26.5%	10610.5	40000	10610.5	10.1	0.0%
[redacted]	92.kV	H10	39.8	39.8%	25090.3	63000	25090.3	12.8	39.8	39.8%	25103.4	63000	25103.4	13.2	0.0%
[redacted]	92.kV	H20	42.2	42.2%	16869	40000	16869	8.4	42.2	42.2%	16876.9	40000	16876.9	8.4	0.0%
[redacted]	92.kV	LHNO	42.2	42.2%	16869	40000	16869	8.4	42.2	42.2%	16876.9	40000	16876.9	8.4	0.0%
[redacted]	92.kV	LHSO	42.2	42.2%	16869	40000	16869	8.4	42.2	42.2%	16876.9	40000	16876.9	8.4	0.0%
[redacted]	92.kV	H10	40.1	40.1%	16056.3	40000	16056.3	7.2	40.2	40.2%	16064	40000	16064	7.2	0.0%
[redacted]	92.kV	H20	40.1	40.1%	16056.3	40000	16056.3	7.2	40.2	40.2%	16064	40000	16064	7.2	0.0%
[redacted]	34.5kV	BHO	52.7	52.7%	4430.9	8400	4339.6	18.2	52.8	52.8%	4432.5	8400	4341.1	18.2	0.0%
[redacted]	161.kV	LOB	28.2	28.2%	11298.1	40000	10251.8	25.6	28.3	28.3%	11305.6	40000	10258.7	25.6	0.0%
[redacted]	161.kV	X1WO	28.2	28.2%	11298.1	40000	10251.8	25.6	28.3	28.3%	11305.6	40000	10258.7	25.6	0.0%
[redacted]	92.kV	JNO	30.9	30.9%	12348.9	40000	12348.9	9.4	30.9	30.9%	12356.3	40000	12356.3	9.4	0.0%
[redacted]	92.kV	COO	30	30.0%	11999.7	40000	11999.7	8.8	30	30.0%	12007.1	40000	12007.1	8.8	0.0%
[redacted]	92.kV	H10	21.3	21.3%	8535.9	40000	8535.9	7.3	21.4	21.4%	8543.3	40000	8543.3	7.3	0.0%
[redacted]	92.kV	JSO	19.8	19.8%	7922.6	40000	7922.6	8.4	19.8	19.8%	7930	40000	7930	8.4	0.0%
[redacted]	92.kV	UOB	36.9	36.9%	14746.1	40000	14746.1	7.5	36.9	36.9%	14753.2	40000	14753.2	7.5	0.0%
[redacted]	92.kV	LUO	36.9	36.9%	14746.1	40000	14746.1	7.5	36.9	36.9%	14753.2	40000	14753.2	7.5	0.0%
[redacted]	92.kV	H10	27.7	27.7%	11097.6	40000	11097.6	7.6	27.8	27.8%	11104.7	40000	11104.7	7.6	0.0%
[redacted]	34.5kV	RBEO	46.1	46.1%	10145.2	22000	10086.8	17	46.1	46.1%	10149.1	22000	10090.7	17	0.0%

Short Circuit Results

			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	34.5kV	X20	46.1	46.1%	10145.2	22000	10086.8	17	46.1	46.1%	10149.1	22000	10090.7	17	0.0%
[redacted]	34.5kV	RWO	46.1	46.1%	10145.2	22000	10086.8	17	46.1	46.1%	10149.1	22000	10090.7	17	0.0%
[redacted]	34.5kV	MRO	46.1	46.1%	10145.2	22000	10086.8	17	46.1	46.1%	10149.1	22000	10090.7	17	0.0%
[redacted]	92.kV	H10	32.4	32.4%	12962.1	40000	12962.1	7.1	32.4	32.4%	12969	40000	12969	7.1	0.0%
[redacted]	92.kV	H20	32.4	32.4%	12962.1	40000	12962.1	7.1	32.4	32.4%	12969	40000	12969	7.1	0.0%
[redacted]	92.kV	H10	32.9	32.9%	13143.4	40000	13143.4	7.1	32.9	32.9%	13150.2	40000	13150.2	7.1	0.0%
[redacted]	92.kV	H20	32.9	32.9%	13143.4	40000	13143.4	7.1	32.9	32.9%	13150.2	40000	13150.2	7.1	0.0%
[redacted]	92.kV	DPO	20.7	20.7%	8273.7	40000	8273.7	5.4	20.7	20.7%	8280.2	40000	8280.2	5.4	0.0%
[redacted]	92.kV	H10	20.7	20.7%	8273.7	40000	8273.7	5.4	20.7	20.7%	8280.2	40000	8280.2	5.4	0.0%
[redacted]	92.kV	PWO	40.4	40.4%	10516.5	26000	10516.5	7.9	40.5	40.5%	10520.7	26000	10520.7	7.9	0.0%
[redacted]	92.kV	H10	35.8	35.8%	14323.4	40000	14323.4	7.3	35.8	35.8%	14329.8	40000	14329.8	7.3	0.0%
[redacted]	92.kV	H20	35.8	35.8%	14323.4	40000	14323.4	7.3	35.8	35.8%	14329.8	40000	14329.8	7.3	0.0%
[redacted]	34.5kV	RBWO	40.4	40.4%	8893.9	22000	8318.9	22.2	40.4	40.4%	8897.4	22000	8322.1	22.2	0.0%
[redacted]	34.5kV	GT0	41.1	41.1%	9051.9	22000	9051.9	16.2	41.2	41.2%	9055.3	22000	9055.3	16.2	0.0%
[redacted]	92.kV	PNO	39.7	39.7%	10322.1	26000	10322.1	7.7	39.7	39.7%	10326.1	26000	10326.1	7.7	0.0%
[redacted]	92.kV	H20	36.3	36.3%	14528.3	40000	14528.3	9.3	36.3	36.3%	14534.4	40000	14534.4	9.3	0.0%
[redacted]	34.5kV	LVWNO	36.8	36.8%	11784.9	32000	10824.1	24.2	36.8	36.8%	11789.7	32000	10828.5	24.2	0.0%
[redacted]	34.5kV	LVENO	36.8	36.8%	11784.9	32000	10824.1	24.2	36.8	36.8%	11789.7	32000	10828.5	24.2	0.0%
[redacted]	161.kV	MOB	17.2	17.2%	10825.6	63000	9790.8	26	17.2	17.2%	10834.8	63000	9799.4	26	0.0%
[redacted]	92.kV	H30	35.7	35.7%	14293.5	40000	14293.5	8.9	35.7	35.7%	14299.3	40000	14299.3	8.9	0.0%
[redacted]	92.kV	H10	35.7	35.7%	14293.5	40000	14293.5	8.9	35.7	35.7%	14299.3	40000	14299.3	8.9	0.0%
[redacted]	92.kV	H20	35.7	35.7%	14293.5	40000	14293.5	8.9	35.7	35.7%	14299.3	40000	14299.3	8.9	0.0%
[redacted]	34.5kV	AWO	68.4	68.4%	5676.2	8300	4993.6	29.8	68.4	68.4%	5677.4	8300	4994.6	29.8	0.0%
[redacted]	92.kV	EDNO	30.6	30.6%	12238.7	40000	12238.7	6.8	30.6	30.6%	12244.4	40000	12244.4	6.8	0.0%
[redacted]	92.kV	EDSO	30.6	30.6%	12238.7	40000	12238.7	6.8	30.6	30.6%	12244.4	40000	12244.4	6.8	0.0%
[redacted]	34.5kV	X3NO	34.5	34.5%	11041.3	32000	9918.2	26.9	34.5	34.5%	11045.8	32000	9922.3	26.9	0.0%
[redacted]	34.5kV	X3SO	34.5	34.5%	11041.3	32000	9918.2	26.9	34.5	34.5%	11045.8	32000	9922.3	26.9	0.0%
[redacted]	92.kV	LUSO	29.5	29.5%	11783	40000	11783	6.9	29.5	29.5%	11788.6	40000	11788.6	6.9	0.0%
[redacted]	92.kV	LUNO	29.5	29.5%	11783	40000	11783	6.9	29.5	29.5%	11788.6	40000	11788.6	6.9	0.0%
[redacted]	92.kV	RPO	14.2	14.2%	5698.7	40000	5698.7	4.9	14.3	14.3%	5704.3	40000	5704.3	4.9	0.0%
[redacted]	92.kV	H10	31.6	31.6%	12632.5	40000	12632.5	7.4	31.6	31.6%	12638	40000	12638	7.4	0.0%
[redacted]	92.kV	H20	31.6	31.6%	12632.5	40000	12632.5	7.4	31.6	31.6%	12638	40000	12638	7.4	0.0%
[redacted]	92.kV	H30	30.9	30.9%	12358.5	40000	12358.5	7.5	30.9	30.9%	12364	40000	12364	7.5	0.0%
[redacted]	92.kV	HL10	34.2	34.2%	13684.1	40000	13684.1	11.3	34.2	34.2%	13689.6	40000	13689.6	10.9	0.0%
[redacted]	34.5kV	X301	37.2	37.2%	7068.5	19000	7068.5	4.3	37.2	37.2%	7071.1	19000	7071.1	4.3	0.0%
[redacted]	92.kV	H10	34.1	34.1%	13651.8	40000	13651.8	8.7	34.1	34.1%	13657.2	40000	13657.2	8.7	0.0%
[redacted]	92.kV	H20	34.1	34.1%	13651.8	40000	13651.8	8.7	34.1	34.1%	13657.2	40000	13657.2	8.7	0.0%
[redacted]	92.kV	LUWO	29.4	29.4%	11751.8	40000	11751.8	5.6	29.4	29.4%	11757.2	40000	11757.2	5.6	0.0%
[redacted]	92.kV	LUEO	29.4	29.4%	11751.8	40000	11751.8	5.6	29.4	29.4%	11757.2	40000	11757.2	5.6	0.0%
[redacted]	92.kV	H40	27.4	27.4%	17519.9	64000	17519.9	8.2	27.4	27.4%	17528.4	64000	17528.4	8.2	0.0%
[redacted]	92.kV	H50	27.4	27.4%	17519.9	64000	17519.9	8.2	27.4	27.4%	17528.4	64000	17528.4	8.2	0.0%
[redacted]	34.5kV	AMO	79.6	79.6%	6609.8	8300	6031.9	24.9	79.6	79.6%	6610.9	8300	6032.9	24.9	0.0%
[redacted]	92.kV	EOSO	18.7	18.7%	7469.4	40000	7469.4	7.8	18.7	18.7%	7474.7	40000	7474.7	7.8	0.0%
[redacted]	92.kV	EONO	18.7	18.7%	7469.4	40000	7469.4	7.8	18.7	18.7%	7474.7	40000	7474.7	7.8	0.0%
[redacted]	92.kV	LWO	12.2	12.2%	4889.8	40000	4889.8	4.6	12.2	12.2%	4895.1	40000	4895.1	4.6	0.0%
[redacted]	92.kV	RWO	29.4	29.4%	11750.2	40000	11750.2	7.1	29.4	29.4%	11755.5	40000	11755.5	7.1	0.0%
[redacted]	92.kV	REO	29.4	29.4%	11750.2	40000	11750.2	7.1	29.4	29.4%	11755.5	40000	11755.5	7.1	0.0%
[redacted]	92.kV	H20	31.4	31.4%	12544	40000	12544	7.9	31.4	31.4%	12549	40000	12549	7.9	0.0%
[redacted]	92.kV	H10	31.4	31.4%	12544	40000	12544	7.9	31.4	31.4%	12549	40000	12549	7.9	0.0%
[redacted]	92.kV	H10	19.4	19.4%	7763.4	40000	7763.4	5.5	19.4	19.4%	7768.3	40000	7768.3	5.5	0.0%
[redacted]	92.kV	EOBE	26.7	26.7%	10665.4	40000	10665.4	7.1	26.7	26.7%	10670.3	40000	10670.3	7.1	0.0%
[redacted]	34.5kV	BHO	32.3	32.3%	6137.3	19000	6137.3	5.4	32.3	32.3%	6139.6	19000	6139.6	5.4	0.0%
[redacted]	34.5kV	A30	79.6	79.6%	6605.8	8300	6027.4	24.9	79.6	79.6%	6606.8	8300	6028.4	24.9	0.0%
[redacted]	92.kV	H10	25.1	25.1%	16066.6	64000	16066.6	7.6	25.1	25.1%	16074.3	64000	16074.3	7.6	0.0%
[redacted]	92.kV	H20	25.1	25.1%	16066.6	64000	16066.6	7.6	25.1	25.1%	16074.3	64000	16074.3	7.6	0.0%
[redacted]	34.5kV	LMSO	29.5	29.5%	11784.9	40000	10824.1	24.2	29.5	29.5%	11789.7	40000	10828.5	24.2	0.0%
[redacted]	34.5kV	LVWSO	29.5	29.5%	11784.9	40000	10824.1	24.2	29.5	29.5%	11789.7	40000	10828.5	24.2	0.0%
[redacted]	34.5kV	LVESO	29.5	29.5%	11784.9	40000	10824.1	24.2	29.5	29.5%	11789.7	40000	10828.5	24.2	0.0%
[redacted]	34.5kV	LMNO	29.5	29.5%	11784.9	40000	10824.1	24.2	29.5	29.5%	11789.7	40000	10828.5	24.2	0.0%
[redacted]	34.5kV	CBO	32.1	32.1%	7068.5	22000	7068.5	4.3	32.1	32.1%	7071.1	22000	7071.1	4.3	0.0%
[redacted]	92.kV	PEO	25.2	25.2%	10077.5	40000	10077.5	6.8	25.2	25.2%	10082.2	40000	10082.2	6.8	0.0%
[redacted]	92.kV	PWO	25.2	25.2%	10077.5	40000	10077.5	6.8	25.2	25.2%	10082.2	40000	10082.2	6.8	0.0%
[redacted]	34.5kV	LBO	30.8	30.8%	5855.2	19000	5855.2	4.8	30.8	30.8%	5857.4	19000	5857.4	4.8	0.0%
[redacted]	34.5kV	BPO	30.7	30.7%	7068.5	23000	7068.5	4.3	30.7	30.7%	7071.1	23000	7071.1	4.3	0.0%
[redacted]	34.5kV	LBSO	27.6	27.6%	11041.3	40000	9918.2	26.9	27.6	27.6%	11045.8	40000	9922.3	26.9	0.0%
[redacted]	34.5kV	LBNO	27.6	27.6%	11041.3	40000	9918.2	26.9	27.6	27.6%	11045.8	40000	9922.3	26.9	0.0%
[redacted]	92.kV	EONO	25.5	25.5%	10218.7	40000	10218.7	6.7	25.6	25.6%	10223.2	40000	10223.2	6.7	0.0%
[redacted]	92.kV	EOSO	25.5	25.5%	10218.7	40000	10218.7	6.7	25.6	25.6%	10223.2	40000	10223.2	6.7	0.0%
[redacted]	92.kV	PSO	27.9	27.9%	11144.5	40000	11144.5	8.6	27.9	27.9%	11148.9	40000	11148.9	8.6	0.0%
[redacted]	92.kV	RBNO	9	9.0%	3616.9	40000	3616.9	12.3	9.1	9.1%	3621.2	40000	3621.2	12.3	0.0%
[redacted]	92.kV	H10	26.8	26.8%	10737.7	40000	10737.7	6.9	26.9	26.9%	10742	40000	10742	6.9	0.0%
[redacted]	92.kV	H20	26.8	26.8%	10737.7	40000	10737.7	6.9	26.9	26.9%	10742	40000	10742	6.9	0.0%
[redacted]	92.kV	PEO	25.1	25.1%	10035.8	40000	10035.8	7.3	25.1	25.1%	10040	40000	10040	7.3	0.0%
[redacted]	92.kV	COEO	18.2	18.2%	7289	40000	7289	6.8	18.2	18.2%	7293.2	40000	7293.2	6.8	0.0%
[redacted]	92.kV	COWO	18.2	18.2%	7289	40000	7289	6.8	18.2	18.2%	7293.2	40000	7293.2	6.8	0.0%
[redacted]	34.5kV	H60	28.3	28.3%	7068.5	25000	7068.5	4.3	28.3	28.3%	7071.1	25000	7071.1	4.3	0.0%
[redacted]	34.5kV	RBWO	25.9	25.9%	4927.7	19000	4927.7	6.4	25.9	25.9%	4929.6	19000	4929.6	6.4	0.0%
[redacted]	92.kV	H10	25.6	25.6%	10240.9	40000	10240.9	7.7	25.6	25.6%	10244.7	40000	10244.7	7.7	0.0%
[redacted]	92.kV	H30	14.6	14.6%	5821.3	40000	5821.3	5.5	14.6	14.6%	5825.1	40000	5825.1	5.5	0.0%
[redacted]	92.kV	H20	14.6	14.6%	5821.3	40000	5821.3	5.5	14.6	14.6%	5825.1	40000	5825.1	5.5	0.0%
[redacted]	92.kV	H20	25.3	25.3%	10110	40000	10110	12	25.3	25.3%	10113.7	40000	10113.7	12	0.0%
[redacted]	92.kV	HOB	25.2	25.2%	10079.8	40000	10079.8	15.9	25.2	25.2%	10083.5	40000	10083.5	15.5	0.0%
[redacted]	92.kV	H10	25.2	25.2%	10072.5	40000	10072.5	15.9	25.2	25.2%	10076.2	40000	10076.2	15.9	0.0%
[redacted]	92.kV	LHO	23.3	23.3%	9313.5	40000	9313.5	6.9	23.3	23.3%	9317.2	40000	9317.2	6.9	0.0%
[redacted]	92.kV	PWWO	23.1	23.1%	9236.3	40000	9236.3	7.4	23.1	23.1%	9240	40000	9240	7.4	0.0%
[redacted]	92.kV	PWEO	23.1	23.1%	9236.3	40000	9236.3	7.4	23.1	23.1%	9240	40000	9240	7.4	0.0%
[redacted]	92.kV	GOB	24.8	24.8%	9929.7	40000	9929.7	15.9	24.8	24.8%	9933.4	40000	9933.4	15.9	0.0%
[redacted]	92.kV	RNO	11.4	11.4%	4568.5	40000	4568.5	4.8	11.4	11.4%	4572.1	40000	4572.1	4.8	0.0%
[redacted]	92.kV	RSO	11.4	11.4%	4568.5	40000	4568.5	4.8	11.4	11.4%	4572.1	40000	4572.1	4.8	0.0%
[redacted]	92.kV	EDWO	24.8	24.8%	9919.6	40000	9919.6	7.7	24.8	24.8%	9923.2	40000	9923.2	7.7	0.0%
[redacted]	92.kV	COB	24.5	24.5%	9781.5	40000	9781.5	16.2	24.5	24.5%	9785.1	40000	9785.1	16.2	0.0%
[redacted]	34.5kV	52B3	22	22.0%	8797.4	40000	6632.4	94.6	22	22.0%	8801	40000	6635.2	94.6	0.0%
[redacted]	92.kV	EOBW	21.3	21.3%	8500.9	40000	8500.9	6.2	21.3	21.3%	8504.4	40000	8504.4	6.2	0.0%
[redacted]	34.5kV	GT20	16.7	16.7%	6681.4	40000	6681.4	12.5	16.7	16.7%	6684.9	40000	6684.9	12.5	0.0%
[redacted]	92.kV	JNO	14.5	14.5%	5800	40000	5800	6.5	14.5	14.5%	5803.1	40000	5803.1	6.5	0.0%
[redacted]	92.kV	JSO	14.5	14.5%	5800	40000	5800	6.5	14.5	14.5%	5803.1	40000	5803.1	6.5	0.0%

Short Circuit Results

			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	34.5kV	X10	31	31.0%	6827.4	22000	6788.1	17	31	31.0%	6829	22000	6789.6	17	0.0%
[redacted]	92.kV	BOB	22.3	22.3%	8913.6	40000	8779.5	17.7	22.3	22.3%	8916.5	40000	8782.4	17.7	0.0%
[redacted]	92.kV	LWSO	16.9	16.9%	6764.2	40000	6764.2	6	16.9	16.9%	6767.1	40000	6767.1	6	0.0%
[redacted]	92.kV	LWNO	16.9	16.9%	6764.2	40000	6764.2	6	16.9	16.9%	6767.1	40000	6767.1	6	0.0%
[redacted]	34.5kV	H10	19.2	19.2%	1613.3	8400	1613.3	6.5	19.2	19.2%	1613.9	8400	1613.9	6.5	0.0%
[redacted]	92.kV	PWO	18.8	18.8%	7522.8	40000	7522.8	6.8	18.8	18.8%	7525.6	40000	7525.6	6.8	0.0%
[redacted]	92.kV	RNO	16.8	16.8%	6731.6	40000	6731.6	5.9	16.8	16.8%	6734.2	40000	6734.2	5.9	0.0%
[redacted]	34.5kV	X30	9	9.0%	2242.6	25000	1935	33	9	9.0%	2244.2	25000	1936.3	33	0.0%
[redacted]	92.kV	POB	18.7	18.7%	7498.4	40000	7218.2	19.6	18.8	18.8%	7500.9	40000	7220.6	19.6	0.0%
[redacted]	92.kV	EB	20.1	20.1%	8027.2	40000	7764.8	19.2	20.1	20.1%	8029.6	40000	7767.2	19.2	0.0%
[redacted]	161.kV	H20	21.3	21.3%	8504	40000	8504	13.1	21.3	21.3%	8506.4	40000	8506.4	13.1	0.0%
[redacted]	92.kV	EDWO	16.6	16.6%	6659.2	40000	6659.2	6.6	16.7	16.7%	6661.5	40000	6661.5	6.6	0.0%
[redacted]	92.kV	EDEO	16.6	16.6%	6659.2	40000	6659.2	6.6	16.7	16.7%	6661.5	40000	6661.5	6.6	0.0%
[redacted]	34.5kV	52B1	14	14.0%	8797.4	63000	6632.4	94.6	14	14.0%	8801	63000	6635.2	94.6	0.0%
[redacted]	34.5kV	52B2	14	14.0%	8797.4	63000	6632.4	94.6	14	14.0%	8801	63000	6635.2	94.6	0.0%
[redacted]	34.5kV	BHNO	13.3	13.3%	3317.7	25000	3317.7	1.8	13.3	13.3%	3318.9	25000	3318.9	1.8	0.0%
[redacted]	34.5kV	BHSO	13.3	13.3%	3317.7	25000	3317.7	1.8	13.3	13.3%	3318.9	25000	3318.9	1.8	0.0%
[redacted]	34.5kV	AWSO	23.1	23.1%	1938.8	8400	1938.8	3	23.1	23.1%	1939.2	8400	1939.2	3	0.0%
[redacted]	161.kV	DOB	14.7	14.7%	5873.6	40000	5873.6	16.4	14.7	14.7%	5875.3	40000	5875.3	16.4	0.0%
[redacted]	34.5kV	BC10	11.2	11.2%	4469.9	40000	4406.2	17.7	11.2	11.2%	4471.5	40000	4407.8	17.7	0.0%
[redacted]	34.5kV	BC20	11.2	11.2%	4469.9	40000	4406.2	17.7	11.2	11.2%	4471.5	40000	4407.8	17.7	0.0%
[redacted]	34.5kV	BBO	11.2	11.2%	4469.9	40000	4406.2	17.7	11.2	11.2%	4471.5	40000	4407.8	17.7	0.0%
[redacted]	34.5kV	X30	10.4	10.4%	4153.1	40000	4037	18.8	10.4	10.4%	4154.7	40000	4038.6	18.8	0.0%
[redacted]	161.kV	AXO	7.5	7.5%	4705.3	63000	4705.3	7.9	7.5	7.5%	4707.6	63000	4707.6	7.9	0.0%
[redacted]	230.kV	S20	16.5	16.5%	10369.5	63000	9618.4	23.1	16.5	16.5%	10371.8	63000	9620.6	23.1	0.0%
[redacted]	92.kV	JNO	13.4	13.4%	5342.8	40000	5342.8	7.4	13.4	13.4%	5344.2	40000	5344.2	7.4	0.0%
[redacted]	230.kV	S10	19.3	19.3%	12145.8	63000	11179.2	23.9	19.3	19.3%	12147.9	63000	11181.1	23.9	0.0%
[redacted]	230.kV	H40	19.3	19.3%	12145.8	63000	11179.2	23.9	19.3	19.3%	12147.9	63000	11181.1	23.9	0.0%
[redacted]	34.5kV	H10	6.9	6.9%	1034.6	15000	1034.6	9.5	6.9	6.9%	1035	15000	1035	3.8	0.0%
[redacted]	92.kV	B63	8	8.0%	1273.4	16000	1273.4	10.2	8	8.0%	1273.8	16000	1273.8	10.2	0.0%
[redacted]	92.kV	B64	8	8.0%	1273.4	16000	1273.4	10.2	8	8.0%	1273.8	16000	1273.8	10.2	0.0%
[redacted]	161.kV	AOB	17.7	17.7%	7066.3	40000	7066.3	14.8	17.7	17.7%	7067.1	40000	7067.1	14.8	0.0%
[redacted]	92.kV	GFO	4.7	4.7%	1896.3	40000	1779.3	21.9	4.7	4.7%	1897	40000	1779.9	21.9	0.0%
[redacted]	34.5kV	USO	8.4	8.4%	1938.8	23000	1938.8	2.4	8.4	8.4%	1939.2	23000	1939.2	2.4	0.0%
[redacted]	34.5kV	AWNO	13.2	13.2%	3294	25000	3294	3	13.2	13.2%	3294.4	25000	3294.4	3	0.0%
[redacted]	92.kV	C10	4.2	4.2%	1692.8	40000	1692.8	3.9	4.2	4.2%	1693.4	40000	1693.4	3.9	0.0%
[redacted]	92.kV	M20	6.2	6.2%	2465.4	40000	2465.4	10.1	6.2	6.2%	2466	40000	2466	10.1	0.0%
[redacted]	34.5kV	H10	19.2	19.2%	1615.5	8400	1556.5	19.5	19.2	19.2%	1615.6	8400	1556.6	19.5	0.0%
[redacted]	34.5kV	A30	12.9	12.9%	1080.7	8400	1073	17.1	12.9	12.9%	1080.8	8400	1073.1	17.1	0.0%
[redacted]	34.5kV	A3EO	8.7	8.7%	1907.2	22000	1837.6	19.5	8.7	8.7%	1907.3	22000	1837.7	19.5	0.0%
[redacted]	34.5kV	ACO	8.7	8.7%	1907.2	22000	1837.6	19.5	8.7	8.7%	1907.3	22000	1837.7	19.5	0.0%
[redacted]	34.5kV	A3WO	4.7	4.7%	1040.7	22000	1004.1	19.4	4.7	4.7%	1040.8	22000	1004.3	19.4	0.0%
[redacted]	34.5kV	H10	2.8	2.8%	710.2	25000	710.2	1	2.8	2.8%	710.3	25000	710.3	1	0.0%

APPENDIX G: SHORT CIRCUIT RESULTS

[redacted]

Short Circuit Results															
			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	230.kV	KNSO	39.4	39.4%	15763	40000	15763	13.4	53.8	53.8%	21506.7	40000	21506.7	13.2	14.4%
[redacted]	230.kV	H2NO	40.6	40.6%	16227.6	40000	16227.6	14	54.2	54.2%	21698.9	40000	21698.9	13.5	13.7%
[redacted]	230.kV	H2SO	40.6	40.6%	16227.6	40000	16227.6	14	54.2	54.2%	21698.9	40000	21698.9	13.5	13.7%
[redacted]	230.kV	CBNO	41.9	41.9%	16762.3	40000	16762.3	13.7	55.5	55.5%	22213.6	40000	22213.6	13.3	13.6%
[redacted]	230.kV	KSSO	58.3	58.3%	23320.8	40000	23320.8	12.5	70.6	70.6%	28254.6	40000	28254.6	13.8	12.3%
[redacted]	230.kV	KSNO	58	58.0%	23205.6	40000	23205.6	12.6	70.2	70.2%	28087.5	40000	28087.5	13.9	12.2%
[redacted]	230.kV	H10	58	58.0%	23205.6	40000	23205.6	12.6	70.2	70.2%	28087.5	40000	28087.5	13.9	12.2%
[redacted]	230.kV	KSNO	21.7	21.7%	13702	63000	13702	14.2	32	32.0%	20175.1	63000	20175.1	13.2	10.3%
[redacted]	230.kV	KNNO	21.7	21.7%	13677.3	63000	13677.3	14.1	32	32.0%	20141.5	63000	20141.5	13.2	10.3%
[redacted]	230.kV	KSFO	25	25.0%	15763	63000	15763	13.4	34.1	34.1%	21506.7	63000	21506.7	13.2	9.1%
[redacted]	230.kV	KSSO	25	25.0%	15763	63000	15763	13.4	34.1	34.1%	21506.7	63000	21506.7	13.2	9.1%
[redacted]	230.kV	H4SO	26.2	26.2%	16494.2	63000	16494.2	13.8	34.8	34.9%	21955.5	63000	21955.5	13.4	8.7%
[redacted]	230.kV	H1SO	26.2	26.2%	16494.2	63000	16494.2	13.8	34.8	34.9%	21955.5	63000	21955.5	13.4	8.7%
[redacted]	230.kV	H4NO	26.2	26.2%	16494.2	63000	16494.2	13.8	34.8	34.9%	21955.5	63000	21955.5	13.4	8.7%
[redacted]	230.kV	H1NO	26.2	26.2%	16494.2	63000	16494.2	13.8	34.8	34.9%	21955.5	63000	21955.5	13.4	8.7%
[redacted]	230.kV	CB10	26.6	26.6%	16762.3	63000	16762.3	13.7	35.3	35.3%	22213.6	63000	22213.6	13.3	8.7%
[redacted]	92.kV	CXSO	71	71.0%	28403.2	40000	27140.7	20.2	79	79.0%	31609.8	40000	29782.3	21.5	8.0%
[redacted]	92.kV	CLSO	71.6	71.6%	28628.9	40000	27278	20.5	79.6	79.6%	31833.9	40000	29931.9	21.7	8.0%
[redacted]	92.kV	CLNO	71.6	71.6%	28638.2	40000	27287.3	20.5	79.6	79.6%	31843.2	40000	29941.3	21.7	8.0%
[redacted]	92.kV	CWSO	72.6	72.6%	29051.7	40000	27641.8	20.6	80.6	80.6%	32239	40000	30282.3	21.8	8.0%
[redacted]	92.kV	CWNO	72.6	72.6%	29051.7	40000	27641.8	20.6	80.6	80.6%	32239	40000	30282.3	21.8	8.0%
[redacted]	92.kV	X30	69	69.0%	27586.8	40000	26203.7	20.8	76.9	76.9%	30761.7	40000	28852.7	22	7.9%
[redacted]	92.kV	X10	66.7	66.7%	26694.5	40000	25512.2	20.2	72.8	72.8%	29100.3	40000	27451.4	21.4	6.0%
[redacted]	92.kV	CNSO	45.5	45.5%	28638.2	63000	27287.3	20.5	50.5	50.5%	31843.2	63000	29941.3	21.7	5.1%
[redacted]	92.kV	CNNO	45.5	45.5%	28638.2	63000	27287.3	20.5	50.5	50.5%	31843.2	63000	29941.3	21.7	5.1%
[redacted]	92.kV	X20	60.6	60.6%	24236.8	40000	22941.6	21.1	65.1	65.1%	26055.7	40000	24309.2	22.5	4.5%
[redacted]	92.kV	X40	42.4	42.4%	26694.5	63000	25512.2	20.2	46.2	46.2%	29100.3	63000	27451.4	21.4	3.8%
[redacted]	92.kV	GTO	46.2	46.2%	18488.1	40000	18488.1	10.5	48.8	48.8%	19521.2	40000	19521.2	10.7	2.6%
[redacted]	92.kV	CMO	56.3	56.3%	22503.8	40000	22503.8	12.7	58.6	58.6%	23432.3	40000	23432.3	12.7	2.3%
[redacted]	92.kV	CBO	56.3	56.3%	22503.9	40000	22503.9	12.7	58.6	58.6%	23432.4	40000	23432.4	12.7	2.3%
[redacted]	92.kV	CB10	56.3	56.3%	22503.9	40000	22503.9	12.7	58.6	58.6%	23432.4	40000	23432.4	12.7	2.3%
[redacted]	92.kV	H10	56	56.0%	22381.6	40000	22381.6	12.6	58.3	58.3%	23304.4	40000	23304.4	12.6	2.3%
[redacted]	92.kV	H20	55.8	55.8%	22320.7	40000	22320.7	12.6	58.1	58.1%	23240.8	40000	23240.8	12.6	2.3%
[redacted]	92.kV	KOB	53	53.0%	21191.6	40000	21191.6	13.2	55.3	55.3%	22111.1	40000	22111.1	13.1	2.3%
[redacted]	92.kV	CIO	52.4	52.4%	20942.7	40000	20942.7	12.7	54.5	54.5%	21797.1	40000	21797.1	13.3	2.1%
[redacted]	92.kV	TROB	51.7	51.7%	20675.6	40000	20675.6	13	53.8	53.8%	21528.9	40000	21528.9	13	2.1%
[redacted]	92.kV	ROB	51.7	51.7%	20675.6	40000	20675.6	13	53.8	53.8%	21528.9	40000	21528.9	13	2.1%
[redacted]	92.kV	KOBE	39.9	39.9%	15970.2	40000	15970.2	10.3	41.6	41.6%	16647	40000	16647	10.3	1.7%
[redacted]	92.kV	KOBW	39.9	39.9%	15970.2	40000	15970.2	10.3	41.6	41.6%	16647	40000	16647	10.3	1.7%
[redacted]	92.kV	CB10	36.6	36.6%	14649.8	40000	13848.4	21.2	38.1	38.1%	15244.4	40000	14294	22	1.5%
[redacted]	92.kV	CNO	49.2	49.2%	19678.8	40000	19678.8	12.3	50.7	50.7%	20271.5	40000	20271.5	12.3	1.5%
[redacted]	92.kV	CLO	49.1	49.1%	19656.8	40000	19656.8	12.3	50.6	50.6%	20247.2	40000	20247.2	12.3	1.5%
[redacted]	92.kV	X4EO	28.9	28.9%	11553.9	40000	11553.9	7.2	30.3	30.3%	12139.1	40000	12139.1	7.2	1.5%
[redacted]	92.kV	X4WO	28.9	28.9%	11553.9	40000	11553.9	7.2	30.3	30.3%	12139.1	40000	12139.1	7.2	1.5%
[redacted]	92.kV	CEO	33.1	33.1%	13222.7	40000	12268	23.1	34.4	34.4%	13759.8	40000	12663.3	23.9	1.3%
[redacted]	92.kV	X10	33.1	33.1%	13222.7	40000	12268	23.1	34.4	34.4%	13759.8	40000	12663.3	23.9	1.3%
[redacted]	230.kV	MBO	24.8	24.8%	9930.1	40000	9827	17.4	26.1	26.1%	10457.7	40000	10457.7	14.6	1.3%
[redacted]	92.kV	CAO	32.4	32.4%	12966.3	40000	11974	23.6	33.7	33.7%	13489.7	40000	12354.4	24.5	1.3%
[redacted]	92.kV	CDO	36.8	36.8%	14733.9	40000	14733.9	8.8	38	38.0%	15212.8	40000	15212.8	8.6	1.2%
[redacted]	92.kV	H20	34.6	34.6%	13845.8	40000	13845.8	8.5	35.7	35.7%	14295.5	40000	14295.5	8.5	1.1%
[redacted]	92.kV	H10	34.6	34.6%	13845.8	40000	13845.8	8.5	35.7	35.7%	14295.5	40000	14295.5	8.5	1.1%
[redacted]	92.kV	H10	24.8	24.8%	9903.1	40000	8657.4	30.8	25.8	25.8%	10323.3	40000	8958.2	32	1.1%
[redacted]	92.kV	CB30	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	CBO	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	H3EO	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	H3WO	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	CB10	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	H20	36.8	36.8%	14730.9	40000	14730.9	9	37.9	37.9%	15143.3	40000	15143.3	9	1.0%
[redacted]	92.kV	CB10	40	40.0%	16015.4	40000	16015.4	9	41.1	41.1%	16427.6	40000	16427.6	8.9	1.0%
[redacted]	92.kV	CB30	40	40.0%	16015.4	40000	16015.4	9	41.1	41.1%	16427.6	40000	16427.6	8.9	1.0%
[redacted]	92.kV	CBO	40	40.0%	16015.4	40000	16015.4	9	41.1	41.1%	16427.6	40000	16427.6	8.9	1.0%
[redacted]	92.kV	H10	33.2	33.2%	13288.1	40000	13288.1	8.1	34.2	34.2%	13698.4	40000	13698.4	8.1	1.0%
[redacted]	92.kV	H20	39.7	39.7%	15887.1	40000	15887.1	8.9	40.7	40.7%	16293.6	40000	16293.6	8.9	1.0%
[redacted]	92.kV	CWSO	39.7	39.7%	15887.1	40000	15887.1	8.9	40.7	40.7%	16293.6	40000	16293.6	8.9	1.0%
[redacted]	92.kV	H20	32.5	32.5%	12980.9	40000	12980.9	7.8	33.5	33.5%	13381.4	40000	13381.4	7.8	1.0%
[redacted]	92.kV	H10	32.5	32.5%	12980.9	40000	12980.9	7.8	33.5	33.5%	13381.4	40000	13381.4	7.8	1.0%
[redacted]	92.kV	CISO	39.3	39.3%	15730.7	40000	15730.7	8.8	40.3	40.3%	16130.4	40000	16130.4	8.8	1.0%
[redacted]	92.kV	H10	39.3	39.3%	15730.7	40000	15730.7	8.8	40.3	40.3%	16130.4	40000	16130.4	8.8	1.0%
[redacted]	92.kV	CENO	38	38.0%	15200	40000	15200	8.6	38.9	38.9%	15573.2	40000	15573.2	8.6	0.9%
[redacted]	92.kV	CESO	38	38.0%	15200	40000	15200	8.6	38.9	38.9%	15573.2	40000	15573.2	8.6	0.9%
[redacted]	92.kV	RSEO	33.9	33.9%	13573.4	40000	13573.4	9.7	34.8	34.8%	13935.6	40000	13935.6	9.3	0.9%
[redacted]	92.kV	CDO	34.8	34.8%	13938.5	40000	13938.5	9	35.8	35.8%	14300.6	40000	14300.6	9	0.9%
[redacted]	92.kV	RSWO	34.8	34.8%	13938.5	40000	13938.5	9	35.8	35.8%	14300.6	40000	14300.6	9	0.9%
[redacted]	92.kV	CSO	36	36.0%	14405.1	40000	14405.1	8.7	36.9	36.9%	14761.6	40000	14761.6	8.7	0.9%
[redacted]	92.kV	CASO	36.8	36.8%	14721.4	40000	14721.4	8.5	37.7	37.7%	15073	40000	15073	8.5	0.9%
[redacted]	92.kV	CANO	36.8	36.8%	14721.4	40000	14721.4	8.5	37.7	37.7%	15073	40000	15073	8.5	0.9%
[redacted]	92.kV	CSNO	29.6	29.6%	11846.8	40000	11846.8	7.7	30.5	30.5%	12188.5	40000	12188.5	7.7	0.9%
[redacted]	92.kV	CSSO	29.6	29.6%	11846.8	40000	11846.8	7.7	30.5	30.5%	12188.5	40000	12188.5	7.7	0.9%
[redacted]	92.kV	CASO	20.6	20.6%	12966.3	63000	11974	23.6	21.4	21.4%	13489.7	63000	12354.4	24.5	0.8%
[redacted]	92.kV	H30	27.9	27.9%	11179.9	40000	11179.9	7.5	28.8	28.8%	11510.6	40000	11510.6	7.5	0.8%
[redacted]	92.kV	H10	27.9	27.9%	11179.9	40000	11179.9	7.5	28.8	28.8%	11510.6	40000	11510.6	7.5	0.8%
[redacted]	92.kV	H20	27.9	27.9%	11179.9	40000	11179.9	7.5	28.8	28.8%	11510.6	40000	11510.6	7.5	0.8%
[redacted]	92.kV	CSO	33.1	33.1%	13241.1	40000	13241.1	9	33.9	33.9%	13561.5	40000	13561.5	9	0.8%
[redacted]	92.kV	RNWO	33.1	33.1%	13241.1	40000	13241.1	9	33.9	33.9%	13561.5	40000	13561.5	9	0.8%
[redacted]	92.kV	H20	27.6	27.6%	11035.1	40000	11035.1	13.4	28.4	28.4%	11351.8	40000	11351.8	13.7	0.8%
[redacted]	92.kV	H10	27.6	27.6%	11037.9	40000	11037.9	12.9	28.4	28.4%	11351.8	40000	11351.8	13.7	0.8%
[redacted]	92.kV	CATO	28.1	28.1%	11231.1	40000	11231.1	7.9	28.8	28.8%	11532.3	40000	11532.3	7.9	0.8%
[redacted]	92.kV	H10	29.3	29.3%	11721.8	40000	11721.8	7.4	30.1	30.1%	12021.8	40000	12021.8	7.3	0.8%
[redacted]	92.kV	H20	29.3	29.3%	11721.8	40000	11721.8	7.4	30.1	30.1%	12021.8	40000	12021.8	7.3	0.8%
[redacted]	92.kV	CWNO	34.4	34.4%	13754.1	40000	13754.1	8.8	35.1	35.1%	14047.2	40000	14047.2	8.8	0.7%
[redacted]	92.kV	CINO	33.1	33.1%	13255.8	40000	13255.8	8.7	33.9	33.9%	13548.4	40000	13548.4	8.7	0.7%
[redacted]	161.kV	H30	18.5	18.5%	7405.8	40000	6546.2	29.1	19.2	19.2%	7690.1	40000	6725.7	30.7	0.7%
[redacted]	161.kV	NOB	18.5	18.5%	7405.8	40000	6546.2	29.1	19.2	19.2%	7690.1	40000	6725.7	30.7	0.7%
[redacted]	230.kV	MBNO	13.4	13.4%	8412.2	63000	8412.2	13.7	14	14.0%	8845.7	63000	8845.7	13.5	0.7%
[redacted]	92.kV	CIEO	25.3	25.3%	10139.5	40000	10139.5	8.2	26	26.0%	10402.2	40000	10402.2	8.1	0.7%
[redacted]	92.kV	CIWO	25.3	25.3%	10139.5	40000	10139.5	8.2	26	26.0%	10402.2	40000	10402.2	8.1	0.7%

Short Circuit Results															
			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	92.kV	H20	21.4	21.4%	13714.5	64000	13714.5	8	22.1	22.1%	14134.3	64000	14134.3	8	0.7%
[redacted]	92.kV	H10	21.4	21.4%	13714.5	64000	13714.5	8	22.1	22.1%	14134.3	64000	14134.3	8	0.7%
[redacted]	92.kV	CDTO	26.7	26.7%	10696.9	40000	10696.9	7.4	27.4	27.4%	10948.2	40000	10948.2	7	0.6%
[redacted]	92.kV	H10	24.9	24.9%	9964.3	40000	9964.3	7.6	25.5	25.5%	10208.7	40000	10208.7	7.6	0.6%
[redacted]	92.kV	CENO	22.6	22.6%	9026.5	40000	9026.5	14.8	23.2	23.2%	9268.6	40000	9268.6	15.2	0.6%
[redacted]	92.kV	CESO	23.8	23.8%	9507.7	40000	9507.7	13.6	24.4	24.4%	9744.2	40000	9744.2	13.8	0.6%
[redacted]	92.kV	CWSO	25.8	25.8%	10303.8	40000	10303.8	7.3	26.3	26.3%	10539.7	40000	10539.7	7.3	0.6%
[redacted]	92.kV	CWNO	25.8	25.8%	10303.8	40000	10303.8	7.3	26.3	26.3%	10539.7	40000	10539.7	7.3	0.6%
[redacted]	161.kV	LOB	17.3	17.3%	6936.6	40000	6068.1	30.7	17.9	17.9%	7165.8	40000	6201.5	32.5	0.6%
[redacted]	92.kV	RNEO	27.4	27.4%	10962.4	40000	10962.4	9.1	27.9	27.9%	11163.9	40000	11163.9	9.1	0.5%
[redacted]	92.kV	CDTO	24.5	24.5%	9783	40000	9783	7.2	25	25.0%	9983.7	40000	9983.7	6.8	0.5%
[redacted]	92.kV	CDTO	23.7	23.7%	9498.5	40000	9498.5	6.8	24.2	24.2%	9693	40000	9693	6.8	0.5%
[redacted]	92.kV	CDSO	22	22.0%	8782.1	40000	8782.1	6.7	22.4	22.4%	8976.3	40000	8976.3	6.7	0.5%
[redacted]	92.kV	CDNO	22	22.0%	8782.1	40000	8782.1	6.7	22.4	22.4%	8976.3	40000	8976.3	6.7	0.5%
[redacted]	92.kV	H20	23.2	23.2%	9271.7	40000	9271.7	6.7	23.7	23.7%	9463.6	40000	9463.6	6.7	0.5%
[redacted]	92.kV	H10	23.2	23.2%	9271.7	40000	9271.7	6.7	23.7	23.7%	9463.6	40000	9463.6	6.7	0.5%
[redacted]	92.kV	CSEO	21.1	21.1%	8445.3	40000	8445.3	6.7	21.6	21.6%	8630.8	40000	8630.8	6.7	0.5%
[redacted]	92.kV	CSWO	21.1	21.1%	8445.3	40000	8445.3	6.7	21.6	21.6%	8630.8	40000	8630.8	6.7	0.5%
[redacted]	92.kV	CAWO	21.4	21.4%	8547.8	40000	8547.8	6.5	21.8	21.8%	8727.2	40000	8727.2	6.5	0.4%
[redacted]	92.kV	CAEO	21.4	21.4%	8547.8	40000	8547.8	6.5	21.8	21.8%	8727.2	40000	8727.2	6.5	0.4%
[redacted]	92.kV	CWSO	21.5	21.5%	8614.7	40000	8614.7	6.8	22	22.0%	8786.6	40000	8786.6	6.8	0.4%
[redacted]	92.kV	CWNO	21.5	21.5%	8614.7	40000	8614.7	6.8	22	22.0%	8786.6	40000	8786.6	6.8	0.4%
[redacted]	92.kV	CINO	20.7	20.7%	8262.4	40000	8262.4	6.8	21.1	21.1%	8432.3	40000	8432.3	6.7	0.4%
[redacted]	92.kV	CISO	20.7	20.7%	8262.4	40000	8262.4	6.8	21.1	21.1%	8432.3	40000	8432.3	6.7	0.4%
[redacted]	92.kV	CDWO	18.2	18.2%	7269.2	40000	7269.2	6.4	18.5	18.5%	7408.4	40000	7408.4	6.3	0.3%
[redacted]	92.kV	CDEO	18.2	18.2%	7269.2	40000	7269.2	6.4	18.5	18.5%	7408.4	40000	7408.4	6.3	0.3%
[redacted]	92.kV	CESO	18.2	18.2%	7260.8	40000	7260.8	6.2	18.5	18.5%	7395.1	40000	7395.1	6.2	0.3%
[redacted]	92.kV	CENO	18.2	18.2%	7260.8	40000	7260.8	6.2	18.5	18.5%	7395.1	40000	7395.1	6.2	0.3%
[redacted]	161.kV	LSEO	13.9	13.9%	5541	40000	5541	11.6	14.2	14.2%	5669	40000	5669	11.7	0.3%
[redacted]	161.kV	LSWO	13.9	13.9%	5541	40000	5541	11.6	14.2	14.2%	5669	40000	5669	11.7	0.3%
[redacted]	92.kV	CWNO	16.7	16.7%	6696.6	40000	6696.6	6.4	17	17.0%	6808	40000	6808	6.3	0.3%
[redacted]	92.kV	CWSO	16.9	16.9%	6756.9	40000	6756.9	7.2	17.1	17.1%	6857.3	40000	6857.3	7.2	0.3%
[redacted]	92.kV	CDWO	14.7	14.7%	5887.7	40000	5887.7	6.1	15	15.0%	5984.6	40000	5984.6	6	0.2%
[redacted]	92.kV	CDWO	16.7	16.7%	6681.1	40000	6681.1	6.4	16.9	16.9%	6775.9	40000	6775.9	6.3	0.2%
[redacted]	92.kV	CDEO	16.7	16.7%	6681.1	40000	6681.1	6.4	16.9	16.9%	6775.9	40000	6775.9	6.3	0.2%
[redacted]	230.kV	MBO	12.1	12.1%	7620.7	63000	7346.3	19.5	12.3	12.3%	7765.3	63000	7765.3	13.6	0.2%
[redacted]	92.kV	CDEO	15	15.0%	5989	40000	5989	6.7	15.2	15.2%	6076.7	40000	6076.7	6.7	0.2%
[redacted]	92.kV	H20	15.3	15.3%	6107.6	40000	6107.6	5.1	15.4	15.4%	6174.4	40000	6174.4	5	0.2%
[redacted]	92.kV	KOBE	11	11.0%	4405.9	40000	4405.9	5.9	11.2	11.2%	4469.3	40000	4469.3	5.9	0.2%
[redacted]	92.kV	KOBW	11	11.0%	4405.9	40000	4405.9	5.9	11.2	11.2%	4469.3	40000	4469.3	5.9	0.2%
[redacted]	161.kV	FOB	41.8	41.8%	6685.7	16000	6685.7	14.2	41.9	41.9%	6707.5	16000	6707.5	14.2	0.1%
[redacted]	161.kV	LNEO	11.6	11.6%	4641.9	40000	4641.9	10.6	11.7	11.7%	4691.2	40000	4691.2	10.6	0.1%
[redacted]	161.kV	LNWO	11.7	11.7%	4677.8	40000	4677.8	8.4	11.8	11.8%	4723.1	40000	4723.1	8.5	0.1%
[redacted]	161.kV	H40	11.7	11.7%	4677.8	40000	4677.8	8.4	11.8	11.8%	4723.1	40000	4723.1	8.5	0.1%
[redacted]	92.kV	H10	11.7	11.7%	4675.7	40000	4675.7	6.4	11.8	11.8%	4705.5	40000	4705.5	6.4	0.1%
[redacted]	92.kV	H20	11.7	11.7%	4675.7	40000	4675.7	6.4	11.8	11.8%	4705.5	40000	4705.5	6.4	0.1%
[redacted]	92.kV	H20	19.9	19.9%	4980.7	25000	4980.7	5.4	20	20.0%	4999.3	25000	4999.3	5.4	0.1%
[redacted]	92.kV	RWO	7.4	7.4%	2966.1	40000	2966.1	5.6	7.5	7.5%	2995.5	40000	2995.5	5.6	0.1%
[redacted]	92.kV	REO	7.4	7.4%	2966.1	40000	2966.1	5.6	7.5	7.5%	2995.5	40000	2995.5	5.6	0.1%
[redacted]	92.kV	JOB	31.3	31.3%	12534.8	40000	12083.1	19.5	31.4	31.4%	12562.7	40000	12111.8	19.4	0.1%
[redacted]	92.kV	MW10	37.2	37.2%	14883.4	40000	14740	17.3	37.3	37.3%	14910.2	40000	14768.3	17.3	0.1%
[redacted]	92.kV	SP2	37.3	37.3%	14904.3	40000	14694	17.6	37.3	37.3%	14930.4	40000	14721.4	17.6	0.1%
[redacted]	92.kV	SPO	37.9	37.9%	15157	40000	14975.1	17.5	38	38.0%	15182.8	40000	15002.2	17.5	0.1%
[redacted]	92.kV	522	32.9	32.9%	13156.4	40000	12970.8	17.6	33	33.0%	13182.1	40000	12997.6	17.6	0.1%
[redacted]	92.kV	521	32.9	32.9%	13173.1	40000	12987.2	17.6	33	33.0%	13198.8	40000	13014.1	17.6	0.1%
[redacted]	92.kV	GN10	27.2	27.2%	10890.3	40000	10890.3	12.1	27.3	27.3%	10915.8	40000	10915.8	12.1	0.1%
[redacted]	92.kV	GN20	26.5	26.5%	10589.8	40000	10440.4	17.6	26.5	26.5%	10614	40000	10465.5	17.6	0.1%
[redacted]	161.kV	MOB	15.8	15.8%	6330.8	40000	6330.8	14.5	15.9	15.9%	6352.9	40000	6352.9	14.5	0.1%
[redacted]	92.kV	U30SO	108.3	108.3%	43300.7	40000	36562.9	37.3	108.3	108.3%	43320.4	40000	36580.7	37.3	0.0%
[redacted]	92.kV	H30	49.3	49.3%	9864.1	20000	9864.1	9.6	49.4	49.4%	9873.9	20000	9873.9	9.6	0.0%
[redacted]	92.kV	LHSO	111.7	111.7%	44673.4	40000	38026.4	35.6	111.7	111.7%	44692.9	40000	38044.2	35.6	0.0%
[redacted]	92.kV	LHNO	111.7	111.7%	44673.4	40000	38026.4	35.6	111.7	111.7%	44692.9	40000	38044.2	35.6	0.0%
[redacted]	92.kV	BNO	111.4	111.4%	44570.8	40000	37956.7	35.5	111.5	111.5%	44590.3	40000	37974.5	35.5	0.0%
[redacted]	92.kV	BSO	111.4	111.4%	44570.8	40000	37956.7	35.5	111.5	111.5%	44590.3	40000	37974.5	35.5	0.0%
[redacted]	92.kV	H3NO	111.8	111.8%	44717.9	40000	38054.7	35.7	111.8	111.8%	44737.4	40000	38072.5	35.7	0.0%
[redacted]	92.kV	H3SO	111.8	111.8%	44717.9	40000	38054.7	35.7	111.8	111.8%	44737.4	40000	38072.5	35.7	0.0%
[redacted]	92.kV	U31SO	107.2	107.2%	42894.7	40000	36395	36.3	107.3	107.3%	42914.2	40000	36412.8	36.3	0.0%
[redacted]	92.kV	U41NO	102.3	102.3%	40915.5	40000	34837.8	35.5	102.3	102.3%	40934.9	40000	34855.4	35.5	0.0%
[redacted]	92.kV	U41SO	102.3	102.3%	40915.5	40000	34837.8	35.5	102.3	102.3%	40934.9	40000	34855.4	35.5	0.0%
[redacted]	92.kV	EDSO	111.1	111.1%	44442.1	40000	37832.8	35.6	111.2	111.2%	44461.5	40000	37850.6	35.6	0.0%
[redacted]	92.kV	EDNO	111.1	111.1%	44442.1	40000	37832.8	35.6	111.2	111.2%	44461.5	40000	37850.6	35.6	0.0%
[redacted]	92.kV	U21SO	108.1	108.1%	43249.5	40000	36825.1	35.5	108.2	108.2%	43268.9	40000	36842.8	35.5	0.0%
[redacted]	92.kV	LUSO	111.7	111.7%	44674.7	40000	38016.6	35.7	111.7	111.7%	44694.1	40000	38034.3	35.7	0.0%
[redacted]	92.kV	LUNO	111.7	111.7%	44674.7	40000	38016.6	35.7	111.7	111.7%	44694.1	40000	38034.3	35.7	0.0%
[redacted]	92.kV	PWNO	109.8	109.8%	43936.5	40000	37427.9	35.5	109.9	109.9%	43955.9	40000	37445.7	35.4	0.0%
[redacted]	92.kV	PWSO	109.8	109.8%	43936.5	40000	37427.9	35.5	109.9	109.9%	43955.9	40000	37445.7	35.4	0.0%
[redacted]	92.kV	TWSO	111.9	111.9%	44776.1	40000	38121.7	35.6	112	112.0%	44795.5	40000	38139.5	35.6	0.0%
[redacted]	92.kV	TENO	111.9	111.9%	44776.1	40000	38121.7	35.6	112	112.0%	44795.5	40000	38139.5	35.6	0.0%
[redacted]	92.kV	TESO	111.9	111.9%	44776.1	40000	38121.7	35.6	112	112.0%	44795.5	40000	38139.5	35.6	0.0%
[redacted]	92.kV	TWNO	111.9	111.9%	44776.1	40000	38121.7	35.6	112	112.0%	44795.5	40000	38139.5	35.6	0.0%
[redacted]	92.kV	PNO	110	110.0%	44002.3	40000	37488.7	35.4	110.1	110.1%	44021.7	40000	37506.4	35.4	0.0%
[redacted]	92.kV	PSO	110	110.0%	44002.3	40000	37488.7	35.4	110.1	110.1%	44021.7	40000	37506.4	35.4	0.0%
[redacted]	92.kV	ENO	111.6	111.6%	44628.5	40000	37987.4	35.6	111.6	111.6%	44647.9	40000	38005.1	35.6	0.0%
[redacted]	92.kV	ESO	111.6	111.6%	44628.5	40000	37987.4	35.6	111.6	111.6%	44647.9	40000	38005.1	35.6	0.0%
[redacted]	92.kV	U22SO	103.2	103.2%	41290.8	40000	35157.3	35.5	103.3	103.3%	41310	40000	35174.8	35.5	0.0%
[redacted]	92.kV	RNO	111.2	111.2%	44498.9	40000	37836.2	35.8	111.3	111.3%	44517.9	40000	37853.5	35.8	0.0%
[redacted]	92.kV	RSO	111.2	111.2%	44498.9	40000	37836.2	35.8	111.3	111.3%	44517.9	40000	37853.5	35.8	0.0%
[redacted]	92.kV	EOSO	109.3	109.3%	43718.7	40000	37159.3	35.9	109.3	109.3%	43736.9	40000	37175.9	35.9	0.0%
[redacted]	92.kV	EONO	109.3	109.3%	43718.7	40000	37159.3	35.9	109.3	109.3%	43736.9	40000	37175.9	35.9	0.0%
[redacted]	92.kV	JSO	108.8	108.8%	43520.4	40000	36993.2	35.9	108.8	108.8%	43538.1	40000	37009.3	35.9	0.0%
[redacted]	92.kV	JNO	108.8	108.8%	43520.4	40000	36993.2	35.9	108.8	108.8%	43538.1	40000	37009.3	35.9	0.0%
[redacted]	161.kV	X1EO	24.5	24.5%	9802.8	40000	9479	19.2	24.5	24.5%	9818.9	40000	9496.5	19.2	0.0%
[redacted]	161.kV	H10	16.9	16.9%	6754.6	40000	6754.6	10.7	16.9	16.9%	6770.7	40000	6770.7	10.7	0.0%
[redacted]	161.kV	MEO	16.9	16.9%	6754.6	40000	6754.6	10.7	16.9	16.9%	6770.7	40000	6770.7	10.7	0.0%
[redacted]	161.kV	MWO	16.9	16.9%	6754.6	40000	6754.6	10.7	16.9	16.9%	6770.7	40000	6770.7	10.7	0.0%
[redacted]	92.kV	H10	69.4	69.4%	27754.8	40000	27754.8	14.3	69.4	69.4%	27769.6	40000	27769.6	14.3	0.0%

Short Circuit Results																
			Pre-Project						Post w/mitigations-Project							
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R		Delta
[redacted]	92.kV	H20	69.4	69.4%	27754.8	40000	27754.8	14.3	69.4	69.4%	27769.6	40000	27769.6	14.3		0.0%
[redacted]	92.kV	CB10	69.4	69.4%	27754.8	40000	27754.8	14.3	69.4	69.4%	27769.6	40000	27769.6	14.3		0.0%
[redacted]	92.kV	UOB	68.8	68.8%	27534.7	40000	27534.7	14	68.9	68.9%	27549.2	40000	27549.2	14		0.0%
[redacted]	92.kV	JS20	66	66.0%	13201.4	20000	13201.4	10.2	66	66.0%	13208.6	20000	13208.6	10.2		0.0%
[redacted]	161.kV	H10	16.6	16.6%	6654.4	40000	6654.4	7.6	16.7	16.7%	6668.7	40000	6668.7	10.3		0.0%
[redacted]	161.kV	M20	16.6	16.6%	6654.4	40000	6654.4	7.6	16.7	16.7%	6668.7	40000	6668.7	10.3		0.0%
[redacted]	92.kV	JN10	62.2	62.2%	12435.6	20000	12435.6	9.5	62.2	62.2%	12442.7	20000	12442.7	9.5		0.0%
[redacted]	92.kV	JS10	62.2	62.2%	12435.6	20000	12435.6	9.5	62.2	62.2%	12442.7	20000	12442.7	9.5		0.0%
[redacted]	92.kV	RSNO	8.6	8.6%	3427.6	40000	3427.6	10.9	8.6	8.6%	3441.5	40000	3441.5	10.9		0.0%
[redacted]	230.kV	MHO	13.5	13.5%	6768.3	50000	6367.3	21.7	13.6	13.6%	6785.5	50000	6785.5	16.2		0.0%
[redacted]	92.kV	H10	25.8	25.8%	10334.1	40000	10334.1	9.7	25.9	25.9%	10347.5	40000	10347.5	9.7		0.0%
[redacted]	92.kV	H10	12.4	12.4%	4972.7	40000	4972.7	12.3	12.5	12.5%	4986.1	40000	4986.1	12.3		0.0%
[redacted]	92.kV	RBSO	12.4	12.4%	4972.7	40000	4972.7	12.3	12.5	12.5%	4986.1	40000	4986.1	12.3		0.0%
[redacted]	161.kV	AOB	28.4	28.4%	11353.4	40000	10276.6	25.9	28.4	28.4%	11366.8	40000	10289.8	25.9		0.0%
[redacted]	92.kV	KOB	35.6	35.6%	14235.6	40000	13883.6	18.5	35.6	35.6%	14248.8	40000	13897.2	18.5		0.0%
[redacted]	92.kV	LWO	68.3	68.3%	27333.5	40000	27333.5	14.4	68.4	68.4%	27346.1	40000	27346.1	14.4		0.0%
[redacted]	92.kV	U30NO	68.7	68.7%	43300.7	63000	36562.9	37.3	68.8	68.8%	43320.4	63000	36580.7	37.3		0.0%
[redacted]	34.5kV	PNO	50.7	50.7%	4256.4	8400	4173.9	18.1	50.7	50.7%	4259	8400	4176.4	18.1		0.0%
[redacted]	34.5kV	X30	50.7	50.7%	4256.4	8400	4173.9	18.1	50.7	50.7%	4259	8400	4176.4	18.1		0.0%
[redacted]	92.kV	U31NO	68.1	68.1%	42894.7	63000	36395	36.3	68.1	68.1%	42914.2	63000	36412.8	36.3		0.0%
[redacted]	92.kV	U21NO	68.6	68.7%	43249.5	63000	36825.1	35.5	68.7	68.7%	43268.9	63000	36842.8	35.5		0.0%
[redacted]	92.kV	U32NO	67.2	67.2%	42332.1	63000	35905.6	36.3	67.2	67.2%	42351.4	63000	35923.3	36.3		0.0%
[redacted]	92.kV	U32SO	67.2	67.2%	42332.1	63000	35905.6	36.3	67.2	67.2%	42351.4	63000	35923.3	36.3		0.0%
[redacted]	92.kV	U22NO	65.5	65.5%	41290.8	63000	35157.3	35.5	65.6	65.6%	41310	63000	35174.8	35.5		0.0%
[redacted]	92.kV	JEO	15.3	15.3%	6101.3	40000	6101.3	8.7	15.3	15.3%	6113.3	40000	6113.3	8.7		0.0%
[redacted]	92.kV	JWO	15.3	15.3%	6101.3	40000	6101.3	8.7	15.3	15.3%	6113.3	40000	6113.3	8.7		0.0%
[redacted]	92.kV	H10	49.1	49.1%	9827.2	20000	9827.2	9	49.2	49.2%	9833.1	20000	9833.1	9		0.0%
[redacted]	92.kV	H20	49.1	49.1%	9827.2	20000	9827.2	9	49.2	49.2%	9833.1	20000	9833.1	9		0.0%
[redacted]	92.kV	X4SO	59.3	59.3%	37332.9	63000	31558.5	37.1	59.3	59.3%	37350.8	63000	31574.6	37.1		0.0%
[redacted]	92.kV	X4NO	59.3	59.3%	37332.9	63000	31558.5	37.1	59.3	59.3%	37350.8	63000	31574.6	37.1		0.0%
[redacted]	92.kV	TWO	60.8	60.8%	24332.1	40000	24332.1	10.9	60.9	60.9%	24342.8	40000	24342.8	10.9		0.0%
[redacted]	92.kV	TEO	60.8	60.8%	24332.1	40000	24332.1	10.9	60.9	60.9%	24342.8	40000	24342.8	10.9		0.0%
[redacted]	161.kV	H10	9.5	9.5%	5959.4	63000	5959.4	6.8	9.5	9.5%	5976.2	63000	5976.2	6.8		0.0%
[redacted]	161.kV	H20	12.9	12.9%	8117.9	63000	7714.7	20.7	12.9	12.9%	8134	63000	7731.3	20.7		0.0%
[redacted]	161.kV	NOB	24.2	24.2%	7501.3	31000	7501.3	13.5	24.2	24.2%	7509.1	31000	7509.1	12.4		0.0%
[redacted]	92.kV	JN20	40.3	40.3%	8068.5	20000	8068.5	9.4	40.4	40.4%	8073.5	20000	8073.5	9.4		0.0%
[redacted]	92.kV	X2SO	99.8	99.8%	39909	40000	33487.6	38.7	99.8	99.8%	39918.8	40000	33496.2	38.7		0.0%
[redacted]	92.kV	X2NO	99.8	99.8%	39909	40000	33487.6	38.7	99.8	99.8%	39918.8	40000	33496.2	38.7		0.0%
[redacted]	92.kV	H10	25.2	25.2%	10087.5	40000	10087.5	9.6	25.2	25.2%	10097.3	40000	10097.3	9.6		0.0%
[redacted]	92.kV	X10	24.4	24.4%	9766.4	40000	9408.6	19.5	24.4	24.4%	9775.9	40000	9418.2	19.5		0.0%
[redacted]	92.kV	COO	20.8	20.8%	8310.2	40000	8310.2	9.6	20.8	20.8%	8319.4	40000	8319.4	9.6		0.0%
[redacted]	92.kV	JSO	21	21.0%	8389.1	40000	8389.1	9.8	21	21.0%	8398.2	40000	8398.2	9.8		0.0%
[redacted]	161.kV	M10	10.7	10.7%	4287.9	40000	4287.9	12.9	10.7	10.7%	4296.6	40000	4296.6	12.9		0.0%
[redacted]	92.kV	H20	33.2	33.2%	13265.4	40000	13265.4	9.6	33.2	33.2%	13273.1	40000	13273.1	9.6		0.0%
[redacted]	92.kV	H10	33.2	33.2%	13265.4	40000	13265.4	9.6	33.2	33.2%	13273.1	40000	13273.1	9.6		0.0%
[redacted]	34.5kV	BVO	84.2	84.2%	7069.9	8400	7069.9	4.3	84.2	84.2%	7071.5	8400	7071.5	4.3		0.0%
[redacted]	34.5kV	H30	84.2	84.2%	7069.9	8400	7069.9	4.3	84.2	84.2%	7071.5	8400	7071.5	4.3		0.0%
[redacted]	92.kV	H10	39.8	39.8%	25093.3	63000	25093.3	12.8	39.8	39.8%	25104.6	63000	25104.6	12.8		0.0%
[redacted]	92.kV	EOO	26.5	26.5%	10604.9	40000	10604.9	10.1	26.5	26.5%	10611.5	40000	10611.5	10.1		0.0%
[redacted]	92.kV	H20	42.2	42.2%	16871.6	40000	16871.6	8.4	42.2	42.2%	16877.8	40000	16877.8	8.4		0.0%
[redacted]	92.kV	LHNO	42.2	42.2%	16871.6	40000	16871.6	8.4	42.2	42.2%	16877.8	40000	16877.8	8.4		0.0%
[redacted]	92.kV	LHSO	42.2	42.2%	16871.6	40000	16871.6	8.4	42.2	42.2%	16877.8	40000	16877.8	8.4		0.0%
[redacted]	92.kV	H10	40.1	40.1%	16058.9	40000	16058.9	7.2	40.2	40.2%	16064.9	40000	16064.9	7.2		0.0%
[redacted]	92.kV	H20	40.1	40.1%	16058.9	40000	16058.9	7.2	40.2	40.2%	16064.9	40000	16064.9	7.2		0.0%
[redacted]	34.5kV	X10	32.4	32.4%	2721.2	8400	2721.2	13.8	32.4	32.4%	2722.4	8400	2722.4	13.8		0.0%
[redacted]	34.5kV	HXO	57.8	57.8%	4856	8400	4856	14.2	57.8	57.8%	4857.2	8400	4857.2	14.2		0.0%
[redacted]	92.kV	JNO	30.9	30.9%	12351.5	40000	12351.5	9.4	30.9	30.9%	12357.2	40000	12357.2	9.4		0.0%
[redacted]	92.kV	COO	30	30.0%	12002.3	40000	12002.3	8.8	30	30.0%	12008	40000	12008	8.8		0.0%
[redacted]	92.kV	H10	21.3	21.3%	8538.5	40000	8538.5	7.3	21.4	21.4%	8544.2	40000	8544.2	7.3		0.0%
[redacted]	92.kV	JSO	19.8	19.8%	7925.3	40000	7925.3	8.4	19.8	19.8%	7930.9	40000	7930.9	8.4		0.0%
[redacted]	161.kV	LOB	28.3	28.3%	11300.9	40000	10254.2	25.6	28.3	28.3%	11306.5	40000	10259.6	25.6		0.0%
[redacted]	161.kV	X1WO	28.3	28.3%	11300.9	40000	10254.2	25.6	28.3	28.3%	11306.5	40000	10259.6	25.6		0.0%
[redacted]	92.kV	H10	27.8	27.8%	11100.2	40000	11100.2	7.6	27.8	27.8%	11105.6	40000	11105.6	7.6		0.0%
[redacted]	92.kV	UOB	36.9	36.9%	14748.6	40000	14748.6	7.5	36.9	36.9%	14754	40000	14754	7.5		0.0%
[redacted]	92.kV	LUO	36.9	36.9%	14748.6	40000	14748.6	7.5	36.9	36.9%	14754	40000	14754	7.5		0.0%
[redacted]	92.kV	H10	32.4	32.4%	12964.6	40000	12964.6	7.1	32.4	32.4%	12969.9	40000	12969.9	7.1		0.0%
[redacted]	92.kV	H20	32.4	32.4%	12964.6	40000	12964.6	7.1	32.4	32.4%	12969.9	40000	12969.9	7.1		0.0%
[redacted]	92.kV	H10	32.9	32.9%	13145.8	40000	13145.8	7.1	32.9	32.9%	13151	40000	13151	7.1		0.0%
[redacted]	92.kV	H20	32.9	32.9%	13145.8	40000	13145.8	7.1	32.9	32.9%	13151	40000	13151	7.1		0.0%
[redacted]	92.kV	H10	35.8	35.8%	14325.7	40000	14325.7	7.3	35.8	35.8%	14330.6	40000	14330.6	7.3		0.0%
[redacted]	92.kV	H20	35.8	35.8%	14325.7	40000	14325.7	7.3	35.8	35.8%	14330.6	40000	14330.6	7.3		0.0%
[redacted]	161.kV	MOB	17.2	17.2%	10828	63000	9792.4	26	17.2	17.2%	10835.6	63000	9800.1	26		0.0%
[redacted]	92.kV	DPO	20.7	20.7%	8276.3	40000	8276.3	5.4	20.7	20.7%	8281.1	40000	8281.1	5.4		0.0%
[redacted]	92.kV	H10	20.7	20.7%	8276.3	40000	8276.3	5.4	20.7	20.7%	8281.1	40000	8281.1	5.4		0.0%
[redacted]	34.5kV	BHO	52.8	52.8%	4431.7	8400	4340.4	18.2	52.8	52.8%	4432.7	8400	4341.4	18.2		0.0%
[redacted]	34.5kV	RBEO	46.1	46.1%	10147.3	22000	10088.9	17	46.1	46.1%	10149.8	22000	10091.3	17		0.0%
[redacted]	34.5kV	RWO	46.1	46.1%	10147.3	22000	10088.9	17	46.1	46.1%	10149.8	22000	10091.3	17		0.0%
[redacted]	34.5kV	MRO	46.1	46.1%	10147.3	22000	10088.9	17	46.1	46.1%	10149.8	22000	10091.3	17		0.0%
[redacted]	92.kV	H20	36.3	36.3%	14530.6	40000	14530.6	9.3	36.3	36.3%	14535.1	40000	14535.1	9.3		0.0%
[redacted]	92.kV	PWO	40.5	40.5%	10518.3	26000	10518.3	7.9	40.5	40.5%	10521.2	26000	10521.2	7.9		0.0%
[redacted]	34.5kV	X20	46.1	46.1%	10147.3	22000	10088.8	17	46.1	46.1%	10149.7	22000	10091.3	17		0.0%
[redacted]	92.kV	PNO	39.7	39.7%	10323.8	26000	10323.8	7.7	39.7	39.7%	10326.6	26000	10326.6	7.7		0.0%
[redacted]	92.kV	H30	35.7	35.7%	14295.7	40000	14295.7	8.9	35.7	35.8%	14300	40000	14300	8.9		0.0%
[redacted]	92.kV	H10	35.7	35.7%	14295.7	40000	14295.7	8.9	35.7	35.8%	14300	40000	14300	8.9		0.0%
[redacted]	92.kV	H20	35.7	35.7%	14295.7	40000	14295.7	8.9	35.7	35.8%	14300	40000	14300	8.9		0.0%
[redacted]	92.kV	EDNO	30.6	30.6%	12240.9	40000	12240.9	6.8	30.6	30.6%	12245.1	40000	12245.1	6.8		0.0%
[redacted]	92.kV	EDSO	30.6	30.6%	12240.9	40000	12240.9	6.8	30.6	30.6%	12245.1	40000	12245.1	6.8		0.0%
[redacted]	92.kV	H40	27.4	27.4%	17522.7	64000	17522.7	8.2	27.4	27.4%	17529.4	64000	17529.4	8.2		0.0%
[redacted]	92.kV	H50	27.4	27.4%	17522.7	64000	17522.7	8.2	27.4	27.4%	17529.4	64000	17529.4	8.2		0.0%
[redacted]	92.kV	LUSO	29.5	29.5%	11785.2	40000	11785.2	6.9	29.5	29.5%	11789.3	40000	11789.3	6.9		0.0%
[redacted]	92.kV	LUNO	29.5	29.5%	11785.2	40000	11785.2	6.9	29.5	29.5%	11789.3	40000	11789.3	6.9		0.0%
[redacted]	92.kV	HL10	34.2	34.2%	13686.2	40000	13686.2	10.9	34.2	34.2%	13690.3	40000	13690.3	10.9		0.0%
[redacted]	92.kV	H10	34.1	34.1%	13653.9	40000	13653.9	8.7	34.1	34.1%	13657.9	40000	13657.9	8.7		0.0%
[redacted]	92.kV	H20	34.1	34.1%	13653.9	40000	13653.9	8.7	34.1	34.1%	13657.9	40000	13657.9	8.7		0.0%
[redacted]	92.kV	H30	30.9	30.9%	12360.7	40000	12360.7	7.5	30.9	30.9%	12364.7	40000	12364.7	7.5		0.0%
[redacted]	92.kV	H10	31.6	31.6%	12634.7	40000	12634.7	7.4	31.6	31.6%	12638.7	40000	12638.7	7.4		0.0%

Short Circuit Results															
			Pre-Project						Post w/mitigations-Project						
BUS	VOLTAGE	BREAKER	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	92.kV	H20	31.6	31.6%	12634.7	40000	12634.7	7.4	31.6	31.6%	12638.7	40000	12638.7	7.4	0.0%
[redacted]	92.kV	RPO	14.3	14.3%	5701	40000	5701	4.9	14.3	14.3%	5705	40000	5705	4.9	0.0%
[redacted]	34.5kV	GT0	41.2	41.2%	9053.6	22000	9053.6	16.2	41.2	41.2%	9055.8	22000	9055.8	16.2	0.0%
[redacted]	92.kV	RWO	29.4	29.4%	11752.3	40000	11752.3	7.1	29.4	29.4%	11756.2	40000	11756.2	7.1	0.0%
[redacted]	92.kV	REO	29.4	29.4%	11752.3	40000	11752.3	7.1	29.4	29.4%	11756.2	40000	11756.2	7.1	0.0%
[redacted]	92.kV	EOSO	18.7	18.7%	7471.5	40000	7471.5	7.8	18.7	18.7%	7475.4	40000	7475.4	7.8	0.0%
[redacted]	92.kV	EONO	18.7	18.7%	7471.5	40000	7471.5	7.8	18.7	18.7%	7475.4	40000	7475.4	7.8	0.0%
[redacted]	92.kV	LUWO	29.4	29.4%	11754	40000	11754	5.6	29.4	29.4%	11757.9	40000	11757.9	5.6	0.0%
[redacted]	92.kV	LUEO	29.4	29.4%	11754	40000	11754	5.6	29.4	29.4%	11757.9	40000	11757.9	5.6	0.0%
[redacted]	34.5kV	RBWO	40.4	40.4%	8895.8	22000	8320.6	22.2	40.4	40.4%	8897.9	22000	8322.6	22.2	0.0%
[redacted]	92.kV	LWO	12.2	12.2%	4892	40000	4892	4.6	12.2	12.2%	4895.8	40000	4895.8	4.6	0.0%
[redacted]	34.5kV	LVWNO	36.8	36.8%	11787.4	32000	10826.3	24.2	36.8	36.8%	11790.4	32000	10829.2	24.2	0.0%
[redacted]	34.5kV	LVENO	36.8	36.8%	11787.4	32000	10826.3	24.2	36.8	36.8%	11790.4	32000	10829.2	24.2	0.0%
[redacted]	92.kV	H10	25.1	25.1%	16069.2	64000	16069.2	7.6	25.1	25.1%	16075.2	64000	16075.2	7.6	0.0%
[redacted]	92.kV	H20	25.1	25.1%	16069.2	64000	16069.2	7.6	25.1	25.1%	16075.2	64000	16075.2	7.6	0.0%
[redacted]	34.5kV	X3NO	34.5	34.5%	11043.6	32000	9920.3	26.9	34.5	34.5%	11046.5	32000	9922.9	26.9	0.0%
[redacted]	34.5kV	X3SO	34.5	34.5%	11043.6	32000	9920.3	26.9	34.5	34.5%	11046.5	32000	9922.9	26.9	0.0%
[redacted]	92.kV	H20	31.4	31.4%	12546	40000	12546	7.9	31.4	31.4%	12549.6	40000	12549.6	7.9	0.0%
[redacted]	92.kV	H10	31.4	31.4%	12546	40000	12546	7.9	31.4	31.4%	12549.6	40000	12549.6	7.9	0.0%
[redacted]	92.kV	H10	19.4	19.4%	7765.4	40000	7765.4	5.5	19.4	19.4%	7768.9	40000	7768.9	5.5	0.0%
[redacted]	92.kV	EOBE	26.7	26.7%	10667.4	40000	10667.4	7.1	26.7	26.7%	10670.9	40000	10670.9	7.1	0.0%
[redacted]	34.5kV	AWO	68.4	68.4%	5676.8	8300	4994.1	29.8	68.4	68.4%	5677.5	8300	4994.7	29.8	0.0%
[redacted]	34.5kV	X301	37.2	37.2%	7069.9	19000	7069.9	4.3	37.2	37.2%	7071.5	19000	7071.5	4.3	0.0%
[redacted]	92.kV	RBNO	9	9.0%	3618.4	40000	3618.4	12.3	9.1	9.1%	3621.7	40000	3621.7	12.3	0.0%
[redacted]	92.kV	PEO	25.2	25.2%	10079.5	40000	10079.5	6.8	25.2	25.2%	10082.8	40000	10082.8	6.8	0.0%
[redacted]	92.kV	PWO	25.2	25.2%	10079.5	40000	10079.5	6.8	25.2	25.2%	10082.8	40000	10082.8	6.8	0.0%
[redacted]	92.kV	EONO	25.6	25.6%	10220.6	40000	10220.6	6.7	25.6	25.6%	10223.8	40000	10223.8	6.7	0.0%
[redacted]	92.kV	EOSO	25.6	25.6%	10220.6	40000	10220.6	6.7	25.6	25.6%	10223.8	40000	10223.8	6.7	0.0%
[redacted]	34.5kV	BHO	32.3	32.3%	6138.5	19000	6138.5	5.4	32.3	32.3%	6140	19000	6140	5.4	0.0%
[redacted]	92.kV	PSO	27.9	27.9%	11146.3	40000	11146.3	8.6	27.9	27.9%	11149.4	40000	11149.4	8.6	0.0%
[redacted]	92.kV	COEO	18.2	18.2%	7290.8	40000	7290.8	6.8	18.2	18.2%	7293.8	40000	7293.8	6.8	0.0%
[redacted]	92.kV	COWO	18.2	18.2%	7290.8	40000	7290.8	6.8	18.2	18.2%	7293.8	40000	7293.8	6.8	0.0%
[redacted]	92.kV	PEO	25.1	25.1%	10037.6	40000	10037.6	7.3	25.1	25.1%	10040.6	40000	10040.6	7.3	0.0%
[redacted]	34.5kV	LMSO	29.5	29.5%	11787.4	40000	10826.3	24.2	29.5	29.5%	11790.4	40000	10829.2	24.2	0.0%
[redacted]	34.5kV	LVWSO	29.5	29.5%	11787.4	40000	10826.3	24.2	29.5	29.5%	11790.4	40000	10829.2	24.2	0.0%
[redacted]	34.5kV	LVESO	29.5	29.5%	11787.4	40000	10826.3	24.2	29.5	29.5%	11790.4	40000	10829.2	24.2	0.0%
[redacted]	34.5kV	LMNO	29.5	29.5%	11787.4	40000	10826.3	24.2	29.5	29.5%	11790.4	40000	10829.2	24.2	0.0%
[redacted]	92.kV	H10	26.8	26.8%	10739.6	40000	10739.6	6.9	26.9	26.9%	10742.6	40000	10742.6	6.9	0.0%
[redacted]	92.kV	H20	26.8	26.8%	10739.6	40000	10739.6	6.9	26.9	26.9%	10742.6	40000	10742.6	6.9	0.0%
[redacted]	34.5kV	CBO	32.1	32.1%	7069.9	22000	7069.9	4.3	32.1	32.1%	7071.5	22000	7071.5	4.3	0.0%
[redacted]	34.5kV	LBSO	27.6	27.6%	11043.6	40000	9920.3	26.9	27.6	27.6%	11046.5	40000	9922.9	26.9	0.0%
[redacted]	34.5kV	LBNO	27.6	27.6%	11043.6	40000	9920.3	26.9	27.6	27.6%	11046.5	40000	9922.9	26.9	0.0%
[redacted]	34.5kV	A30	79.6	79.6%	6606.4	8300	6028	24.9	79.6	79.6%	6607	8300	6028.6	24.9	0.0%
[redacted]	34.5kV	AMO	79.6	79.6%	6610.4	8300	6032.5	24.9	79.7	79.7%	6611	8300	6033.1	24.9	0.0%
[redacted]	34.5kV	BPO	30.7	30.7%	7069.9	23000	7069.9	4.3	30.7	30.7%	7071.5	23000	7071.5	4.3	0.0%
[redacted]	34.5kV	LBO	30.8	30.8%	5856.4	19000	5856.4	4.8	30.8	30.8%	5857.7	19000	5857.7	4.8	0.0%
[redacted]	92.kV	LHO	23.3	23.3%	9315	40000	9315	6.9	23.3	23.3%	9317.7	40000	9317.7	6.9	0.0%
[redacted]	92.kV	H30	14.6	14.6%	5822.9	40000	5822.9	5.5	14.6	14.6%	5825.6	40000	5825.6	5.5	0.0%
[redacted]	92.kV	H20	14.6	14.6%	5822.9	40000	5822.9	5.5	14.6	14.6%	5825.6	40000	5825.6	5.5	0.0%
[redacted]	92.kV	H10	25.6	25.6%	10242.6	40000	10242.6	7.7	25.6	25.6%	10245.3	40000	10245.3	7.7	0.0%
[redacted]	92.kV	PWWO	23.1	23.1%	9237.9	40000	9237.9	7.4	23.1	23.1%	9240.5	40000	9240.5	7.4	0.0%
[redacted]	92.kV	PWEO	23.1	23.1%	9237.9	40000	9237.9	7.4	23.1	23.1%	9240.5	40000	9240.5	7.4	0.0%
[redacted]	92.kV	GOB	24.8	24.8%	9931.3	40000	9931.3	15.9	24.8	24.8%	9933.9	40000	9933.9	15.9	0.0%
[redacted]	92.kV	RNO	11.4	11.4%	4570	40000	4570	4.8	11.4	11.4%	4572.6	40000	4572.6	4.8	0.0%
[redacted]	92.kV	RSO	11.4	11.4%	4570	40000	4570	4.8	11.4	11.4%	4572.6	40000	4572.6	4.8	0.0%
[redacted]	92.kV	H10	25.2	25.2%	10074.1	40000	10074.1	15.9	25.2	25.2%	10076.7	40000	10076.7	15.9	0.0%
[redacted]	92.kV	HOB	25.2	25.2%	10081.4	40000	10081.4	15.9	25.2	25.2%	10084	40000	10084	15.9	0.0%
[redacted]	92.kV	H20	25.3	25.3%	10111.6	40000	10111.6	15.9	25.3	25.3%	10114.2	40000	10114.2	15.9	0.0%
[redacted]	34.5kV	H60	28.3	28.3%	7069.9	25000	7069.9	4.3	28.3	28.3%	7071.5	25000	7071.5	4.3	0.0%
[redacted]	34.5kV	RBWO	25.9	25.9%	4928.7	19000	4928.7	6.4	25.9	25.9%	4929.9	19000	4929.9	6.4	0.0%
[redacted]	92.kV	EDWO	24.8	24.8%	9921.2	40000	9921.2	7.7	24.8	24.8%	9923.7	40000	9923.7	7.7	0.0%
[redacted]	92.kV	COB	24.5	24.5%	9783.1	40000	9783.1	16.2	24.5	24.5%	9785.6	40000	9785.6	16.2	0.0%
[redacted]	92.kV	EOBW	21.3	21.3%	8502.4	40000	8502.4	6.2	21.3	21.3%	8504.8	40000	8504.8	6.2	0.0%
[redacted]	34.5kV	52B3	22	22.0%	8799.3	40000	6633.9	94.6	22	22.0%	8801.6	40000	6635.6	94.6	0.0%
[redacted]	34.5kV	GT20	16.7	16.7%	6683.2	40000	6683.2	12.5	16.7	16.7%	6685.5	40000	6685.5	12.5	0.0%
[redacted]	92.kV	JNO	14.5	14.5%	5801.4	40000	5801.4	6.5	14.5	14.5%	5803.6	40000	5803.6	6.5	0.0%
[redacted]	92.kV	JSO	14.5	14.5%	5801.4	40000	5801.4	6.5	14.5	14.5%	5803.6	40000	5803.6	6.5	0.0%
[redacted]	92.kV	BOB	22.3	22.3%	8914.9	40000	8780.8	17.7	22.3	22.3%	8916.9	40000	8782.8	17.7	0.0%
[redacted]	92.kV	LWSO	16.9	16.9%	6765.6	40000	6765.6	6	16.9	16.9%	6767.6	40000	6767.6	6	0.0%
[redacted]	92.kV	LWNO	16.9	16.9%	6765.6	40000	6765.6	6	16.9	16.9%	6767.6	40000	6767.6	6	0.0%
[redacted]	34.5kV	H10	19.2	19.2%	1613.6	8400	1613.6	6.5	19.2	19.2%	1614	8400	1614	5.1	0.0%
[redacted]	92.kV	PWO	18.8	18.8%	7524.1	40000	7524.1	6.8	18.8	18.8%	7526	40000	7526	6.8	0.0%
[redacted]	34.5kV	X10	31	31.0%	6828.2	22000	6788.9	17	31	31.0%	6829.2	22000	6789.9	17	0.0%
[redacted]	92.kV	RNO	16.8	16.8%	6732.9	40000	6732.9	5.9	16.8	16.8%	6734.6	40000	6734.6	5.9	0.0%
[redacted]	161.kV	H20	21.3	21.3%	8505	40000	8505	13.1	21.3	21.3%	8506.7	40000	8506.7	13.1	0.0%
[redacted]	92.kV	POB	18.7	18.7%	7499.6	40000	7219.3	19.6	18.8	18.8%	7501.3	40000	7221	19.6	0.0%
[redacted]	92.kV	EB	20.1	20.1%	8028.4	40000	7765.9	19.2	20.1	20.1%	8030	40000	7767.5	19.2	0.0%
[redacted]	34.5kV	X30	9	9.0%	2243.4	25000	1935.7	33	9	9.0%	2244.4	25000	1936.5	33	0.0%
[redacted]	92.kV	EDWO	16.7	16.7%	6660.3	40000	6660.3	6.6	16.7	16.7%	6661.8	40000	6661.8	6.6	0.0%
[redacted]	92.kV	EDEO	16.7	16.7%	6660.3	40000	6660.3	6.6	16.7	16.7%	6661.8	40000	6661.8	6.6	0.0%
[redacted]	34.5kV	52B1	14	14.0%	8799.3	63000	6633.9	94.6	14	14.0%	8801.6	63000	6635.6	94.6	0.0%
[redacted]	34.5kV	52B2	14	14.0%	8799.3	63000	6633.9	94.6	14	14.0%	8801.6	63000	6635.6	94.6	0.0%
[redacted]	34.5kV	AWSO	23.1	23.1%	1939	8400	1939	2.4	23.1	23.1%	1939.3	8400	1939.3	2.4	0.0%
[redacted]	34.5kV	BHNO	13.3	13.3%	3318.4	25000	3318.4	1.8	13.3	13.3%	3319.1	25000	3319.1	1.8	0.0%
[redacted]	34.5kV	BHSO	13.3	13.3%	3318.4	25000	3318.4	1.8	13.3	13.3%	3319.1	25000	3319.1	1.8	0.0%
[redacted]	161.kV	DOB	14.7	14.7%	5874.4	40000	5874.4	16.4	14.7	14.7%	5875.5	40000	5875.5	16.4	0.0%
[redacted]	161.kV	AXO	7.5	7.5%	4706.3	63000	4706.3	7.9	7.5	7.5%	4708	63000	4708	7.9	0.0%
[redacted]	230.kV	S20	16.5	16.5%	10370.3	63000	9619	23.1	16.5	16.5%	10372	63000	9620.8	23.1	0.0%
[redacted]	34.5kV	BC10	11.2	11.2%	4470.7	40000	4407.1	17.7	11.2	11.2%	4471.7	40000	4408.1	17.7	0.0%
[redacted]	34.5kV	BC20	11.2	11.2%	4470.7	40000	4407.1	17.7	11.2	11.2%	4471.7	40000	4408.1	17.7	0.0%
[redacted]	34.5kV	BBO	11.2	11.2%	4470.7	40000	4407.1	17.7	11.2	11.2%	4471.7	40000	4408.1	17.7	0.0%
[redacted]	34.5kV	X30	10.4	10.4%	4154	40000	4037.8	18.8	10.4	10.4%	4155	40000	4038.8	18.8	0.0%
[redacted]	230.kV	S10	19.3	19.3%	12146.6	63000	11179.9	23.9	19.3	19.3%	12148.1	63000	11181.3	23.9	0.0%
[redacted]	230.kV	H40	19.3	19.3%	12146.6	63000	11179.9	23.9	19.3	19.3%	12148.1	63000	11181.3	23.9	0.0%
[redacted]	92.kV	JNO	13.4	13.4%	5343.5	40000	5343.5	7.4	13.4	13.4%	5344.4	40000	5344.4	7.4	0.0%
[redacted]	92.kV	B63	8	8.0%	1273.6	16000	1273.6	10.2	8	8.0%	1273.9	16000	1273.9	10.2	0.0%

Short Circuit Results

BUS	VOLTAGE	BREAKER	Pre-Project DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Post w/mitigations-Project DUTY_P	DUTY_%	DUTY_A	BKR_CAPA	ISC	X/R	Delta
[redacted]	92.kV	B64	8	8.0%	1273.6	16000	1273.6	10.2	8	8.0%	1273.9	16000	1273.9	10.2	0.0%
[redacted]	34.5kV	H10	6.9	6.9%	1034.8	15000	1034.8	9.5	6.9	6.9%	1035	15000	1035	3.8	0.0%
[redacted]	34.5kV	USO	8.4	8.4%	1939	23000	1939	3	8.4	8.4%	1939.3	23000	1939.3	2.4	0.0%
[redacted]	161.kV	AOB	17.7	17.7%	7066.7	40000	7066.7	14.8	17.7	17.7%	7067.2	40000	7067.2	14.8	0.0%
[redacted]	34.5kV	AWNO	13.2	13.2%	3294.2	25000	3294.2	3	13.2	13.2%	3294.5	25000	3294.5	3	0.0%
[redacted]	34.5kV	H10	19.2	19.2%	1615.5	8400	1556.6	19.5	19.2	19.2%	1615.6	8400	1556.7	19.5	0.0%
[redacted]	34.5kV	A30	12.9	12.9%	1080.7	8400	1073.1	17.1	12.9	12.9%	1080.8	8400	1073.1	17.1	0.0%
[redacted]	92.kV	C10	4.2	4.2%	1693.1	40000	1693.1	3.9	4.2	4.2%	1693.5	40000	1693.5	3.9	0.0%
[redacted]	92.kV	M20	6.2	6.2%	2465.7	40000	2465.7	10.1	6.2	6.2%	2466.1	40000	2466.1	10.1	0.0%
[redacted]	92.kV	GFO	4.7	4.7%	1896.7	40000	1779.7	21.9	4.7	4.7%	1897.1	40000	1780	21.9	0.0%
[redacted]	34.5kV	A3WO	4.7	4.7%	1040.7	22000	1004.2	19.4	4.7	4.7%	1040.8	22000	1004.3	19.4	0.0%
[redacted]	34.5kV	A3EO	8.7	8.7%	1907.2	22000	1837.7	19.5	8.7	8.7%	1907.3	22000	1837.7	19.5	0.0%
[redacted]	34.5kV	ACO	8.7	8.7%	1907.2	22000	1837.7	19.5	8.7	8.7%	1907.3	22000	1837.7	19.5	0.0%
[redacted]	34.5kV	H10	2.8	2.8%	710.2	25000	710.2	1	2.8	2.8%	710.3	25000	710.3	1	0.0%
[redacted]	92.kV	HL40	17.2	17.2%	6888.9	40000	6888.9	14.2	17.2	17.2%	6868.6	40000	6868.6	13.9	-0.1%
[redacted]	92.kV	HL40	14.3	14.3%	5735	40000	5708.6	16.9	14.2	14.2%	5689.1	40000	5689.1	15.7	-0.1%
[redacted]	92.kV	X10	16.5	16.5%	6597.4	40000	6373	19.3	16.3	16.3%	6527.4	40000	6335.5	18.9	-0.2%
[redacted]	92.kV	CB1O	24.8	24.8%	9905.8	40000	9569	19.3	24.5	24.5%	9819	40000	9530.4	18.9	-0.2%
[redacted]	92.kV	HL20	24.8	24.8%	9905.8	40000	9569	19.3	24.5	24.5%	9819	40000	9530.4	18.9	-0.2%
[redacted]	92.kV	HL40	24.8	24.8%	9905.8	40000	9569	19.3	24.5	24.5%	9819	40000	9530.4	18.9	-0.2%
[redacted]	92.kV	HL10	24.8	24.8%	9905.8	40000	9569	19.3	24.5	24.5%	9819	40000	9530.4	18.9	-0.2%
[redacted]	230.kV	KNSO	13.6	13.6%	5445.7	40000	5445.7	11.7	13.3	13.3%	5332.4	40000	5332.4	11.5	-0.3%
[redacted]	92.kV	X20	35.4	35.4%	14143.5	40000	13117.3	23.1	34.7	34.7%	13872.9	40000	13018	21.9	-0.7%
[redacted]	92.kV	X10	35.5	35.5%	14188	40000	13158	23.1	34.8	34.8%	13914.4	40000	13057.3	21.9	-0.7%
[redacted]	230.kV	KNSO	20	20.0%	12585.9	63000	12466.8	17.3	18.5	18.5%	11625.1	63000	11625.1	15.4	-1.5%
[redacted]	230.kV	KFTO	20	20.0%	12585.9	63000	12466.8	17.3	18.5	18.5%	11625.1	63000	11625.1	15.4	-1.5%
[redacted]	92.kV	MW20	45.7	45.7%	18285.9	40000	17039.7	22.6	44	44.0%	17619.4	40000	16727	20.8	-1.7%
[redacted]	92.kV	MW10	43.9	43.9%	17562.8	40000	16232	23.5	42.2	42.2%	16888.5	40000	16033.1	20.8	-1.7%
[redacted]	92.kV	MW40	44.6	44.6%	17843.9	40000	16467.1	23.6	42.9	42.9%	17157.8	40000	16288.7	20.8	-1.7%
[redacted]	92.kV	MW30	44.6	44.6%	17843.9	40000	16467.1	23.6	42.9	42.9%	17157.8	40000	16288.7	20.8	-1.7%
[redacted]	92.kV	CB10	49	49.0%	19586.2	40000	18251.3	22.6	47.2	47.2%	18895.4	40000	17938.3	20.8	-1.7%
[redacted]	230.kV	MBSO	16.5	16.5%	10396.7	63000	10359.4	16.9	14.6	14.6%	9228	63000	9228	13	-1.9%
[redacted]	230.kV	H10	16.5	16.5%	10396.7	63000	10359.4	16.9	14.6	14.6%	9228	63000	9228	13	-1.9%
[redacted]	230.kV	H1SO	30.1	30.1%	12031.9	40000	11955.2	17.1	27.8	27.8%	11112.2	40000	11112.2	15.3	-2.3%
[redacted]	230.kV	H1NO	30.1	30.1%	12031.9	40000	11955.2	17.1	27.8	27.8%	11112.2	40000	11112.2	15.3	-2.3%
[redacted]	230.kV	H2SO	30.1	30.1%	12027.5	40000	11950.5	17.1	27.8	27.8%	11107.5	40000	11107.5	15.3	-2.3%
[redacted]	230.kV	MBWO	14.6	14.6%	9217.3	63000	8860.8	19.7	12.3	12.3%	7765.3	63000	7765.3	13.6	-2.3%
[redacted]	230.kV	KSNO	31	31.0%	12419.9	40000	12294	17.3	28.5	28.5%	11406.5	40000	11406.5	15.5	-2.5%
[redacted]	230.kV	KNNO	31	31.0%	12419.9	40000	12294	17.3	28.5	28.5%	11406.5	40000	11406.5	15.5	-2.5%
[redacted]	230.kV	H2NO	31	31.0%	12419.9	40000	12294	17.3	28.5	28.5%	11406.5	40000	11406.5	15.5	-2.5%
[redacted]	230.kV	MBEO	14.7	14.7%	9286.4	63000	8934	19.6	12.2	12.2%	7655.7	63000	7655.7	13.6	-2.6%
[redacted]	230.kV	T10	14.7	14.7%	9286.4	63000	8934	19.6	12.2	12.2%	7655.7	63000	7655.7	13.6	-2.6%
[redacted]	230.kV	KNTO	31.6	31.6%	12652	40000	12520.7	17.4	28.5	28.5%	11406.5	40000	11406.5	15.5	-3.1%

Attachment DR 245 DRR 83 – Appendix F
Post Transient (Reactive Margin)

APPENDIX F: POST TRANSIENT (REACTIVE MARGIN)

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 500 kV Line Fault	[redacted]	-537.5	-446.0	-549.1
	[redacted]	-899.8	-666.9	-976.4
	[redacted]	-1200.5	-1194.2	-1206.0
	[redacted]	-521.2	-443.0	-528.1
	[redacted]	-336.2	-270.5	-550.8
	[redacted]	-607.9	-491.6	-630.8
	[redacted]	-1153.5	-866.4	-1265.4
	[redacted]	-583.4	-475.9	-602.7
	[redacted]	-462.1	-454.4	-459.0
	[redacted]	-434.1	-426.2	-458.0
	[redacted]	-409.1	-395.2	-413.8
	[redacted]	-469.9	-449.6	-476.4
	[redacted]	-736.8	-721.8	-729.8
	[redacted]	-508.6	-497.5	-504.4
	[redacted]	-330.6	-326.1	-327.4
	[redacted]	-324.4	-337.0	-321.4
	[redacted]	-417.7	-412.5	-384.8
	[redacted]	-580.0	-526.6	-595.8
	[redacted]	-698.0	-592.5	-733.2
	[redacted]	-868.6	-850.7	-860.8
	[redacted]	-868.6	-850.7	-860.8
	[redacted]	-361.9	-322.4	-358.4
	[redacted]	-407.1	-396.8	-401.3
	[redacted]	-429.2	-389.1	-438.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 230 kV Line 1	[redacted]	-487.6	-362.9	-522.4
	[redacted]	-709.3	-459.0	-876.8
	[redacted]	-1209.3	-1179.8	-1202.6
	[redacted]	-480.7	-366.4	-507.2
	[redacted]	-328.2	-254.7	-536.3
	[redacted]	-539.2	-389.6	-591.1
	[redacted]	-853.2	-554.6	-1099.5
	[redacted]	-521.9	-380.5	-566.9
	[redacted]	-462.0	-449.9	-458.6
	[redacted]	-434.4	-421.9	-430.4
	[redacted]	-405.3	-375.1	-413.0
	[redacted]	-461.4	-416.4	-473.4
	[redacted]	-732.4	-709.6	-726.6
	[redacted]	-509.0	-496.4	-504.3
	[redacted]	-328.4	-321.5	-326.0
	[redacted]	-322.3	-315.8	-336.9
	[redacted]	-423.2	-358.8	-439.3
	[redacted]	-542.9	-430.8	-583.9
	[redacted]	-614.0	-450.4	-693.7
	[redacted]	-815.7	-837.6	-857.9
	[redacted]	-815.7	-837.6	-857.9
	[redacted]	-350.1	-285.0	-351.9
	[redacted]	-408.5	-394.3	-401.8
	[redacted]	-399.7	-350.6	-423.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WHK PRE [redacted]	S3 26HS WHK PST [redacted]	S3 26HS WHK MIT [redacted]
[redacted] : [redacted] 500 kV Line Fault	[redacted]	-528.3	-435.8	-540.9
	[redacted]	-869.1	-641.5	-942.0
	[redacted]	-1210.7	-1192.1	-1204.0
	[redacted]	-513.4	-433.7	-521.4
	[redacted]	-334.1	-267.7	-546.2
	[redacted]	-595.7	-478.8	-618.8
	[redacted]	-1098.0	-817.0	-1202.3
	[redacted]	-572.2	-464.0	-591.6
	[redacted]	-460.8	-453.3	-458.0
	[redacted]	-432.8	-452.6	-429.8
	[redacted]	-404.7	-390.6	-409.8
	[redacted]	-464.9	-443.0	-471.9
	[redacted]	-735.7	-721.0	-729.1
	[redacted]	-506.5	-495.5	-502.7
	[redacted]	-330.5	-326.2	-327.5
	[redacted]	-320.9	-316.8	-318.0
	[redacted]	-411.8	-406.2	-417.2
	[redacted]	-571.4	-515.3	-587.8
	[redacted]	-619.0	-576.7	-719.8
	[redacted]	-866.6	-849.2	-859.4
	[redacted]	-866.6	-849.2	-859.4
	[redacted]	-358.3	-317.9	-355.4
	[redacted]	-405.5	-395.3	-400.0
	[redacted]	-415.4	-388.9	-429.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE[redacted]	S3_26HS_WHK_PST[redacted]	S3_26HS_WHK_MIT[redacted]
[redacted] : [redacted] 500kV w/ RAS Line Fault	[redacted]	-525.1	-430.3	-535.4
	[redacted]	-861.9	-631.0	-931.2
	[redacted]	-1034.2	-1000.1	-1022.5
	[redacted]	-510.8	-428.4	-516.5
	[redacted]	-331.5	-263.4	-542.8
	[redacted]	-591.6	-472.4	-611.8
	[redacted]	-1096.4	-809.0	-1196.3
	[redacted]	-568.4	-458.0	-585.0
	[redacted]	-462.8	-453.8	-459.1
	[redacted]	-434.5	-425.3	-430.5
	[redacted]	-416.9	-400.4	-416.5
	[redacted]	-476.7	-452.9	-482.7
	[redacted]	-709.9	-692.0	-701.4
	[redacted]	-513.0	-509.3	-517.3
	[redacted]	-330.6	-326.3	-327.6
	[redacted]	-313.4	-309.2	-310.4
	[redacted]	-389.9	-416.3	-429.6
	[redacted]	-587.1	-520.5	-602.1
	[redacted]	-693.4	-576.3	-631.8
	[redacted]	-773.3	-790.7	-802.0
	[redacted]	-773.3	-790.7	-802.0
	[redacted]	-354.7	-313.4	-350.9
	[redacted]	-410.2	-398.9	-403.9
	[redacted]	-432.6	-386.7	-428.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE[redacted]	S3_26HS_WHK_PST[redacted]	S3_26HS_WHK_MIT[redacted]
[redacted] : [redacted] [redacted] 500kV Line Fault	[redacted]	-540.4	-449.4	-551.6
	[redacted]	-907.8	-675.1	-985.9
	[redacted]	-1215.7	-1193.4	-1205.1
	[redacted]	-523.7	-446.0	-530.2
	[redacted]	-336.9	-271.6	-552.1
	[redacted]	-611.7	-495.8	-634.5
	[redacted]	-1169.1	-880.4	-1290.3
	[redacted]	-586.9	-479.9	-606.0
	[redacted]	-463.0	-455.1	-459.8
	[redacted]	-435.0	-426.9	-431.6
	[redacted]	-412.3	-398.2	-416.7
	[redacted]	-473.3	-452.8	-479.4
	[redacted]	-736.4	-721.0	-729.1
	[redacted]	-510.3	-499.0	-505.8
	[redacted]	-328.5	-324.0	-325.3
	[redacted]	-319.0	-314.7	-315.9
	[redacted]	-439.9	-416.1	-447.9
	[redacted]	-584.5	-531.5	-603.5
	[redacted]	-703.9	-598.5	-738.7
	[redacted]	-869.1	-850.7	-860.9
	[redacted]	-869.1	-850.7	-860.9
	[redacted]	-363.0	-324.0	-359.4
	[redacted]	-408.4	-398.0	-402.4
	[redacted]	-435.2	-391.2	-440.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE[redacted]	S3_26HS_WHK_PST[redacted]	S3_26HS_WHK_MIT[redacted]
[redacted] : [redacted] 500kV Line Fault(HANG 2)	[redacted]	-540.5	-449.9	-551.5
	[redacted]	-906.9	-674.3	-983.0
	[redacted]	-1204.5	-1182.6	-1194.7
	[redacted]	-523.8	-446.5	-530.2
	[redacted]	-336.9	-271.8	-552.0
	[redacted]	-611.7	-496.4	-634.3
	[redacted]	-1164.6	-877.5	-1283.4
	[redacted]	-587.1	-480.4	-605.8
	[redacted]	-463.6	-455.2	-460.1
	[redacted]	-435.4	-426.8	-431.6
	[redacted]	-416.8	-402.6	-420.9
	[redacted]	-477.9	-456.8	-483.6
	[redacted]	-730.6	-714.4	-722.7
	[redacted]	-512.4	-500.8	-507.6
	[redacted]	-312.8	-304.1	-309.3
	[redacted]	-303.6	-299.1	-300.3
	[redacted]	-444.8	-420.4	-452.6
	[redacted]	-592.1	-534.7	-607.7
	[redacted]	-707.8	-566.7	-640.7
	[redacted]	-814.9	-845.4	-855.8
	[redacted]	-814.9	-845.4	-855.8
	[redacted]	-363.1	-324.2	-359.3
	[redacted]	-410.1	-399.5	-404.0
	[redacted]	-436.5	-392.6	-432.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 500kV w/ RAS Line Fault	[redacted]	-525.8	-431.2	-536.1
	[redacted]	-864.0	-633.2	-933.9
	[redacted]	-1002.0	-967.0	-990.1
	[redacted]	-511.3	-429.3	-517.1
	[redacted]	-331.7	-263.7	-543.4
	[redacted]	-592.5	-473.5	-612.7
	[redacted]	-1101.4	-812.5	-1200.9
	[redacted]	-569.3	-459.0	-585.9
	[redacted]	-460.3	-451.2	-456.6
	[redacted]	-431.7	-422.4	-427.7
	[redacted]	-416.7	-400.2	-420.5
	[redacted]	-476.5	-452.7	-482.6
	[redacted]	-698.7	-680.6	-690.0
	[redacted]	-520.2	-502.7	-514.9
	[redacted]	-319.0	-314.6	-315.9
	[redacted]	-336.5	-332.8	-333.9
	[redacted]	-389.9	-416.2	-429.5
	[redacted]	-587.0	-520.9	-602.1
	[redacted]	-693.7	-577.1	-632.1
	[redacted]	-755.6	-771.2	-782.8
	[redacted]	-755.6	-771.2	-782.8
	[redacted]	-355.0	-313.8	-351.2
	[redacted]	-408.7	-397.2	-402.2
	[redacted]	-432.8	-387.0	-428.5

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 500kV Line Fault	[redacted]	-531.2	-439.3	-541.5
	[redacted]	-875.1	-646.6	-945.5
	[redacted]	-1165.9	-1144.5	-1133.1
	[redacted]	-515.8	-436.9	-521.9
	[redacted]	-334.6	-268.3	-546.5
	[redacted]	-599.6	-483.3	-620.4
	[redacted]	-1104.7	-829.2	-1204.5
	[redacted]	-575.8	-468.2	-593.0
	[redacted]	-463.8	-454.9	-460.1
	[redacted]	-434.1	-425.0	-430.1
	[redacted]	-422.4	-406.1	-425.9
	[redacted]	-483.0	-460.1	-488.1
	[redacted]	-721.3	-704.1	-712.9
	[redacted]	-527.1	-514.0	-521.9
	[redacted]	-331.1	-327.9	-328.7
	[redacted]	-313.1	-318.1	-310.8
	[redacted]	-432.9	-423.9	-398.0
	[redacted]	-594.3	-530.1	-609.0
	[redacted]	-625.4	-587.6	-638.6
	[redacted]	-787.6	-794.6	-803.8
	[redacted]	-787.6	-794.6	-803.8
	[redacted]	-358.9	-319.3	-355.1
	[redacted]	-412.3	-397.1	-401.5
	[redacted]	-426.5	-399.3	-439.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WHK PRE [redacted]	S3 26HS WHK PST [redacted]	S3 26HS WHK MIT [redacted]
[redacted] : [redacted] 500kV Line Fault	[redacted]	-539.4	-448.3	-550.9
	[redacted]	-903.5	-671.3	-981.0
	[redacted]	-1201.3	-1195.0	-1206.7
	[redacted]	-522.9	-445.0	-529.7
	[redacted]	-336.7	-271.4	-551.7
	[redacted]	-610.2	-494.3	-633.2
	[redacted]	-1158.5	-871.9	-1271.7
	[redacted]	-585.6	-478.5	-604.9
	[redacted]	-462.4	-454.8	-459.4
	[redacted]	-434.4	-426.6	-431.2
	[redacted]	-409.6	-395.9	-414.3
	[redacted]	-470.6	-450.3	-477.0
	[redacted]	-737.4	-722.4	-730.4
	[redacted]	-509.0	-498.0	-504.9
	[redacted]	-331.1	-326.6	-327.9
	[redacted]	-341.2	-337.4	-338.5
	[redacted]	-418.5	-413.4	-445.1
	[redacted]	-581.2	-528.5	-597.0
	[redacted]	-700.0	-595.1	-735.1
	[redacted]	-869.3	-851.5	-861.5
	[redacted]	-869.3	-851.5	-861.5
	[redacted]	-362.8	-323.6	-359.3
	[redacted]	-407.4	-397.2	-401.6
	[redacted]	-430.0	-390.1	-439.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-537.8	-445.7	-549.1
	[redacted]	-901.7	-667.8	-978.8
	[redacted]	-1180.3	-1164.6	-1171.9
	[redacted]	-521.5	-442.7	-528.1
	[redacted]	-336.2	-270.3	-550.8
	[redacted]	-608.4	-491.3	-631.0
	[redacted]	-1161.2	-870.3	-1281.1
	[redacted]	-583.9	-475.6	-602.8
	[redacted]	-459.6	-451.2	-456.1
	[redacted]	-431.6	-423.1	-427.9
	[redacted]	-407.9	-393.8	-412.2
	[redacted]	-468.7	-447.8	-474.8
	[redacted]	-721.7	-704.5	-713.3
	[redacted]	-505.1	-493.1	-500.4
	[redacted]	-328.4	-323.4	-324.9
	[redacted]	-338.9	-317.6	-336.0
	[redacted]	-415.6	-409.7	-382.5
	[redacted]	-578.2	-524.4	-593.5
	[redacted]	-696.8	-591.5	-731.3
	[redacted]	-749.0	-732.0	-741.0
	[redacted]	-749.0	-732.0	-741.0
	[redacted]	-361.8	-322.1	-358.2
	[redacted]	-404.5	-393.6	-398.4
	[redacted]	-429.0	-388.5	-437.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 92.0 Circuit 1 Line Fault	[redacted]	-540.2	-449.2	-551.5
	[redacted]	-907.6	-674.9	-986.0
	[redacted]	-1201.5	-1191.2	-1207.0
	[redacted]	-523.6	-445.8	-530.2
	[redacted]	-336.8	-271.5	-552.0
	[redacted]	-611.6	-495.6	-634.4
	[redacted]	-1169.3	-880.4	-1290.8
	[redacted]	-586.8	-479.6	-605.9
	[redacted]	-462.5	-454.6	-459.3
	[redacted]	-434.7	-426.6	-431.3
	[redacted]	-411.6	-397.5	-416.0
	[redacted]	-472.6	-452.1	-478.7
	[redacted]	-737.0	-721.7	-729.8
	[redacted]	-509.6	-498.3	-505.2
	[redacted]	-330.7	-326.1	-327.5
	[redacted]	-340.9	-320.2	-338.1
	[redacted]	-439.1	-415.4	-447.2
	[redacted]	-583.7	-530.9	-602.7
	[redacted]	-703.1	-598.0	-738.1
	[redacted]	-869.6	-851.4	-861.6
	[redacted]	-869.6	-851.4	-861.6
	[redacted]	-363.0	-323.9	-359.3
	[redacted]	-408.0	-397.6	-402.1
	[redacted]	-430.9	-390.9	-439.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WHK PRE [redacted]	S3 26HS WHK PST [redacted]	S3 26HS WHK MIT [redacted]
[redacted] : [redacted]	[redacted]	-544.5	-454.6	-555.6
	[redacted]	-917.1	-685.4	-997.0
	[redacted]	-1191.7	-1171.1	-1154.5
	[redacted]	-527.2	-450.5	-533.6
	[redacted]	-338.0	-273.5	-554.4
	[redacted]	-617.0	-502.2	-639.8
	[redacted]	-1182.2	-895.1	-1305.3
	[redacted]	-591.8	-485.8	-610.9
	[redacted]	-462.9	-454.7	-459.5
	[redacted]	-435.7	-427.4	-432.1
	[redacted]	-417.0	-403.3	-421.2
	[redacted]	-478.3	-457.8	-484.1
	[redacted]	-721.6	-706.4	-714.4
	[redacted]	-512.3	-501.0	-507.8
	[redacted]	-333.5	-329.2	-330.4
	[redacted]	-343.2	-339.6	-340.6
	[redacted]	-445.8	-401.3	-453.6
	[redacted]	-594.3	-538.9	-610.2
	[redacted]	-711.8	-571.3	-644.0
	[redacted]	-773.8	-816.7	-826.5
	[redacted]	-773.8	-816.7	-826.5
	[redacted]	-364.9	-326.6	-361.2
	[redacted]	-409.9	-399.6	-404.0
	[redacted]	-429.8	-404.2	-434.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 230.00 Circuit 1	[redacted]	-532.5	-441.6	-546.4
	[redacted]	-881.0	-653.7	-964.8
	[redacted]	-1212.1	-1191.8	-1201.6
	[redacted]	-516.9	-439.0	-525.9
	[redacted]	-335.1	-269.3	-549.3
	[redacted]	-601.0	-486.0	-626.7
	[redacted]	-1145.3	-859.9	-1272.6
	[redacted]	-577.2	-470.8	-598.9
	[redacted]	-457.8	-450.2	-455.3
	[redacted]	-431.2	-423.5	-428.5
	[redacted]	-330.6	-319.6	-342.3
	[redacted]	-397.5	-374.3	-403.8
	[redacted]	-729.8	-715.1	-723.9
	[redacted]	-500.6	-489.2	-497.4
	[redacted]	-331.4	-326.8	-328.2
	[redacted]	-341.5	-320.9	-338.7
	[redacted]	-304.3	-283.7	-309.4
	[redacted]	-430.3	-397.7	-445.7
	[redacted]	-535.7	-478.5	-479.8
	[redacted]	-859.8	-842.1	-853.4
	[redacted]	-859.8	-842.1	-853.4
	[redacted]	-360.0	-320.5	-357.4
	[redacted]	-403.5	-393.1	-398.4
	[redacted]	-187.6	-176.7	-187.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] Circuit 1 Line Fault	[redacted]	-601.5	-522.6	-609.8
	[redacted]	-1036.9	-807.5	-1126.7
	[redacted]	-1206.0	-1205.7	-1212.4
	[redacted]	-572.1	-507.3	-577.4
	[redacted]	-346.0	-287.4	-571.5
	[redacted]	-702.1	-592.0	-730.6
	[redacted]	-1303.7	-1041.5	-1434.6
	[redacted]	-667.0	-567.6	-690.0
	[redacted]	-465.4	-458.6	-462.3
	[redacted]	-409.2	-430.8	-434.4
	[redacted]	-415.2	-407.3	-421.5
	[redacted]	-479.9	-465.8	-485.3
	[redacted]	-742.0	-728.3	-734.8
	[redacted]	-513.2	-503.7	-508.9
	[redacted]	-331.9	-328.1	-329.0
	[redacted]	-341.9	-322.1	-339.5
	[redacted]	-434.5	-430.9	-439.3
	[redacted]	-603.5	-566.3	-618.3
	[redacted]	-743.0	-661.5	-663.9
	[redacted]	-823.6	-859.7	-867.6
	[redacted]	-823.6	-859.7	-867.6
	[redacted]	-400.7	-370.9	-397.0
	[redacted]	-409.7	-401.3	-404.5
	[redacted]	-437.6	-411.4	-450.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 30.0 Circuit 1	[redacted]	-584.9	-543.0	-597.5
	[redacted]	-1204.5	-1018.1	-1355.7
	[redacted]	-1234.4	-1212.7	-1214.6
	[redacted]	-545.5	-512.4	-554.0
	[redacted]	-366.1	-328.1	-610.3
	[redacted]	-736.5	-669.7	-776.8
	[redacted]	-1535.6	-1339.9	-1755.9
	[redacted]	-693.7	-627.9	-714.0
	[redacted]	-467.2	-464.7	-466.4
	[redacted]	-439.0	-436.8	-438.1
	[redacted]	-421.1	-418.5	-429.9
	[redacted]	-484.6	-480.0	-495.5
	[redacted]	-748.3	-742.6	-745.2
	[redacted]	-516.9	-513.3	-516.0
	[redacted]	-339.3	-337.2	-336.8
	[redacted]	-348.2	-346.4	-330.3
	[redacted]	-452.2	-455.4	-476.1
	[redacted]	-623.9	-605.4	-647.9
	[redacted]	-685.8	-655.6	-740.5
	[redacted]	-887.2	-880.4	-826.2
	[redacted]	-887.2	-880.4	-826.2
	[redacted]	-360.8	-342.6	-359.8
	[redacted]	-413.2	-408.7	-409.8
	[redacted]	-463.0	-449.0	-483.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Circuit 1	[redacted]	-573.1	-504.2	-567.0
	[redacted]	-1070.2	-864.0	-1180.6
	[redacted]	-1233.1	-1228.7	-1211.8
	[redacted]	-527.0	-481.3	-531.0
	[redacted]	-360.8	-317.9	-590.2
	[redacted]	-690.3	-603.3	-719.5
	[redacted]	-1478.4	-1288.4	-1656.9
	[redacted]	-647.3	-571.5	-667.2
	[redacted]	-467.1	-463.2	-465.6
	[redacted]	-438.9	-435.3	-437.2
	[redacted]	-419.3	-413.0	-426.9
	[redacted]	-481.7	-472.7	-491.1
	[redacted]	-747.4	-739.4	-742.9
	[redacted]	-516.9	-511.4	-515.1
	[redacted]	-338.5	-335.8	-335.6
	[redacted]	-347.6	-345.3	-329.1
	[redacted]	-448.6	-445.8	-457.8
	[redacted]	-612.7	-582.1	-632.0
	[redacted]	-667.6	-622.5	-688.2
	[redacted]	-886.2	-876.5	-823.8
	[redacted]	-886.2	-876.5	-823.8
	[redacted]	-353.9	-328.3	-350.0
	[redacted]	-413.5	-407.6	-409.4
	[redacted]	-460.6	-442.5	-468.6

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WHK PRE [redacted]	S3 26HS WHK PST [redacted]	S3 26HS WHK MIT [redacted]
[redacted] : Line [redacted] 230.0 Circuit 1	[redacted]	-561.3	-505.5	-567.6
	[redacted]	-1075.2	-869.7	-1185.5
	[redacted]	-1233.1	-1228.8	-1211.9
	[redacted]	-527.5	-482.4	-531.4
	[redacted]	-360.9	-318.1	-590.6
	[redacted]	-691.8	-605.7	-720.9
	[redacted]	-1478.0	-1291.6	-1657.8
	[redacted]	-648.5	-573.5	-668.3
	[redacted]	-467.1	-463.2	-465.6
	[redacted]	-438.9	-435.3	-437.2
	[redacted]	-419.3	-413.2	-426.9
	[redacted]	-481.7	-472.9	-491.1
	[redacted]	-747.4	-739.5	-743.0
	[redacted]	-516.8	-511.4	-515.1
	[redacted]	-338.6	-335.9	-335.6
	[redacted]	-347.6	-345.3	-329.2
	[redacted]	-448.6	-432.9	-457.9
	[redacted]	-613.1	-583.1	-632.4
	[redacted]	-668.2	-623.8	-688.8
	[redacted]	-886.2	-876.6	-823.9
	[redacted]	-886.2	-876.6	-823.9
	[redacted]	-354.0	-328.7	-350.1
	[redacted]	-413.4	-407.6	-409.4
	[redacted]	-460.6	-442.8	-468.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Ck 1	[redacted]	-585.4	-534.4	-593.3
	[redacted]	-1157.4	-955.2	-1284.1
	[redacted]	-1232.9	-1211.2	-1227.9
	[redacted]	-548.2	-507.0	-553.0
	[redacted]	-363.4	-321.3	-601.4
	[redacted]	-708.2	-630.1	-740.2
	[redacted]	-1456.0	-1250.3	-1631.8
	[redacted]	-669.4	-601.1	-691.8
	[redacted]	-469.4	-467.4	-468.3
	[redacted]	-441.4	-439.5	-440.4
	[redacted]	-423.6	-418.1	-430.1
	[redacted]	-487.0	-478.8	-495.2
	[redacted]	-752.3	-746.3	-748.4
	[redacted]	-529.0	-515.4	-517.0
	[redacted]	-336.4	-333.9	-333.8
	[redacted]	-345.8	-327.5	-343.5
	[redacted]	-454.2	-439.4	-462.6
	[redacted]	-623.3	-596.9	-642.7
	[redacted]	-682.9	-642.0	-704.5
	[redacted]	-888.9	-881.9	-884.2
	[redacted]	-888.9	-881.9	-884.2
	[redacted]	-369.5	-347.3	-366.6
	[redacted]	-412.5	-408.3	-408.9
	[redacted]	-460.9	-442.4	-478.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : Line [redacted] 30.0 Ck 1	[redacted]	-429.3	-395.5	-434.7
	[redacted]	-1087.8	-905.3	-1236.1
	[redacted]	-1235.4	-1213.0	-1230.6
	[redacted]	-418.6	-388.4	-424.7
	[redacted]	-353.1	-309.5	-585.4
	[redacted]	-485.5	-442.6	-501.2
	[redacted]	-1400.1	-1215.5	-1607.0
	[redacted]	-468.6	-428.4	-481.6
	[redacted]	-467.5	-464.3	-467.0
	[redacted]	-413.1	-437.7	-440.0
	[redacted]	-409.5	-405.5	-420.0
	[redacted]	-471.0	-464.6	-483.6
	[redacted]	-751.4	-744.0	-748.3
	[redacted]	-523.4	-518.2	-513.8
	[redacted]	-338.1	-335.5	-335.4
	[redacted]	-347.1	-329.0	-344.9
	[redacted]	-432.2	-436.4	-461.5
	[redacted]	-596.1	-573.1	-623.2
	[redacted]	-736.3	-688.6	-677.9
	[redacted]	-889.1	-880.2	-884.8
	[redacted]	-889.1	-880.2	-884.8
	[redacted]	-303.3	-284.4	-302.3
	[redacted]	-411.3	-406.1	-408.0
	[redacted]	-444.3	-427.5	-467.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Ck 1	[redacted]	-538.0	-576.5	-588.5
	[redacted]	-874.5	-943.9	-1024.2
	[redacted]	-1207.0	-1207.7	-1207.6
	[redacted]	-522.5	-554.9	-563.4
	[redacted]	0.0	0.0	0.0
	[redacted]	-605.2	-653.1	-672.7
	[redacted]	-1161.0	-1259.5	-1405.9
	[redacted]	-581.9	-627.0	-643.6
	[redacted]	-463.2	-465.4	-464.1
	[redacted]	-435.7	-410.0	-436.6
	[redacted]	-406.7	-416.3	-416.3
	[redacted]	-466.9	-477.9	-479.0
	[redacted]	-740.7	-743.3	-742.1
	[redacted]	-509.4	-511.7	-509.9
	[redacted]	-332.9	-333.6	-332.9
	[redacted]	-342.8	-327.3	-342.8
	[redacted]	-433.6	-436.1	-450.8
	[redacted]	-576.4	-601.5	-610.6
	[redacted]	-689.2	-649.3	-660.2
	[redacted]	-873.3	-877.0	-875.6
	[redacted]	-873.3	-877.0	-875.6
	[redacted]	-366.6	-383.8	-383.4
	[redacted]	-407.8	-406.0	-404.9
	[redacted]	-423.9	-443.7	-448.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted] txt	S3_26HS_WHK_PST [redacted] txt	S3_26HS_WHK_MIT [redacted] txt
[redacted] : [redacted] Bus Fault	[redacted]	-549.7	-460.3	-564.9
	[redacted]	-917.6	-687.7	-1016.8
	[redacted]	-1200.8	-1184.4	-1183.2
	[redacted]	-532.0	-455.9	-541.8
	[redacted]	-339.6	-276.7	-559.9
	[redacted]	-621.9	-507.7	-649.4
	[redacted]	-1186.8	-906.3	-1311.5
	[redacted]	-597.0	-491.4	-619.8
	[redacted]	-455.9	-450.9	-454.7
	[redacted]	-428.0	-422.9	-426.7
	[redacted]	-390.4	-380.1	-397.4
	[redacted]	-451.5	-434.9	-460.2
	[redacted]	-734.0	-723.3	-730.4
	[redacted]	-497.5	-489.6	-495.8
	[redacted]	-326.7	-319.6	-320.6
	[redacted]	-317.1	-337.6	-338.4
	[redacted]	-416.8	-376.4	-427.3
	[redacted]	-559.4	-518.1	-578.4
	[redacted]	-686.5	-530.0	-638.1
	[redacted]	-816.7	-848.1	-857.2
	[redacted]	-816.7	-848.1	-857.2
	[redacted]	-368.2	-330.7	-366.4
	[redacted]	-398.5	-390.4	-394.5
	[redacted]	-428.5	-384.8	-425.5

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 161kV Bus Fault	[redacted]	-540.2	-449.1	-551.5
	[redacted]	-907.5	-674.7	-985.8
	[redacted]	-1201.5	-1195.2	-1207.0
	[redacted]	-523.5	-445.8	-530.1
	[redacted]	-336.8	-271.5	-552.0
	[redacted]	-611.5	-495.5	-634.3
	[redacted]	-1169.2	-880.2	-1290.6
	[redacted]	-586.7	-479.5	-605.9
	[redacted]	-462.7	-454.9	-459.6
	[redacted]	-434.7	-426.7	-431.4
	[redacted]	-411.5	-397.5	-415.9
	[redacted]	-472.5	-452.0	-478.7
	[redacted]	-737.1	-721.8	-729.9
	[redacted]	-509.7	-498.5	-505.3
	[redacted]	-330.6	-326.0	-327.4
	[redacted]	-340.8	-320.1	-338.1
	[redacted]	-438.9	-415.3	-447.1
	[redacted]	-583.6	-530.7	-602.6
	[redacted]	-703.0	-597.9	-737.9
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-362.9	-323.8	-359.3
	[redacted]	-408.0	-397.6	-402.0
	[redacted]	-430.9	-390.9	-439.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 92kV Single Bus Fault	[redacted]	-540.2	-449.1	-551.5
	[redacted]	-907.5	-674.7	-985.8
	[redacted]	-1201.5	-1195.2	-1207.0
	[redacted]	-523.5	-445.8	-530.1
	[redacted]	-336.8	-271.5	-552.0
	[redacted]	-611.5	-495.5	-634.3
	[redacted]	-1169.2	-880.2	-1290.6
	[redacted]	-586.7	-479.5	-605.9
	[redacted]	-462.7	-454.9	-459.6
	[redacted]	-434.7	-426.7	-431.4
	[redacted]	-411.5	-397.5	-415.9
	[redacted]	-472.5	-452.0	-478.7
	[redacted]	-737.1	-721.8	-729.9
	[redacted]	-509.7	-498.5	-505.3
	[redacted]	-330.6	-326.0	-327.4
	[redacted]	-340.8	-320.1	-338.1
	[redacted]	-438.9	-415.3	-447.1
	[redacted]	-583.6	-530.7	-602.6
	[redacted]	-703.0	-597.9	-737.9
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-362.9	-323.8	-359.3
	[redacted]	-408.0	-397.6	-402.0
	[redacted]	-430.9	-390.9	-439.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] Single Bus Fault	[redacted]	-540.2	-449.1	-551.5
	[redacted]	-907.5	-674.7	-985.8
	[redacted]	-1201.5	-1195.2	-1207.0
	[redacted]	-523.5	-445.8	-530.1
	[redacted]	-336.8	-271.5	-552.0
	[redacted]	-611.5	-495.5	-634.3
	[redacted]	-1169.2	-880.2	-1290.6
	[redacted]	-586.7	-479.5	-605.9
	[redacted]	-462.7	-454.9	-459.6
	[redacted]	-434.7	-426.7	-431.4
	[redacted]	-411.5	-397.5	-415.9
	[redacted]	-472.5	-452.0	-478.7
	[redacted]	-737.1	-721.8	-729.9
	[redacted]	-509.7	-498.5	-505.3
	[redacted]	-330.6	-326.0	-327.4
	[redacted]	-340.8	-320.1	-338.1
	[redacted]	-438.9	-415.3	-447.1
	[redacted]	-583.6	-530.7	-602.6
	[redacted]	-703.0	-597.9	-737.9
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-362.9	-323.8	-359.3
	[redacted]	-408.0	-397.6	-402.0
	[redacted]	-430.9	-390.9	-439.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 230kV Bus Fault	[redacted]	-540.2	-449.1	-551.5
	[redacted]	-907.5	-674.7	-985.8
	[redacted]	-1201.5	-1195.2	-1207.0
	[redacted]	-523.5	-445.8	-530.1
	[redacted]	-336.8	-271.5	-552.0
	[redacted]	-611.5	-495.5	-634.3
	[redacted]	-1169.2	-880.2	-1290.6
	[redacted]	-586.7	-479.5	-605.9
	[redacted]	-462.7	-454.9	-459.6
	[redacted]	-434.7	-426.7	-431.4
	[redacted]	-411.5	-397.5	-415.9
	[redacted]	-472.5	-452.0	-478.7
	[redacted]	-737.1	-721.8	-729.9
	[redacted]	-509.7	-498.5	-505.3
	[redacted]	-330.6	-326.0	-327.4
	[redacted]	-340.8	-320.1	-338.1
	[redacted]	-438.9	-415.3	-447.1
	[redacted]	-583.6	-530.7	-602.6
	[redacted]	-703.0	-597.9	-737.9
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-869.4	-851.2	-861.4
	[redacted]	-362.9	-323.8	-359.3
	[redacted]	-408.0	-397.6	-402.0
	[redacted]	-430.9	-390.9	-439.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-511.7	-450.2	-524.8
	[redacted]	-972.1	-760.7	-1086.2
	[redacted]	-1228.8	-1211.0	-1205.0
	[redacted]	-486.9	-436.2	-497.2
	[redacted]	-342.8	-290.2	-561.3
	[redacted]	-628.1	-536.1	-664.1
	[redacted]	-1398.3	-1151.5	-1586.6
	[redacted]	-589.5	-508.4	-616.8
	[redacted]	-460.5	-456.1	-460.0
	[redacted]	-432.1	-427.7	-431.4
	[redacted]	-403.6	-396.0	-413.8
	[redacted]	-464.2	-452.4	-476.4
	[redacted]	-738.3	-729.5	-735.2
	[redacted]	-507.5	-501.4	-507.3
	[redacted]	-336.2	-333.2	-333.5
	[redacted]	-326.4	-327.0	-343.2
	[redacted]	-435.8	-421.0	-433.3
	[redacted]	-578.2	-540.1	-602.6
	[redacted]	-701.2	-628.0	-645.6
	[redacted]	-874.7	-863.7	-870.6
	[redacted]	-874.7	-863.7	-870.6
	[redacted]	-327.6	-298.2	-327.8
	[redacted]	-406.9	-399.9	-403.9
	[redacted]	-426.9	-405.7	-442.6

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted] 230 kV Lines	[redacted]	-361.4	-212.8	-504.0
	[redacted]	-408.9	-204.4	-908.3
	[redacted]	-1199.4	-1106.3	-1224.5
	[redacted]	-362.0	-220.9	-481.0
	[redacted]	-315.9	-267.3	-546.8
	[redacted]	-387.7	-215.2	-612.0
	[redacted]	-390.2	-196.5	-1034.5
	[redacted]	-379.3	-214.7	-577.4
	[redacted]	-466.2	-398.8	-461.3
	[redacted]	-464.9	-401.1	-433.5
	[redacted]	-366.2	-252.0	-408.4
	[redacted]	-400.7	-272.8	-467.7
	[redacted]	-734.8	-646.1	-735.8
	[redacted]	-520.9	-452.6	-508.8
	[redacted]	-332.3	-304.3	-333.8
	[redacted]	-326.0	-299.5	-343.5
	[redacted]	-345.5	-229.1	-420.5
	[redacted]	-392.8	-225.7	-571.8
	[redacted]	-410.0	-220.4	-624.0
	[redacted]	-847.1	-777.3	-872.4
	[redacted]	-847.1	-777.3	-872.4
	[redacted]	-287.8	-187.2	-325.5
	[redacted]	-419.4	-381.4	-406.3
	[redacted]	-316.3	-187.5	-414.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-456.3	-342.3	-442.7
	[redacted]	-733.5	-478.1	-758.1
	[redacted]	-1220.0	-1197.1	-1205.4
	[redacted]	-440.3	-340.5	-434.6
	[redacted]	-329.1	-259.2	-505.7
	[redacted]	-529.6	-379.2	-531.9
	[redacted]	-1263.0	-997.4	-1371.3
	[redacted]	-506.3	-368.5	-505.0
	[redacted]	-459.7	-449.9	-456.2
	[redacted]	-431.3	-421.3	-427.3
	[redacted]	-398.2	-370.4	-402.3
	[redacted]	-455.6	-413.3	-459.8
	[redacted]	-734.9	-717.0	-726.4
	[redacted]	-506.8	-496.8	-511.9
	[redacted]	-321.6	-328.9	-329.6
	[redacted]	-343.5	-339.3	-339.9
	[redacted]	-424.5	-331.0	-429.2
	[redacted]	-543.7	-444.1	-550.1
	[redacted]	-625.6	-470.9	-634.9
	[redacted]	-871.0	-848.8	-860.0
	[redacted]	-871.0	-848.8	-860.0
	[redacted]	-308.6	-252.0	-297.5
	[redacted]	-407.0	-393.9	-400.9
	[redacted]	-419.4	-376.9	-421.0

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-516.8	-423.9	-509.0
	[redacted]	-862.7	-623.8	-901.8
	[redacted]	-1214.5	-1217.6	-1224.3
	[redacted]	-492.1	-414.5	-485.3
	[redacted]	-351.3	-297.9	-551.0
	[redacted]	-609.2	-480.4	-615.0
	[redacted]	-1407.6	-1191.9	-1531.5
	[redacted]	-580.3	-463.9	-581.3
	[redacted]	-466.8	-459.3	-463.2
	[redacted]	-438.7	-431.3	-434.8
	[redacted]	-415.9	-396.8	-419.4
	[redacted]	-476.1	-453.9	-480.8
	[redacted]	-745.3	-731.4	-737.0
	[redacted]	-516.8	-506.4	-512.3
	[redacted]	-336.8	-332.7	-332.7
	[redacted]	-346.1	-342.6	-342.6
	[redacted]	-438.4	-422.0	-440.0
	[redacted]	-589.6	-521.3	-596.2
	[redacted]	-632.8	-577.6	-635.4
	[redacted]	-827.4	-866.9	-873.5
	[redacted]	-827.4	-866.9	-873.5
	[redacted]	-340.9	-297.4	-329.8
	[redacted]	-413.9	-404.7	-408.1
	[redacted]	-455.1	-421.8	-456.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	0.0	0.0	0.0
	[redacted]	-1206.9	-1016.9	-1383.7
	[redacted]	-1241.7	-1238.8	-1240.0
	[redacted]	0.0	0.0	0.0
	[redacted]	-362.9	-338.2	-604.6
	[redacted]	0.0	0.0	0.0
	[redacted]	-1418.9	-1337.9	-1705.7
	[redacted]	0.0	0.0	0.0
	[redacted]	-465.9	-466.2	-468.2
	[redacted]	-439.9	-440.7	-414.6
	[redacted]	-396.9	-399.4	-415.3
	[redacted]	-455.7	-456.9	-477.7
	[redacted]	-754.7	-752.7	-755.4
	[redacted]	-518.3	-518.0	-522.4
	[redacted]	-341.8	-340.6	-339.8
	[redacted]	-331.7	-349.2	-348.5
	[redacted]	-431.1	-422.0	-458.1
	[redacted]	-571.9	-566.8	-618.9
	[redacted]	-644.4	-617.0	-686.5
	[redacted]	-892.3	-890.1	-892.4
	[redacted]	-892.3	-890.1	-892.4
	[redacted]	0.0	0.0	0.0
	[redacted]	-408.7	-406.6	-407.8
	[redacted]	-442.9	-438.9	-470.9

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WHK_PRE [redacted]	S3_26HS_WHK_PST [redacted]	S3_26HS_WHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-531.2	-571.6	-583.9
	[redacted]	-847.1	-918.0	-999.1
	[redacted]	-1198.8	-1202.6	-1199.6
	[redacted]	-517.3	-551.2	-560.0
	[redacted]	0.0	0.0	0.0
	[redacted]	-595.6	-645.4	-665.3
	[redacted]	-1130.5	-1231.2	-1376.7
	[redacted]	-573.5	-620.4	-637.3
	[redacted]	-455.6	-457.6	-456.3
	[redacted]	-426.5	-428.2	-427.1
	[redacted]	-334.2	-344.2	-344.8
	[redacted]	-419.5	-432.3	-434.1
	[redacted]	-683.4	-683.6	-683.0
	[redacted]	-501.4	-503.7	-501.9
	[redacted]	-329.5	-330.1	-329.3
	[redacted]	-340.1	-340.6	-339.9
	[redacted]	-375.5	-395.3	-396.5
	[redacted]	-529.6	-555.9	-565.9
	[redacted]	-557.5	-670.5	-694.9
	[redacted]	-854.3	-807.0	-855.4
	[redacted]	-854.3	-807.0	-855.4
	[redacted]	-365.5	-383.8	-383.4
	[redacted]	-400.4	-399.5	-398.0
	[redacted]	-400.2	-421.8	-426.6

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST_ [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500 kV Line Fault	[redacted]	-462.3	-424.8	-532.3
	[redacted]	-682.0	-504.9	-898.4
	[redacted]	-1210.1	-1184.8	-1211.8
	[redacted]	-458.7	-388.9	-515.8
	[redacted]	-447.9	-419.7	-286.5
	[redacted]	-508.8	-420.6	-603.3
	[redacted]	-1008.5	-753.1	-1192.1
	[redacted]	-493.1	-426.1	-578.3
	[redacted]	-459.2	-449.5	-460.4
	[redacted]	-431.4	-421.3	-432.2
	[redacted]	-398.4	-370.3	-407.7
	[redacted]	-454.5	-414.5	-469.3
	[redacted]	-732.1	-715.0	-734.4
	[redacted]	-504.3	-489.0	-506.3
	[redacted]	-329.8	-327.3	-331.4
	[redacted]	-340.0	-337.6	-341.5
	[redacted]	-418.4	-377.1	-415.1
	[redacted]	-539.8	-451.3	-580.9
	[redacted]	-577.0	-458.8	-702.8
	[redacted]	-863.8	-839.4	-865.4
	[redacted]	-863.8	-839.4	-865.4
	[redacted]	-339.7	-287.3	-355.8
	[redacted]	-404.4	-390.7	-404.9
	[redacted]	-412.3	-356.7	-420.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 230 kV Line 1	[redacted]	-415.8	-354.2	-505.7
	[redacted]	-538.5	-339.1	-805.2
	[redacted]	-1205.7	-1158.4	-1209.9
	[redacted]	-416.5	-308.3	-495.2
	[redacted]	-405.1	-358.2	-282.6
	[redacted]	-447.9	-319.9	-565.7
	[redacted]	-720.2	-452.0	-1038.0
	[redacted]	-438.5	-333.2	-545.1
	[redacted]	-458.7	-444.3	-460.5
	[redacted]	-431.4	-416.7	-432.4
	[redacted]	-390.1	-335.0	-406.9
	[redacted]	-440.8	-362.0	-465.9
	[redacted]	-727.8	-702.3	-732.3
	[redacted]	-503.9	-489.4	-506.8
	[redacted]	-328.0	-323.2	-330.4
	[redacted]	-321.9	-317.5	-324.2
	[redacted]	-399.9	-322.1	-430.7
	[redacted]	-483.8	-440.0	-567.0
	[redacted]	-520.4	-353.5	-662.2
	[redacted]	-860.3	-825.8	-863.8
	[redacted]	-860.3	-825.8	-863.8
	[redacted]	-321.6	-243.2	-349.8
	[redacted]	-405.6	-387.4	-405.8
	[redacted]	-378.7	-305.2	-411.0

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PR [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MI [redacted]
[redacted] : [redacted] 500 kV Line Fault	[redacted]	-452.3	-414.7	-522.0
	[redacted]	-660.0	-484.1	-862.5
	[redacted]	-1194.2	-1184.0	-1209.5
	[redacted]	-449.6	-378.6	-507.4
	[redacted]	-438.8	-410.1	-284.1
	[redacted]	-496.9	-407.3	-589.7
	[redacted]	-954.7	-705.8	-1129.9
	[redacted]	-482.0	-413.7	-566.0
	[redacted]	-457.8	-448.2	-459.1
	[redacted]	-429.9	-420.0	-430.9
	[redacted]	-393.5	-363.1	-403.1
	[redacted]	-448.0	-407.8	-463.7
	[redacted]	-730.8	-713.8	-733.3
	[redacted]	-501.8	-486.6	-504.2
	[redacted]	-329.6	-327.2	-331.4
	[redacted]	-320.1	-337.5	-341.3
	[redacted]	-391.9	-346.2	-429.6
	[redacted]	-529.2	-437.8	-571.7
	[redacted]	-595.3	-445.5	-687.6
	[redacted]	-861.5	-837.2	-863.4
	[redacted]	-861.5	-837.2	-863.4
	[redacted]	-334.9	-281.9	-352.2
	[redacted]	-402.6	-388.9	-403.2
	[redacted]	-397.2	-350.9	-415.5

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500kV w/ RAS Line Fault	[redacted]	-451.9	-412.9	-518.6
	[redacted]	-662.5	-482.7	-856.7
	[redacted]	-1032.4	-1003.8	-1033.7
	[redacted]	-449.1	-376.9	-504.6
	[redacted]	-438.2	-408.4	-283.8
	[redacted]	-496.3	-405.6	-585.4
	[redacted]	-960.3	-705.3	-1127.8
	[redacted]	-481.4	-412.3	-562.0
	[redacted]	-460.1	-449.1	-461.2
	[redacted]	-432.0	-420.8	-432.6
	[redacted]	-406.1	-375.5	-415.3
	[redacted]	-461.7	-418.6	-476.3
	[redacted]	-705.5	-685.6	-707.6
	[redacted]	-509.0	-501.2	-510.8
	[redacted]	-330.0	-327.6	-331.6
	[redacted]	-312.8	-310.5	-314.4
	[redacted]	-425.8	-379.7	-423.0
	[redacted]	-542.3	-444.7	-587.6
	[redacted]	-605.1	-473.5	-695.8
	[redacted]	-807.7	-780.3	-809.0
	[redacted]	-807.7	-780.3	-809.0
	[redacted]	-332.5	-279.1	-348.5
	[redacted]	-408.0	-393.2	-408.3
	[redacted]	-407.7	-361.0	-429.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500kV Line Fault	[redacted]	-465.7	-428.5	-535.3
	[redacted]	-689.6	-512.0	-908.1
	[redacted]	-1195.8	-1184.5	-1211.5
	[redacted]	-461.7	-392.4	-518.3
	[redacted]	-450.9	-423.2	-287.3
	[redacted]	-512.9	-425.2	-607.3
	[redacted]	-1024.2	-767.0	-1217.9
	[redacted]	-496.9	-430.5	-582.0
	[redacted]	-460.2	-450.3	-461.4
	[redacted]	-459.3	-422.1	-433.1
	[redacted]	-401.8	-376.2	-410.9
	[redacted]	-458.1	-418.2	-472.6
	[redacted]	-731.8	-714.5	-734.0
	[redacted]	-506.1	-481.0	-508.0
	[redacted]	-327.8	-325.3	-329.4
	[redacted]	-318.3	-335.1	-338.9
	[redacted]	-422.6	-381.4	-382.0
	[redacted]	-544.9	-457.0	-585.5
	[redacted]	-616.9	-492.7	-708.9
	[redacted]	-864.4	-839.7	-865.9
	[redacted]	-864.4	-839.7	-865.9
	[redacted]	-341.3	-289.3	-356.9
	[redacted]	-405.8	-392.0	-406.2
	[redacted]	-409.8	-370.4	-432.0

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500kV Line Fault [redacted]	[redacted]	-466.4	-429.8	-535.0
	[redacted]	-690.6	-513.9	-904.8
	[redacted]	-1200.2	-1159.4	-1201.7
	[redacted]	-462.4	-393.6	-518.0
	[redacted]	-451.6	-424.5	-287.2
	[redacted]	-513.8	-426.8	-606.6
	[redacted]	-1021.3	-766.1	-1209.6
	[redacted]	-497.7	-432.0	-581.3
	[redacted]	-460.9	-450.6	-462.0
	[redacted]	-432.9	-422.3	-433.5
	[redacted]	-406.4	-377.9	-415.4
	[redacted]	-462.7	-424.4	-477.1
	[redacted]	-726.3	-708.5	-726.7
	[redacted]	-508.3	-492.8	-517.1
	[redacted]	-312.1	-305.9	-310.0
	[redacted]	-303.0	-300.9	-304.7
	[redacted]	-427.6	-385.7	-386.8
	[redacted]	-550.5	-460.3	-593.1
	[redacted]	-620.2	-495.6	-712.3
	[redacted]	-860.3	-792.2	-861.6
	[redacted]	-860.3	-792.2	-861.6
	[redacted]	-341.7	-289.9	-356.8
	[redacted]	-407.9	-393.9	-408.1
	[redacted]	-411.4	-366.7	-437.4

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500kV w/ RAS Line Fault	[redacted]	-452.6	-413.8	-519.4
	[redacted]	-664.0	-484.2	-859.3
	[redacted]	-1000.7	-965.5	-1002.0
	[redacted]	-449.7	-377.8	-505.2
	[redacted]	-438.9	-409.2	-284.0
	[redacted]	-497.1	-406.7	-586.4
	[redacted]	-963.7	-708.8	-1132.5
	[redacted]	-482.2	-413.3	-562.9
	[redacted]	-457.7	-446.6	-458.7
	[redacted]	-429.2	-417.9	-429.8
	[redacted]	-406.0	-375.4	-415.2
	[redacted]	-461.6	-418.6	-476.2
	[redacted]	-694.3	-674.0	-696.4
	[redacted]	-515.7	-498.7	-518.1
	[redacted]	-318.4	-316.0	-320.0
	[redacted]	-335.9	-314.5	-318.3
	[redacted]	-425.7	-379.7	-422.9
	[redacted]	-542.4	-445.3	-587.7
	[redacted]	-605.7	-474.4	-696.3
	[redacted]	-788.6	-760.7	-789.8
	[redacted]	-788.6	-760.7	-789.8
	[redacted]	-332.9	-279.5	-348.8
	[redacted]	-406.5	-391.5	-406.8
	[redacted]	-408.0	-361.4	-429.5

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 500kV Line Fault	[redacted]	-458.0	-420.9	-523.2
	[redacted]	-673.6	-496.7	-866.2
	[redacted]	-1159.1	-1136.9	-1158.9
	[redacted]	-454.8	-385.3	-508.4
	[redacted]	-444.0	-416.0	-284.0
	[redacted]	-503.6	-416.0	-591.6
	[redacted]	-971.5	-724.2	-1129.9
	[redacted]	-488.3	-421.9	-567.6
	[redacted]	-461.3	-450.4	-461.9
	[redacted]	-431.8	-420.6	-431.9
	[redacted]	-411.9	-383.6	-420.7
	[redacted]	-467.6	-425.1	-481.6
	[redacted]	-717.5	-698.0	-718.4
	[redacted]	-522.7	-501.7	-524.5
	[redacted]	-330.3	-329.0	-331.8
	[redacted]	-312.4	-319.3	-313.9
	[redacted]	-433.3	-388.0	-429.7
	[redacted]	-550.3	-454.5	-594.0
	[redacted]	-614.0	-484.5	-620.7
	[redacted]	-811.2	-761.4	-810.4
	[redacted]	-811.2	-761.4	-810.4
	[redacted]	-337.3	-285.3	-352.0
	[redacted]	-410.2	-392.0	-410.3
	[redacted]	-410.0	-364.4	-426.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WOHK PRE [redacted]	S3 26HS WOHK PST [redacted]	S3 26HS WOHK MIT [redacted]
[redacted] : [redacted] 500kV Line Fault	[redacted]	-464.4	-427.5	-534.2
	[redacted]	-685.9	-508.6	-903.0
	[redacted]	-1210.9	-1185.8	-1212.6
	[redacted]	-460.6	-391.1	-517.5
	[redacted]	-449.8	-422.2	-287.2
	[redacted]	-511.3	-423.5	-605.8
	[redacted]	-1014.2	-759.3	-1198.9
	[redacted]	-495.5	-429.0	-580.7
	[redacted]	-459.6	-449.9	-460.8
	[redacted]	-431.8	-421.7	-459.8
	[redacted]	-399.0	-371.2	-408.2
	[redacted]	-455.2	-415.5	-470.0
	[redacted]	-732.7	-715.7	-735.0
	[redacted]	-504.8	-489.5	-506.8
	[redacted]	-330.3	-327.8	-332.0
	[redacted]	-340.5	-321.8	-341.9
	[redacted]	-419.3	-378.4	-379.1
	[redacted]	-541.3	-453.6	-582.2
	[redacted]	-579.0	-489.3	-704.9
	[redacted]	-864.5	-840.2	-866.1
	[redacted]	-864.5	-840.2	-866.1
	[redacted]	-340.9	-288.7	-356.8
	[redacted]	-404.7	-391.1	-405.2
	[redacted]	-413.2	-369.1	-421.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-462.5	-424.0	-532.7
	[redacted]	-683.4	-504.6	-901.7
	[redacted]	-1176.6	-1157.4	-1177.8
	[redacted]	-458.9	-388.4	-516.1
	[redacted]	-448.1	-419.0	-286.5
	[redacted]	-509.0	-419.9	-603.9
	[redacted]	-1015.1	-755.8	-1209.4
	[redacted]	-493.3	-425.4	-578.9
	[redacted]	-456.6	-446.0	-457.8
	[redacted]	-428.9	-418.0	-429.6
	[redacted]	-397.1	-368.6	-406.4
	[redacted]	-453.2	-412.6	-468.0
	[redacted]	-716.6	-696.7	-718.8
	[redacted]	-500.7	-484.3	-502.7
	[redacted]	-327.6	-324.4	-329.2
	[redacted]	-338.2	-318.6	-323.1
	[redacted]	-416.2	-374.4	-412.9
	[redacted]	-538.1	-449.4	-579.1
	[redacted]	-576.0	-457.0	-701.6
	[redacted]	-744.7	-721.1	-745.7
	[redacted]	-744.7	-721.1	-745.7
	[redacted]	-339.7	-287.0	-355.8
	[redacted]	-401.8	-387.3	-402.1
	[redacted]	-412.1	-356.0	-420.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 92.0 Circuit 1 Line Fault	[redacted]	-465.4	-428.2	-535.2
	[redacted]	-689.2	-512.0	-908.2
	[redacted]	-1211.6	-1182.9	-1213.1
	[redacted]	-461.5	-392.1	-518.2
	[redacted]	-450.7	-422.9	-287.3
	[redacted]	-512.6	-424.8	-607.2
	[redacted]	-1024.2	-766.7	-1218.6
	[redacted]	-496.6	-430.1	-581.9
	[redacted]	-459.7	-449.7	-460.9
	[redacted]	-432.1	-421.8	-432.8
	[redacted]	-401.1	-375.5	-410.2
	[redacted]	-457.3	-417.5	-471.9
	[redacted]	-732.4	-715.2	-734.6
	[redacted]	-505.4	-489.9	-507.3
	[redacted]	-329.9	-327.3	-331.6
	[redacted]	-340.2	-321.4	-325.3
	[redacted]	-421.7	-380.7	-381.2
	[redacted]	-544.1	-456.4	-584.8
	[redacted]	-581.8	-492.4	-708.2
	[redacted]	-865.0	-840.3	-866.4
	[redacted]	-865.0	-840.3	-866.4
	[redacted]	-341.2	-289.1	-356.9
	[redacted]	-405.4	-391.6	-405.8
	[redacted]	-418.6	-370.1	-431.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-470.5	-434.7	-539.5
	[redacted]	-698.6	-521.8	-918.6
	[redacted]	-1182.4	-1168.9	-1183.9
	[redacted]	-466.1	-398.6	-521.8
	[redacted]	-455.3	-429.3	-288.6
	[redacted]	-518.7	-432.3	-612.7
	[redacted]	-1038.5	-782.5	-1232.8
	[redacted]	-502.4	-437.3	-587.0
	[redacted]	-460.2	-449.9	-461.3
	[redacted]	-433.2	-422.8	-433.8
	[redacted]	-406.7	-380.3	-415.6
	[redacted]	-463.7	-425.9	-477.6
	[redacted]	-717.3	-700.0	-719.2
	[redacted]	-508.2	-493.0	-510.0
	[redacted]	-332.8	-330.5	-334.4
	[redacted]	-342.6	-324.4	-344.0
	[redacted]	-428.8	-335.8	-445.8
	[redacted]	-553.2	-465.0	-595.7
	[redacted]	-625.1	-501.4	-717.0
	[redacted]	-830.0	-806.3	-831.4
	[redacted]	-830.0	-806.3	-831.4
	[redacted]	-343.8	-292.4	-358.8
	[redacted]	-407.7	-393.9	-408.0
	[redacted]	-413.1	-368.8	-439.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PR[redacted]	S3_26HS_WOHK_PST[redacted]	S3_26HS_WOHK_MI[redacted]
[redacted] : [redacted] [redacted] 230.00 Circuit 1	[redacted]	-458.6	-422.7	-528.0
	[redacted]	-668.8	-495.0	-883.2
	[redacted]	-1208.4	-1178.8	-1206.3
	[redacted]	-455.3	-385.7	-512.4
	[redacted]	-444.7	-417.7	-285.6
	[redacted]	-504.3	-416.4	-597.4
	[redacted]	-1008.9	-753.5	-1195.9
	[redacted]	-489.0	-422.8	-573.2
	[redacted]	-455.3	-445.0	-456.1
	[redacted]	-429.0	-418.6	-429.3
	[redacted]	-326.1	-293.5	-337.3
	[redacted]	-382.1	-340.8	-390.8
	[redacted]	-725.7	-707.2	-727.6
	[redacted]	-496.4	-480.2	-498.0
	[redacted]	-330.5	-327.8	-332.2
	[redacted]	-340.7	-321.8	-326.0
	[redacted]	-308.2	-277.4	-300.9
	[redacted]	-405.3	-348.0	-429.8
	[redacted]	-488.9	-399.1	-536.8
	[redacted]	-855.7	-829.5	-856.4
	[redacted]	-855.7	-829.5	-856.4
	[redacted]	-338.4	-286.1	-354.4
	[redacted]	-401.3	-387.0	-401.1
	[redacted]	-183.3	-165.4	-184.9

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PR[redacted]	S3_26HS_WOHK_PS[redacted]	S3_26HS_WOHK_MIT[redacted]
[redacted] : [redacted] [redacted] 92.0 Circuit 1 Line Fault	[redacted]	-535.0	-516.1	-596.3
	[redacted]	-817.3	-667.5	-1039.3
	[redacted]	-1203.5	-1196.6	-1221.1
	[redacted]	-521.7	-479.7	-567.1
	[redacted]	-514.4	-506.3	-297.9
	[redacted]	-602.6	-542.3	-700.0
	[redacted]	-1186.3	-971.9	-1370.9
	[redacted]	-578.9	-537.7	-664.2
	[redacted]	-463.3	-455.1	-463.7
	[redacted]	-435.8	-427.4	-435.7
	[redacted]	-408.6	-391.7	-415.7
	[redacted]	-468.6	-443.8	-478.8
	[redacted]	-738.5	-723.9	-739.4
	[redacted]	-509.9	-497.8	-510.8
	[redacted]	-331.5	-329.7	-332.9
	[redacted]	-341.6	-323.6	-326.6
	[redacted]	-418.4	-408.0	-448.2
	[redacted]	-574.2	-516.9	-604.6
	[redacted]	-675.0	-584.2	-748.7
	[redacted]	-872.4	-851.5	-872.3
	[redacted]	-872.4	-851.5	-872.3
	[redacted]	-387.5	-348.8	-395.5
	[redacted]	-408.6	-397.3	-408.3
	[redacted]	-422.9	-392.2	-437.9

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Circuit 1	[redacted]	-588.5	-673.1	-624.2
	[redacted]	-1051.0	-1106.0	-1261.4
	[redacted]	-1238.7	-1221.0	-1222.5
	[redacted]	-534.1	-591.6	-547.4
	[redacted]	-554.9	-644.7	-329.3
	[redacted]	-693.9	-767.1	-778.2
	[redacted]	-1486.7	-1576.6	-1676.2
	[redacted]	-656.1	-734.4	-731.3
	[redacted]	-459.4	-459.5	-459.2
	[redacted]	-430.7	-431.0	-430.0
	[redacted]	-422.2	-426.7	-427.7
	[redacted]	-482.3	-487.7	-490.9
	[redacted]	-747.3	-746.1	-746.4
	[redacted]	-519.5	-505.4	-505.7
	[redacted]	-343.7	-344.9	-344.2
	[redacted]	-333.6	-352.5	-352.1
	[redacted]	-459.1	-463.5	-477.5
	[redacted]	-615.6	-624.3	-640.0
	[redacted]	-676.5	-762.7	-731.3
	[redacted]	-889.5	-885.6	-887.6
	[redacted]	-889.5	-885.6	-887.6
	[redacted]	-363.7	-379.6	-358.8
	[redacted]	-405.2	-402.3	-404.5
	[redacted]	-468.9	-471.6	-484.1

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Circuit 1	[redacted]	-531.1	-605.2	-593.2
	[redacted]	-828.5	-860.5	-1102.5
	[redacted]	-1243.4	-1217.4	-1221.6
	[redacted]	-497.0	-551.6	-527.3
	[redacted]	-505.4	-585.6	-323.9
	[redacted]	-603.8	-667.3	-720.3
	[redacted]	-1438.4	-1445.1	-1625.7
	[redacted]	-580.0	-646.0	-683.0
	[redacted]	-460.3	-458.6	-459.2
	[redacted]	-431.9	-430.1	-430.0
	[redacted]	-419.5	-420.0	-425.4
	[redacted]	-476.5	-477.4	-487.1
	[redacted]	-747.6	-742.8	-745.6
	[redacted]	-507.1	-504.2	-505.7
	[redacted]	-342.9	-343.0	-343.5
	[redacted]	-332.8	-350.9	-351.5
	[redacted]	-424.0	-459.6	-461.5
	[redacted]	-560.1	-589.7	-625.9
	[redacted]	-640.6	-633.9	-766.2
	[redacted]	-890.1	-882.3	-886.8
	[redacted]	-890.1	-882.3	-886.8
	[redacted]	-352.4	-363.2	-350.8
	[redacted]	-406.6	-402.0	-404.7
	[redacted]	-467.5	-464.1	-472.6

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WOHK PRE [redacted]	S3 26HS WOHK PST [redacted]	S3 26HS WOHK MIT [redacted]
[redacted] : Line [redacted] 230.0 Circuit 1	[redacted]	-532.2	-606.4	-593.8
	[redacted]	-833.5	-865.8	-1106.8
	[redacted]	-1243.3	-1217.4	-1221.6
	[redacted]	-497.7	-552.4	-527.6
	[redacted]	-506.4	-586.7	-323.9
	[redacted]	-605.6	-669.1	-721.7
	[redacted]	-1436.4	-1444.8	-1626.0
	[redacted]	-581.6	-647.5	-682.8
	[redacted]	-460.3	-458.6	-459.1
	[redacted]	-431.8	-430.1	-429.9
	[redacted]	-419.5	-420.1	-425.4
	[redacted]	-476.5	-477.6	-487.1
	[redacted]	-747.5	-742.8	-745.6
	[redacted]	-506.9	-504.1	-505.6
	[redacted]	-342.9	-343.1	-343.6
	[redacted]	-332.8	-351.0	-351.5
	[redacted]	-424.0	-459.9	-461.5
	[redacted]	-592.2	-590.7	-626.2
	[redacted]	-641.4	-693.7	-767.1
	[redacted]	-890.0	-882.3	-886.8
	[redacted]	-890.0	-882.3	-886.8
	[redacted]	-352.4	-363.4	-350.9
	[redacted]	-406.5	-401.9	-404.7
	[redacted]	-467.5	-464.4	-472.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Ck 1	[redacted]	-547.6	-593.9	-580.6
	[redacted]	-946.6	-916.7	-1167.8
	[redacted]	-1233.0	-1211.3	-1232.3
	[redacted]	-521.7	-547.3	-543.7
	[redacted]	-524.1	-575.7	-319.2
	[redacted]	-630.8	-657.1	-710.1
	[redacted]	-1366.6	-1303.9	-1546.3
	[redacted]	-604.3	-636.0	-669.2
	[redacted]	-468.9	-467.3	-469.1
	[redacted]	-441.0	-440.2	-441.0
	[redacted]	-418.2	-413.1	-423.4
	[redacted]	-479.2	-472.4	-487.4
	[redacted]	-752.0	-746.9	-751.7
	[redacted]	-528.0	-514.2	-528.8
	[redacted]	-336.3	-336.6	-337.3
	[redacted]	-345.7	-330.1	-330.8
	[redacted]	-455.1	-445.5	-453.7
	[redacted]	-601.2	-582.9	-626.6
	[redacted]	-651.7	-622.7	-684.1
	[redacted]	-888.5	-881.6	-887.4
	[redacted]	-888.5	-881.6	-887.4
	[redacted]	-364.9	-359.5	-364.2
	[redacted]	-412.1	-408.5	-412.1
	[redacted]	-456.2	-441.1	-462.9

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Ck 1	[redacted]	-395.1	-419.7	-424.2
	[redacted]	-836.3	-756.2	-1093.0
	[redacted]	-1236.8	-1223.1	-1236.2
	[redacted]	-390.7	-402.5	-414.5
	[redacted]	-383.2	-413.4	-308.8
	[redacted]	-433.7	-442.5	-482.7
	[redacted]	-1262.3	-1164.7	-1483.0
	[redacted]	-421.2	-436.7	-465.5
	[redacted]	-459.1	-454.3	-460.8
	[redacted]	-434.9	-430.2	-435.7
	[redacted]	-391.4	-382.2	-403.7
	[redacted]	-447.9	-435.1	-465.0
	[redacted]	-745.2	-736.1	-746.7
	[redacted]	-508.4	-491.9	-512.1
	[redacted]	-339.2	-338.9	-340.0
	[redacted]	-348.1	-332.3	-348.7
	[redacted]	-420.2	-405.0	-423.3
	[redacted]	-557.8	-469.5	-602.5
	[redacted]	-656.4	-612.2	-634.5
	[redacted]	-882.3	-825.1	-882.7
	[redacted]	-882.3	-825.1	-882.7
	[redacted]	-293.5	-288.4	-298.6
	[redacted]	-393.4	-386.0	-394.4
	[redacted]	-425.6	-405.2	-438.8

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	Tabs List	Tabs List	S3_26HS_WOHK_MIT [redacted]
[redacted] : Line [redacted] 230.0 Ck 1	[redacted]	0.0	0.0	-575.3
	[redacted]	0.0	0.0	-996.7
	[redacted]	6.0	6.0	-1209.6
	[redacted]	0.0	0.0	-552.6
	[redacted]	0.0	0.0	0.0
	[redacted]	2.0	2.0	-656.1
	[redacted]	0.0	0.0	-1364.7
	[redacted]	0.0	0.0	-628.1
	[redacted]	0.0	0.0	-464.4
	[redacted]	0.0	0.0	-436.9
	[redacted]	0.0	0.0	-412.3
	[redacted]	0.0	0.0	-474.8
	[redacted]	0.0	0.0	-743.3
	[redacted]	0.0	0.0	-511.0
	[redacted]	0.0	0.0	-335.3
	[redacted]	0.0	0.0	-328.9
	[redacted]	0.0	0.0	-430.3
	[redacted]	0.0	0.0	-600.8
	[redacted]	0.0	0.0	-738.9
	[redacted]	0.0	0.0	-876.5
	[redacted]	0.0	0.0	-876.5
	[redacted]	0.0	0.0	-378.4
	[redacted]	0.0	0.0	-408.4
	[redacted]	0.0	0.0	-450.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE[redacted]txt	S3_26HS_WOHK_PST[redacted]txt	S3_26HS_WOHK_MIT[redacted]xt
[redacted] : [redacted] Bus Fault	[redacted]	-471.9	-439.3	-548.5
	[redacted]	-692.4	-517.3	-934.6
	[redacted]	-1182.3	-1174.6	-1195.6
	[redacted]	-467.5	-398.3	-530.1
	[redacted]	-457.1	-433.6	-293.0
	[redacted]	-520.2	-432.6	-622.3
	[redacted]	-1038.5	-786.6	-1240.3
	[redacted]	-504.2	-439.3	-596.6
	[redacted]	-452.6	-445.1	-454.7
	[redacted]	-424.7	-445.4	-426.5
	[redacted]	-372.4	-354.3	-389.9
	[redacted]	-435.1	-399.3	-451.6
	[redacted]	-729.0	-715.1	-732.7
	[redacted]	-492.0	-479.8	-495.6
	[redacted]	-325.6	-320.0	-323.8
	[redacted]	-316.0	-318.4	-341.0
	[redacted]	-398.4	-362.6	-417.6
	[redacted]	-521.7	-444.0	-562.6
	[redacted]	-540.4	-453.6	-695.1
	[redacted]	-855.0	-834.4	-858.8
	[redacted]	-855.0	-834.4	-858.8
	[redacted]	-345.5	-293.9	-364.2
	[redacted]	-394.9	-383.4	-396.5
	[redacted]	-410.4	-362.3	-426.2

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE[redacted]	S3_26HS_WOHK_PST[redacted]	S3_26HS_WOHK_MIT[redacted]
[redacted] : [redacted] 161kV Bus Fault	[redacted]	-465.4	-428.1	-535.1
	[redacted]	-689.1	-511.8	-908.1
	[redacted]	-1211.6	-1186.2	-1213.1
	[redacted]	-461.5	-392.0	-518.2
	[redacted]	-450.7	-422.9	-287.3
	[redacted]	-512.6	-424.7	-607.1
	[redacted]	-1024.0	-766.5	-1218.4
	[redacted]	-496.6	-430.0	-581.8
	[redacted]	-460.0	-450.0	-461.1
	[redacted]	-432.2	-421.9	-432.8
	[redacted]	-401.0	-375.4	-410.1
	[redacted]	-457.2	-417.4	-471.8
	[redacted]	-732.5	-715.2	-734.7
	[redacted]	-505.5	-496.5	-507.4
	[redacted]	-329.8	-327.2	-331.5
	[redacted]	-340.2	-321.3	-325.3
	[redacted]	-421.6	-380.6	-381.1
	[redacted]	-543.9	-456.2	-584.6
	[redacted]	-581.6	-492.2	-708.1
	[redacted]	-864.7	-840.1	-866.2
	[redacted]	-864.7	-840.1	-866.2
	[redacted]	-341.2	-289.1	-356.9
	[redacted]	-405.4	-391.6	-405.7
	[redacted]	-418.6	-370.1	-431.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE[redacted]	S3_26HS_WOHK_PST[redacted]	S3_26HS_WOHK_MIT[redacted]
[redacted] : [redacted]92kV Single Bus Fault	[redacted]	-465.4	-428.1	-535.1
	[redacted]	-689.1	-511.8	-908.1
	[redacted]	-1211.6	-1186.2	-1213.1
	[redacted]	-461.5	-392.0	-518.2
	[redacted]	-450.7	-422.9	-287.3
	[redacted]	-512.6	-424.7	-607.1
	[redacted]	-1024.0	-766.5	-1218.4
	[redacted]	-496.6	-430.0	-581.8
	[redacted]	-460.0	-450.0	-461.1
	[redacted]	-432.2	-421.9	-432.8
	[redacted]	-401.0	-375.4	-410.1
	[redacted]	-457.2	-417.4	-471.8
	[redacted]	-732.5	-715.2	-734.7
	[redacted]	-505.5	-496.5	-507.4
	[redacted]	-329.8	-327.2	-331.5
	[redacted]	-340.2	-321.3	-325.3
	[redacted]	-421.6	-380.6	-381.1
	[redacted]	-543.9	-456.2	-584.6
	[redacted]	-581.6	-492.2	-708.1
	[redacted]	-864.7	-840.1	-866.2
	[redacted]	-864.7	-840.1	-866.2
	[redacted]	-341.2	-289.1	-356.9
	[redacted]	-405.4	-391.6	-405.7
	[redacted]	-418.6	-370.1	-431.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 92kV Single Bus Fault	[redacted]	-465.4	-428.1	-535.1
		-689.1	-511.8	-908.1
		-1211.6	-1186.2	-1213.1
		-461.5	-392.0	-518.2
		-450.7	-422.9	-287.3
		-512.6	-424.7	-607.1
		-1024.0	-766.5	-1218.4
		-496.6	-430.0	-581.8
		-460.0	-450.0	-461.1
		-432.2	-421.9	-432.8
		-401.0	-375.4	-410.1
		-457.2	-417.4	-471.8
		-732.5	-715.2	-734.7
		-505.5	-496.5	-507.4
		-329.8	-327.2	-331.5
		-340.2	-321.3	-325.3
		-421.6	-380.6	-381.1
		-543.9	-456.2	-584.6
		-581.6	-492.2	-708.1
		-864.7	-840.1	-866.2
		-864.7	-840.1	-866.2
		-341.2	-289.1	-356.9
		-405.4	-391.6	-405.7
		-418.6	-370.1	-431.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 230kV Bus Fault	[redacted]	-465.4	-428.1	-535.1
		-689.1	-511.8	-908.1
		-1211.6	-1186.2	-1213.1
		-461.5	-392.0	-518.2
		-450.7	-422.9	-287.3
		-512.6	-424.7	-607.1
		-1024.0	-766.5	-1218.4
		-496.6	-430.0	-581.8
		-460.0	-450.0	-461.1
		-432.2	-421.9	-432.8
		-401.0	-375.4	-410.1
		-457.2	-417.4	-471.8
		-732.5	-715.2	-734.7
		-505.5	-496.5	-507.4
		-329.8	-327.2	-331.5
		-340.2	-321.3	-325.3
		-421.6	-380.6	-381.1
		-543.9	-456.2	-584.6
		-581.6	-492.2	-708.1
		-864.7	-840.1	-866.2
		-864.7	-840.1	-866.2
		-341.2	-289.1	-356.9
		-405.4	-391.6	-405.7
		-418.6	-370.1	-431.7

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted]	[redacted]	-489.5	-555.5	-576.4
		-771.7	-811.6	-1062.3
		-1217.7	-1224.2	-1228.1
		-450.2	-515.6	-500.8
		-466.0	-535.0	-310.2
		-553.6	-614.8	-692.2
		-1391.3	-1483.1	-1592.1
		-532.9	-594.9	-657.4
		-453.6	-454.2	-454.8
		-425.1	-425.7	-454.3
		-400.0	-408.8	-414.4
		-454.0	-465.1	-474.6
		-738.6	-737.6	-740.0
		-496.8	-497.7	-499.2
		-341.4	-342.2	-342.5
		-324.0	-350.2	-350.6
		-434.2	-445.2	-458.0
		-550.8	-571.3	-604.9
		-633.1	-609.7	-656.7
		-818.6	-877.1	-817.5
		-818.6	-877.1	-817.5
		-319.5	-349.1	-334.9
		-399.8	-397.6	-400.2
		-439.1	-444.5	-457.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE [redacted]	S3_26HS_WOHK_PST [redacted]	S3_26HS_WOHK_MIT [redacted]
[redacted] : [redacted] 230 kV Lines	[redacted]	-272.2	-477.6	-539.7
		-278.7	-439.8	-873.8
		-1212.3	-1241.1	-1220.5
		-286.1	-434.2	-483.6
		-267.5	-468.3	-309.6
		-284.2	-479.2	-624.2
		-266.9	-410.9	-1038.8
		-280.4	-481.6	-595.7
		-420.7	-464.4	-455.9
		-425.4	-440.8	-427.6
		-251.2	-369.4	-404.8
		-270.9	-405.0	-460.9
		-687.6	-747.9	-741.6
		-431.2	-509.9	-500.2
		-344.6	-346.0	-343.9
		-327.4	-339.1	-351.8
		-241.1	-365.7	-437.8
		-266.2	-409.7	-564.1
		-278.4	-432.9	-623.5
		-846.9	-841.0	-883.9
		-846.9	-841.0	-883.9
		-239.3	-338.4	-332.9
		-382.5	-412.6	-402.3
		-233.3	-329.6	-433.5

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE[redacted]	S3_26HS_WOHK_PST[redacted]	S3_26HS_WOHK_MIT[redacted]
[redacted]	[redacted]	-0.2	-196.5	-504.1
	[redacted]	-0.2	-146.4	-792.1
	[redacted]	-1211.5	-1042.6	-1216.9
	[redacted]	-0.2	-177.0	-456.4
	[redacted]	-0.2	-204.0	-300.9
	[redacted]	-0.2	-174.6	-579.5
	[redacted]	-1100.7	-1061.1	-1492.0
	[redacted]	-0.2	-180.6	-554.3
	[redacted]	-457.4	-354.6	-455.6
	[redacted]	-431.2	-368.7	-426.6
	[redacted]	-360.6	-162.9	-409.9
	[redacted]	-383.0	-163.0	-466.5
	[redacted]	-734.7	-571.4	-739.8
	[redacted]	-502.0	-348.7	-500.5
	[redacted]	-335.3	-313.6	-341.4
	[redacted]	-344.4	-325.9	-349.7
	[redacted]	-358.0	-146.3	-434.2
	[redacted]	-370.0	-139.0	-570.8
	[redacted]	-364.9	-135.8	-610.0
	[redacted]	-878.2	-693.1	-881.2
	[redacted]	-878.2	-693.1	-881.2
	[redacted]	-0.2	-151.4	-315.8
	[redacted]	-408.4	-309.2	-401.8
	[redacted]	-423.1	-208.1	-454.3

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3_26HS_WOHK_PRE[redacted]	S3_26HS_WOHK_PST[redacted]	S3_26HS_WOHK_MIT[redacted]
[redacted]	[redacted]	-532.2	-606.4	-534.3
	[redacted]	-833.5	-865.8	-861.1
	[redacted]	-1243.3	-1217.4	-1219.2
	[redacted]	-497.7	-552.4	-488.6
	[redacted]	-506.4	-586.7	-314.1
	[redacted]	-605.6	-669.1	-618.6
	[redacted]	-1436.4	-1444.8	-1562.6
	[redacted]	-581.6	-647.5	-592.2
	[redacted]	-460.3	-458.6	-458.9
	[redacted]	-431.8	-430.1	-429.8
	[redacted]	-419.5	-420.1	-420.4
	[redacted]	-476.5	-477.6	-479.1
	[redacted]	-747.5	-742.8	-743.6
	[redacted]	-506.9	-504.1	-505.5
	[redacted]	-342.9	-343.1	-342.0
	[redacted]	-332.8	-351.0	-335.2
	[redacted]	-424.0	-459.9	-461.7
	[redacted]	-592.2	-590.7	-556.8
	[redacted]	-641.4	-693.7	-641.3
	[redacted]	-890.0	-882.3	-884.9
	[redacted]	-890.0	-882.3	-884.9
	[redacted]	-352.4	-363.4	-335.4
	[redacted]	-406.5	-401.9	-405.1
	[redacted]	-467.5	-464.4	-467.0

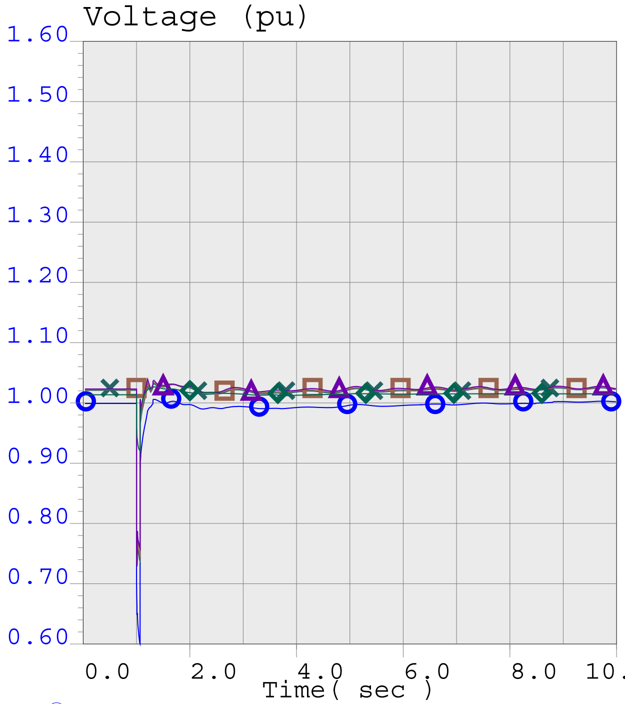
Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	S3 26HS WOHK PRE[redacted]	S3 26HS WOHK PST[redacted]	S3 26HS WOHK MIT[redacted]
[redacted]	[redacted]	0.0	0.0	0.0
	[redacted]	-940.7	-997.0	-1190.2
	[redacted]	-1238.4	-1244.6	-1242.2
	[redacted]	0.0	0.0	0.0
	[redacted]	0.0	0.0	-325.2
	[redacted]	0.0	0.0	0.0
	[redacted]	-1262.7	-1353.7	-1541.3
	[redacted]	0.0	0.0	0.0
	[redacted]	-453.8	-457.7	-459.7
	[redacted]	-431.2	-435.6	-435.5
	[redacted]	-369.8	-380.2	-394.9
	[redacted]	-421.7	-433.2	-454.2
	[redacted]	-744.4	-751.0	-750.1
	[redacted]	-497.1	-500.1	-507.8
	[redacted]	-343.0	-346.8	-343.5
	[redacted]	-325.4	-354.3	-351.7
	[redacted]	-395.8	-404.7	-431.1
	[redacted]	-524.6	-544.9	-536.6
	[redacted]	-623.0	-601.9	-633.4
	[redacted]	-881.4	-886.7	-886.4
	[redacted]	-881.4	-886.7	-886.4
	[redacted]	0.0	0.0	0.0
	[redacted]	-378.1	-378.5	-392.1
	[redacted]	-417.7	-437.1	-444.9

Outage Facility	Reactive Power Margin (MVAR)			
	Monitored Bus	Tabs List	Tabs List	S3_26HS_WOHK_MI[redacted]
[redacted]	[redacted]	0.0	0.0	-565.2
	[redacted]	0.0	0.0	-961.0
	[redacted]	6.0	6.0	-1199.3
	[redacted]	0.0	0.0	-544.5
	[redacted]	0.0	0.0	0.0
	[redacted]	2.0	2.0	-641.7
	[redacted]	0.0	0.0	-1319.7
	[redacted]	0.0	0.0	-615.3
	[redacted]	0.0	0.0	-457.5
	[redacted]	0.0	0.0	-429.9
	[redacted]	0.0	0.0	-336.6
	[redacted]	0.0	0.0	-423.8
	[redacted]	0.0	0.0	-679.8
	[redacted]	0.0	0.0	-510.5
	[redacted]	0.0	0.0	-329.0
	[redacted]	0.0	0.0	-323.0
	[redacted]	0.0	0.0	-397.0
	[redacted]	0.0	0.0	-493.9
	[redacted]	0.0	0.0	-581.1
	[redacted]	0.0	0.0	-858.2
	[redacted]	0.0	0.0	-858.2
	[redacted]	0.0	0.0	-376.1
	[redacted]	0.0	0.0	-398.0
	[redacted]	0.0	0.0	-426.0

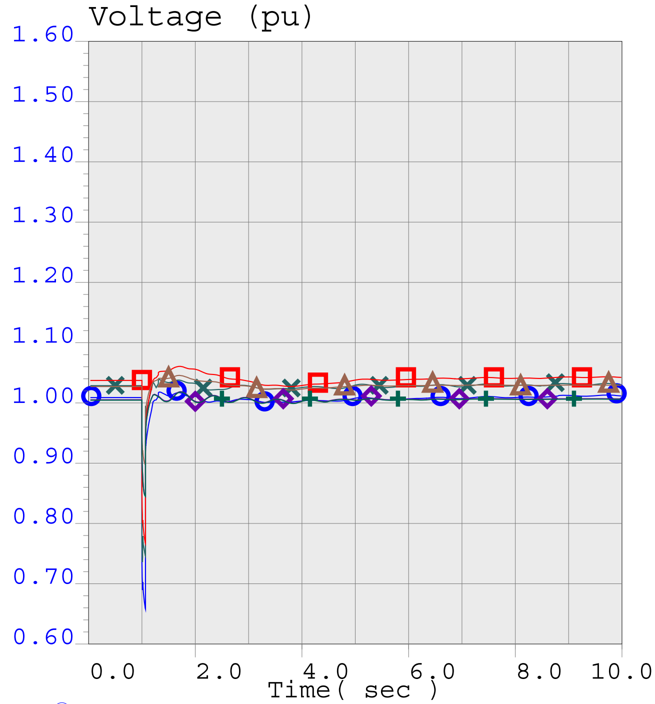
Attachment DR 246 DRR 83 – Appendix E 2026-2027 Light Winter Sensitivity Transient Stability Results

APPENDIX D: 2026-2027 LIGHT WINTER SENSITIVITY TRANSIENT STABILITY RESULTS

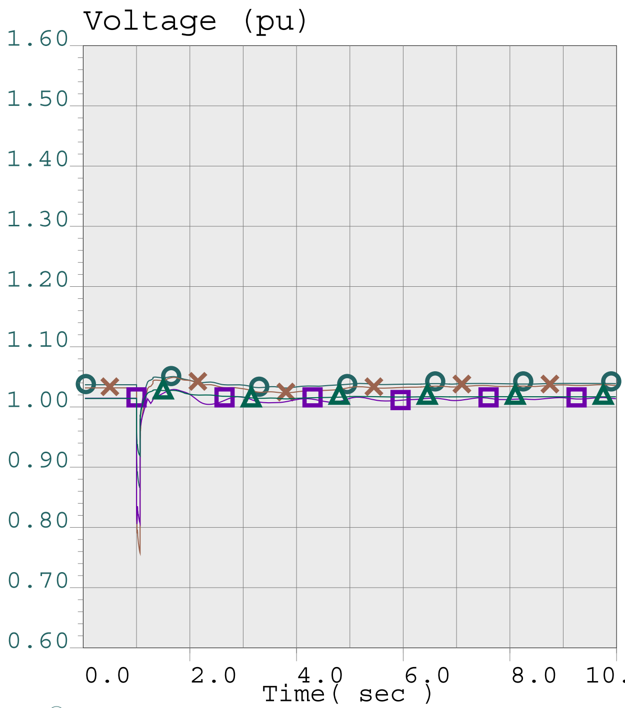
SYSTEM IMPACT STUDY (Voltage)



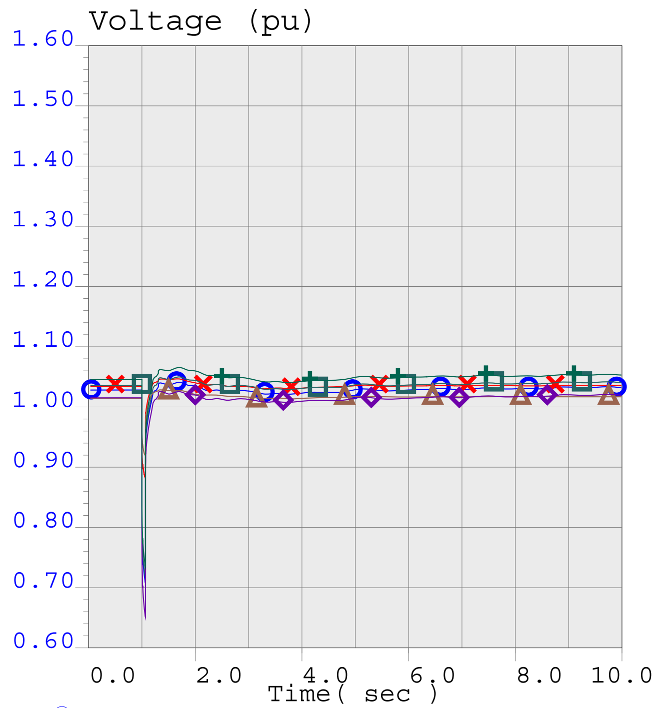
[redacted]



[redacted]

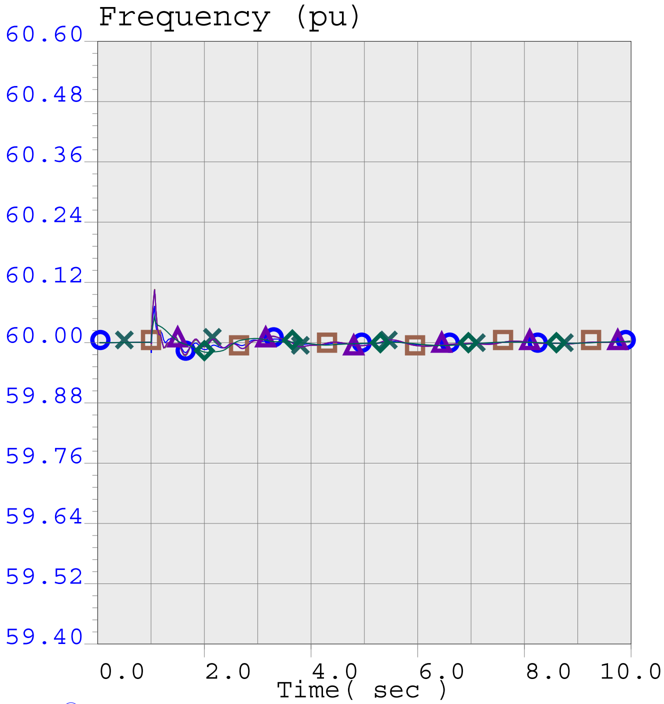


[redacted]



[redacted]

SYSTEM IMPACT STUDY (Frequency)



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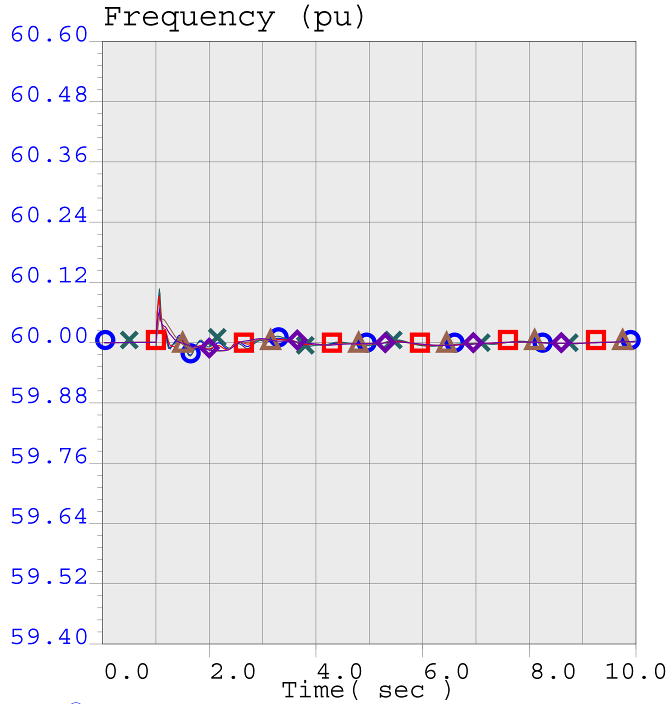
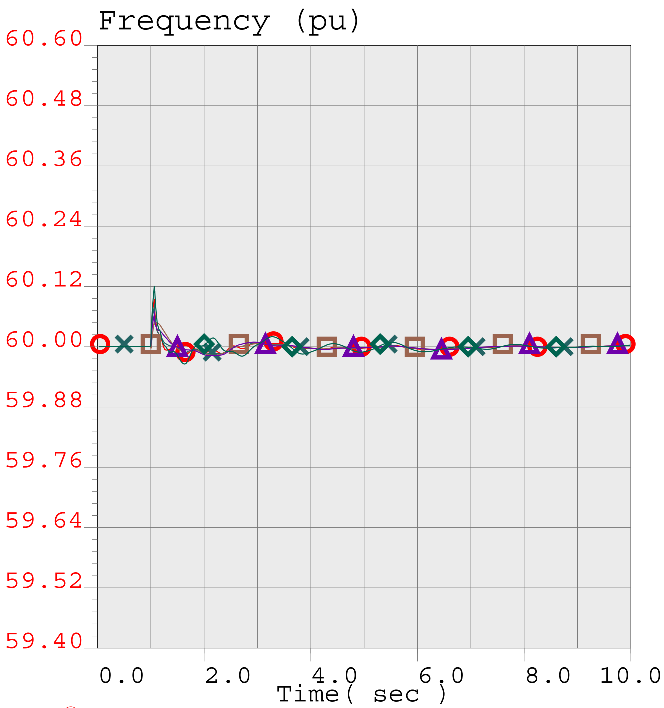
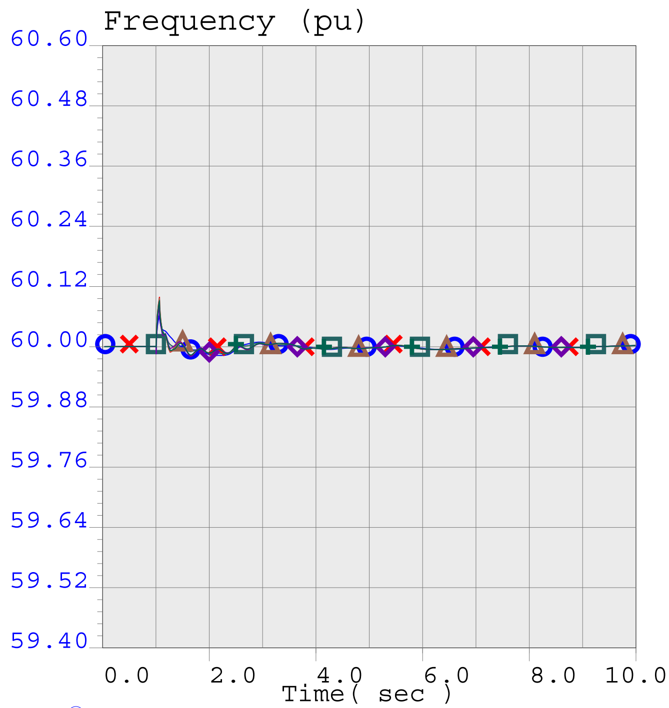


[redacted]



[redacted]



[redacted]

dy_s4hkpre_[redacted]

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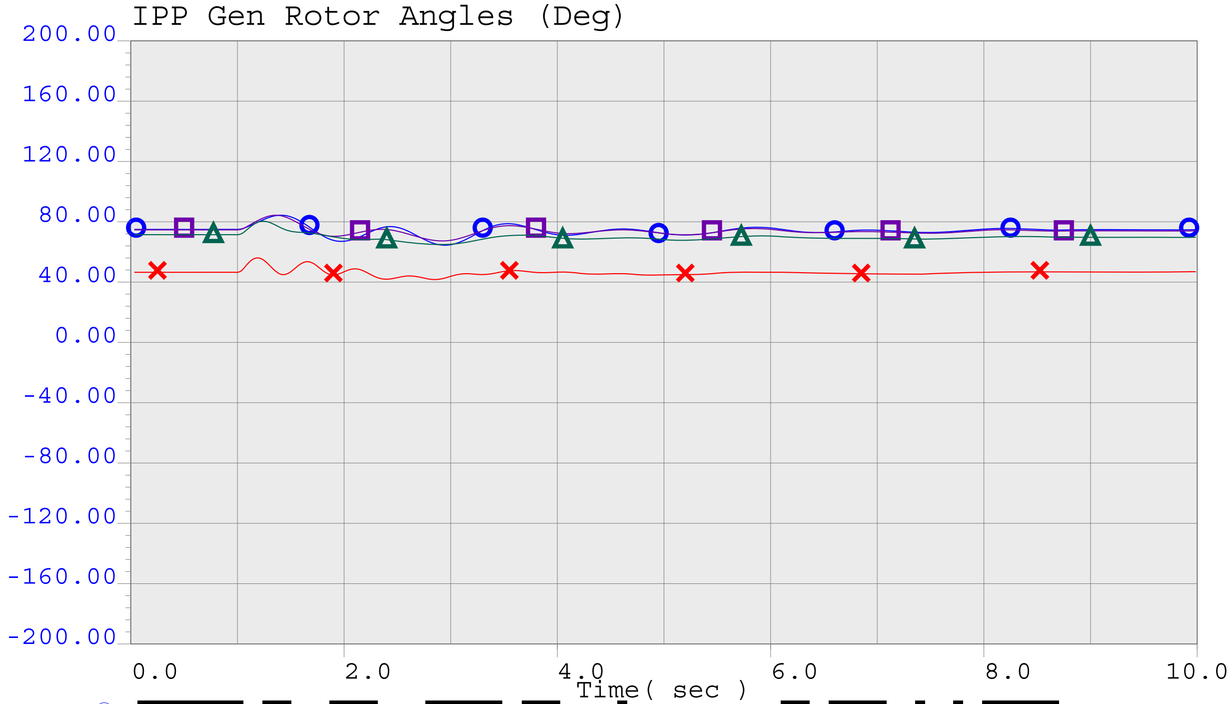
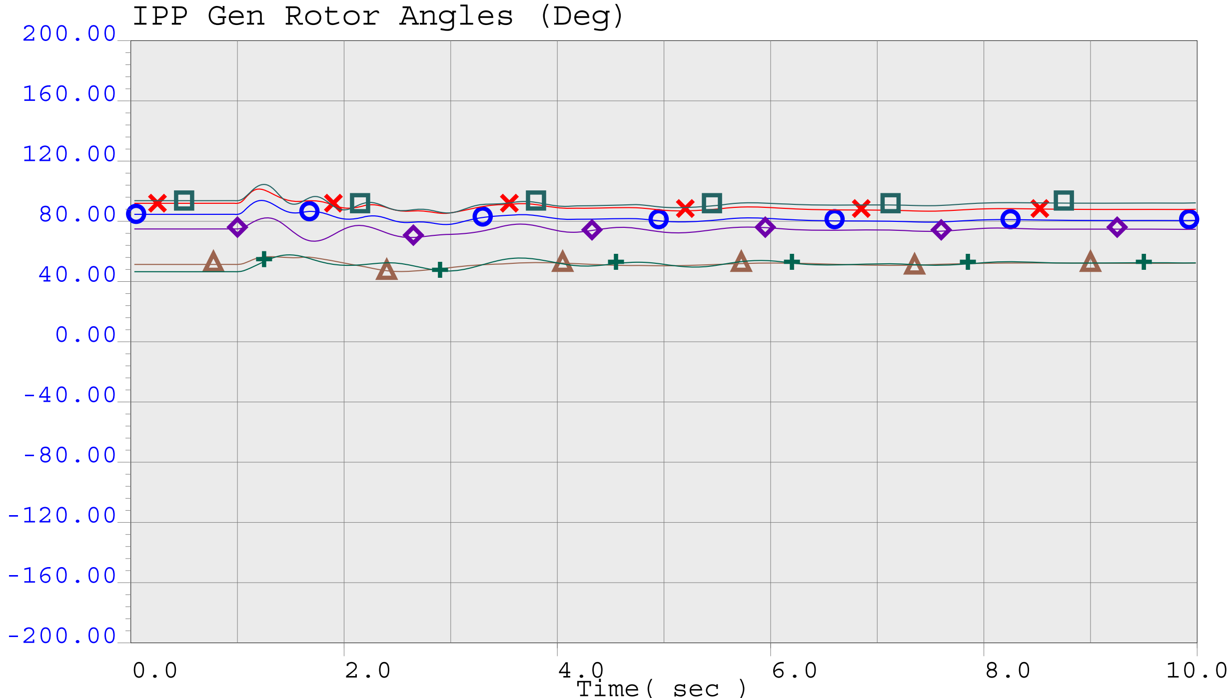
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



[redacted]

IPP Gen Rotor Angles (Deg)



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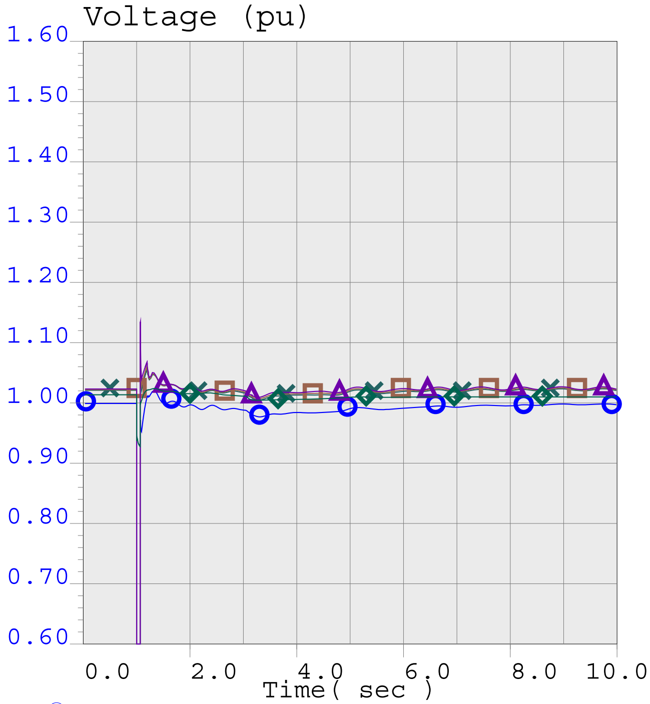
SYSTEM IMPACT STUDY (Voltage)



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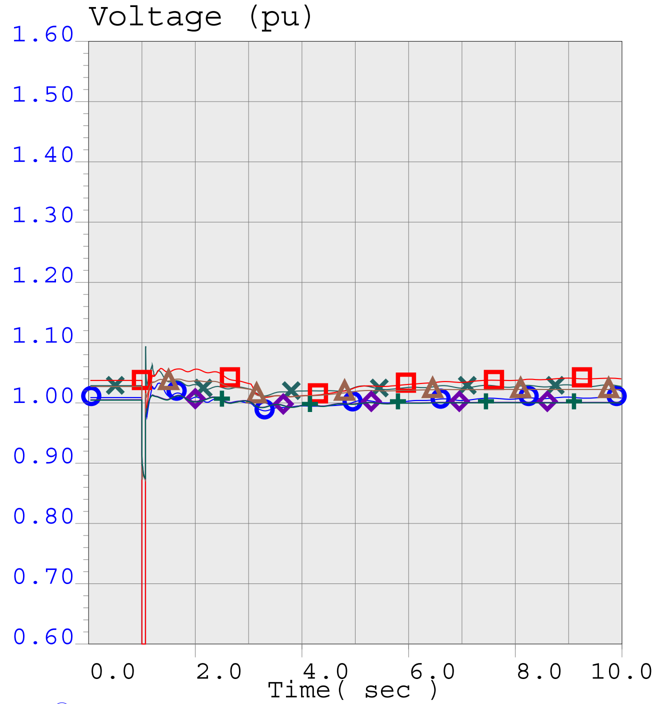

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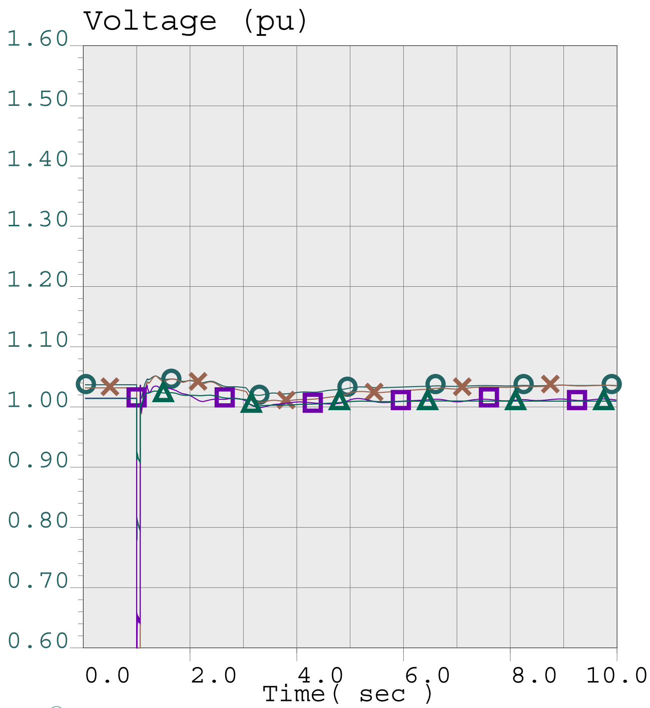

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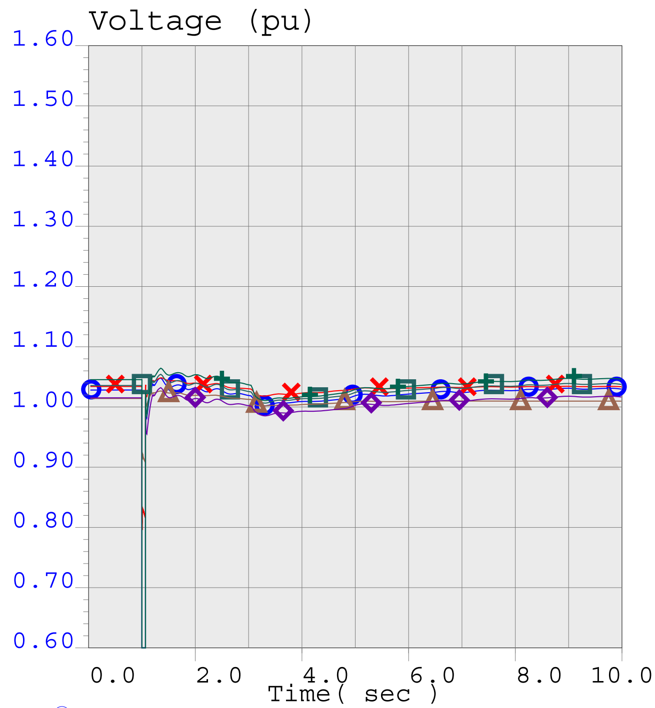

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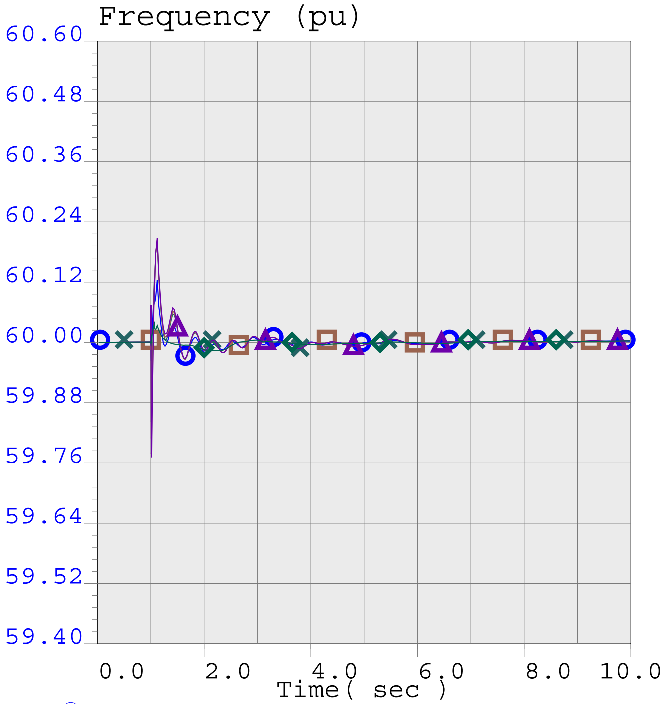
Fri Aug 26 08:39:25 2022

SYSTEM IMPACT STUDY (Frequency)



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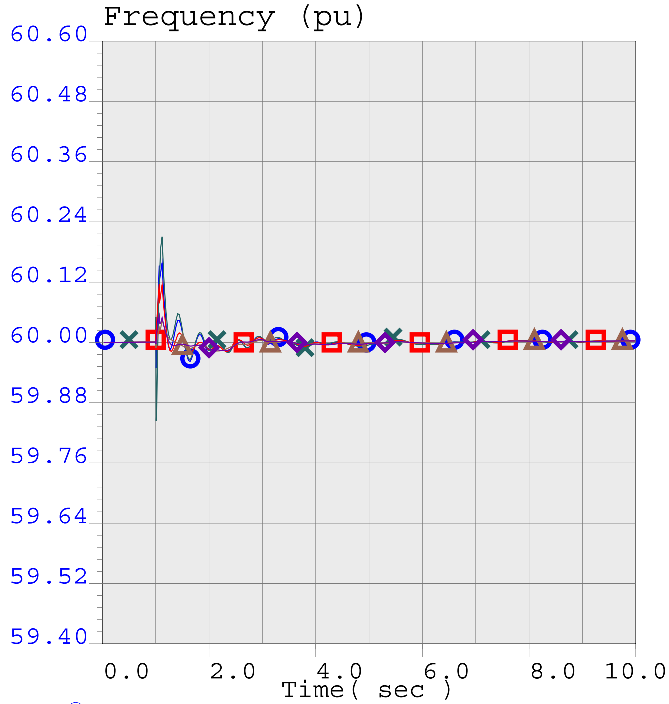

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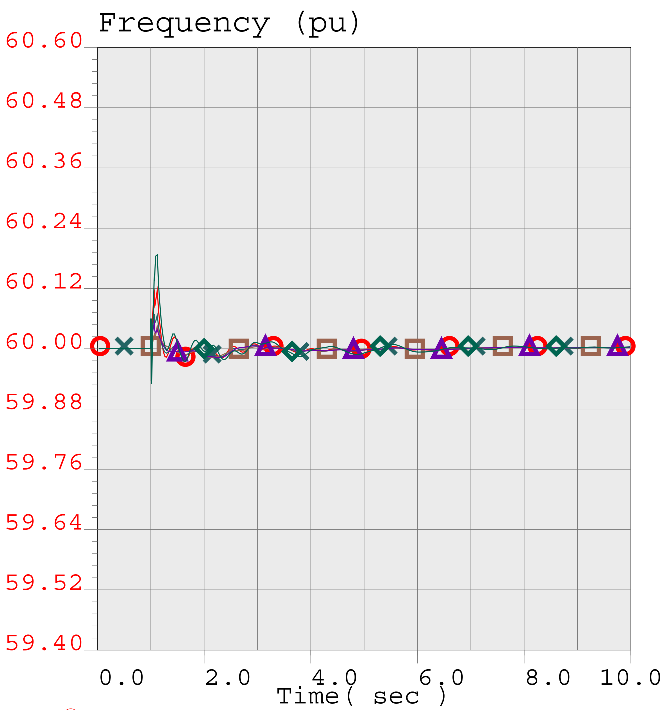

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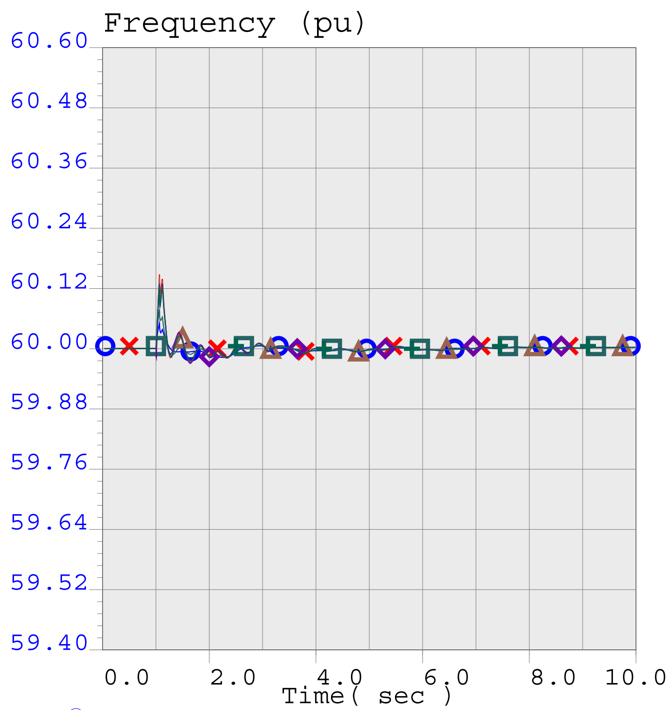

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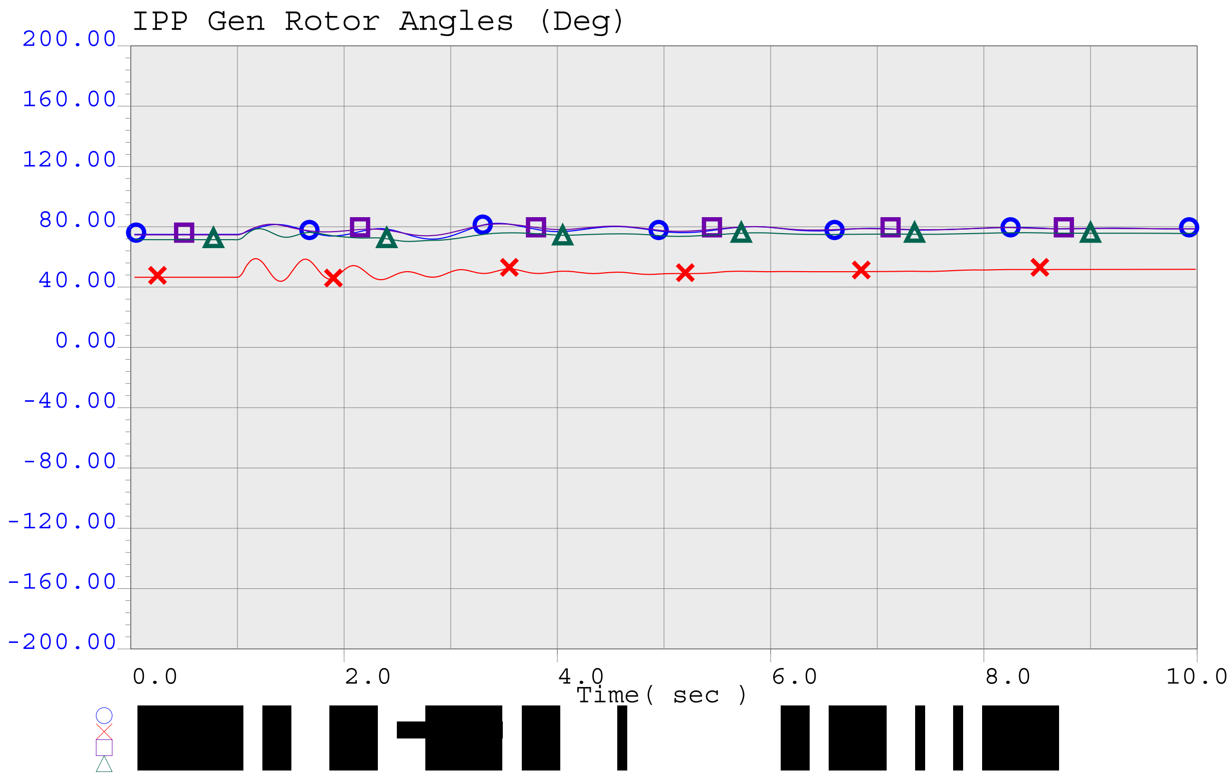
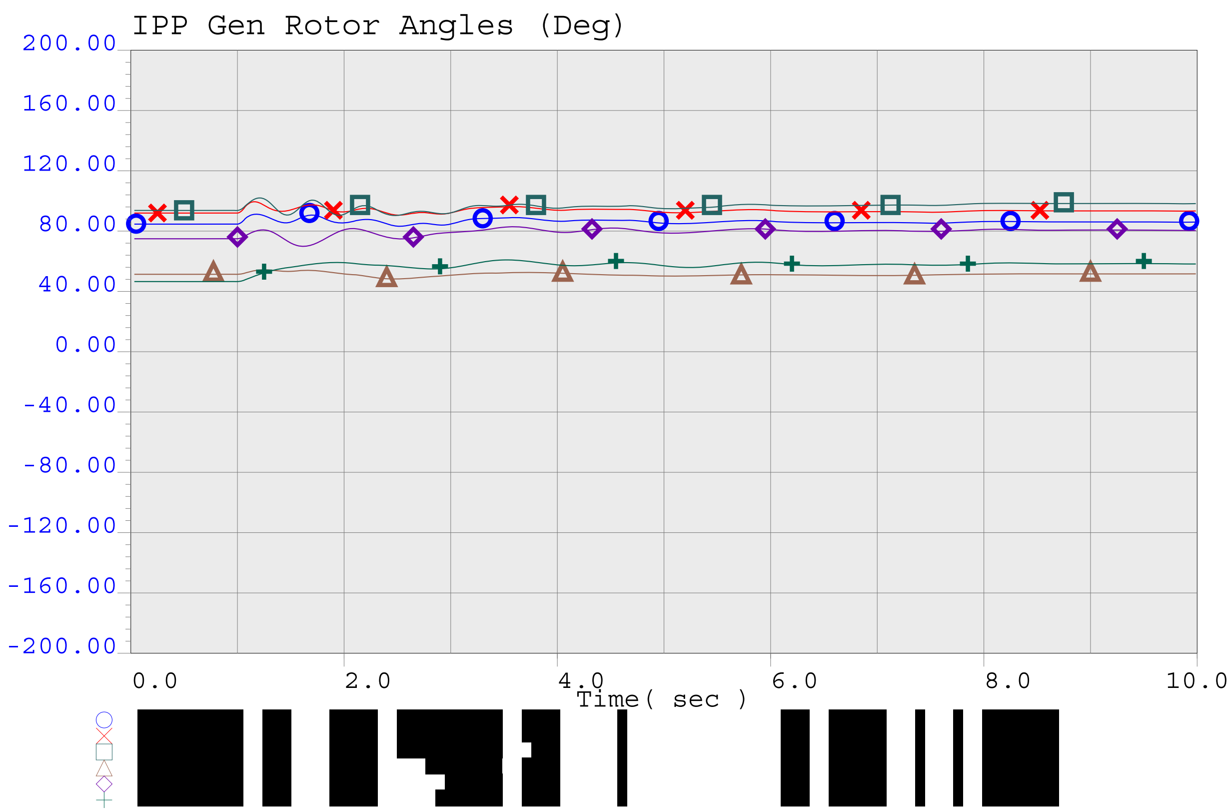
SYSTEM IMPACT STUDY (Rotor Angles)





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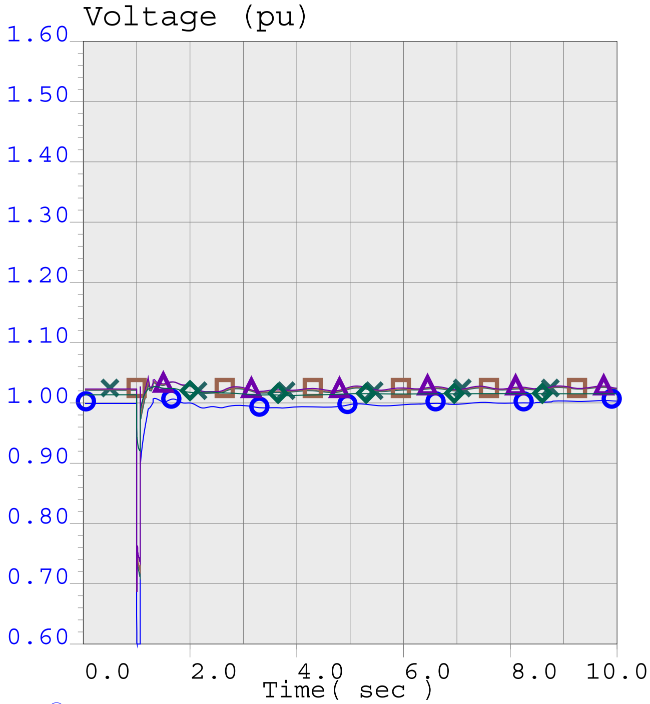

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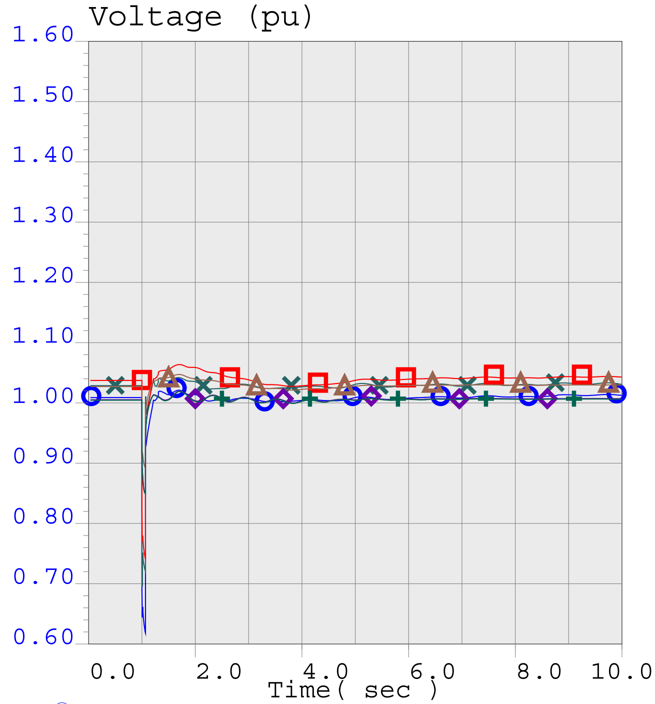

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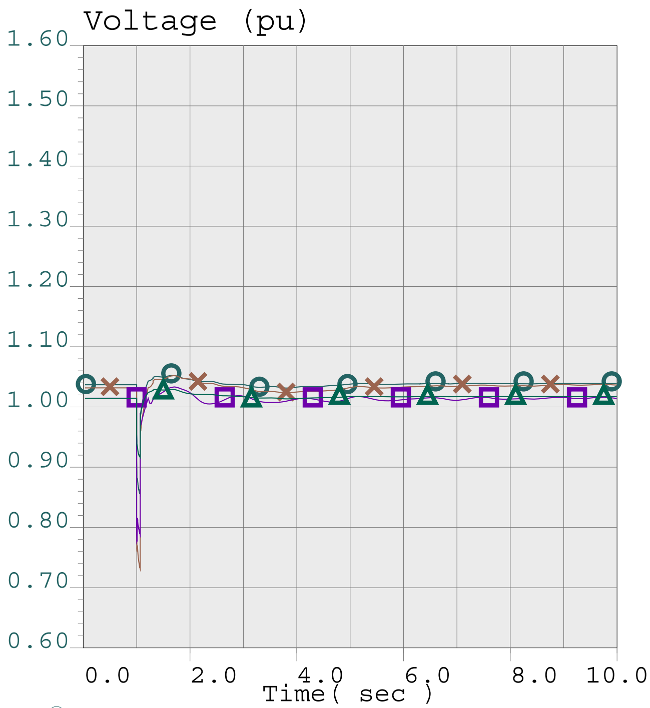

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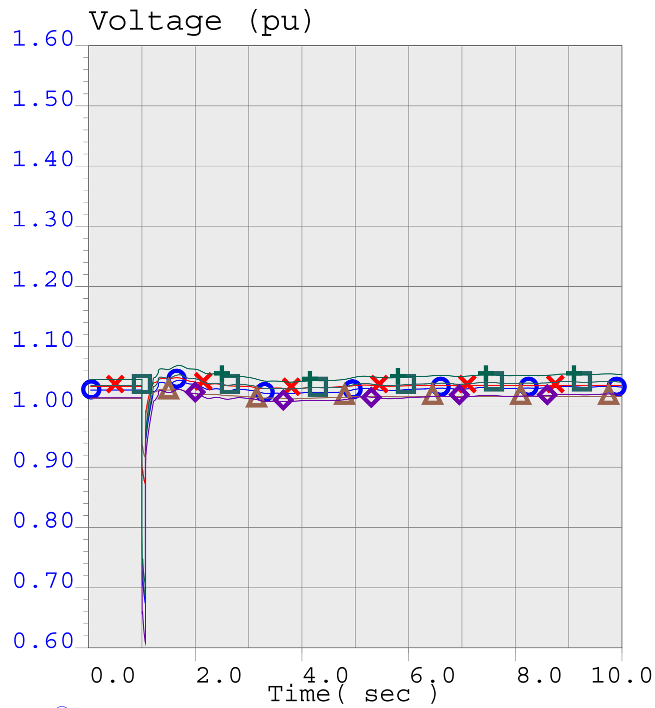

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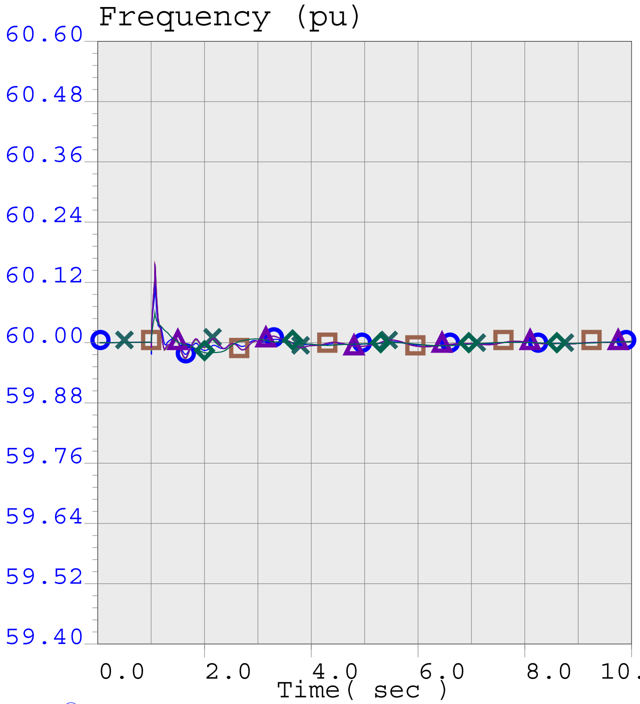

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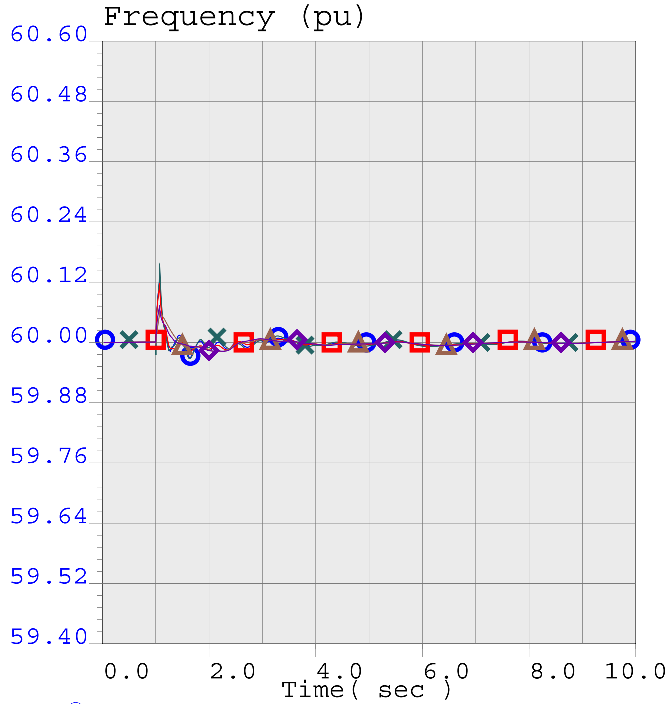

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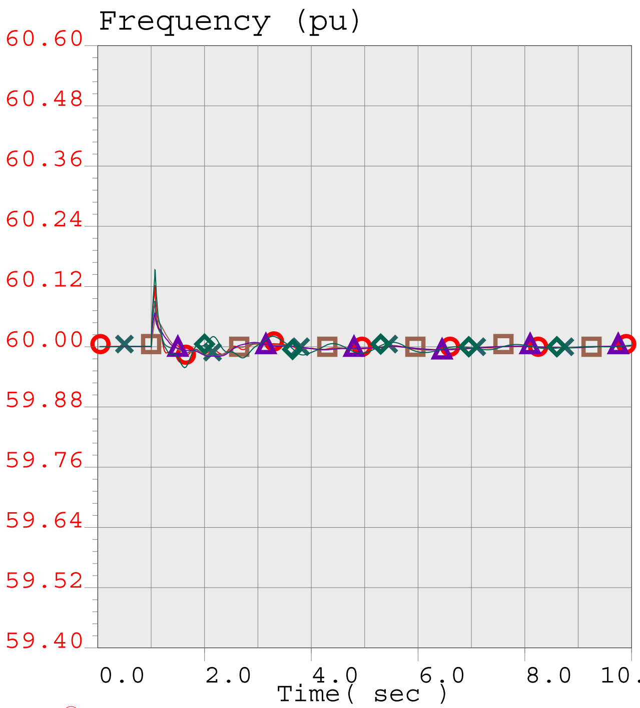

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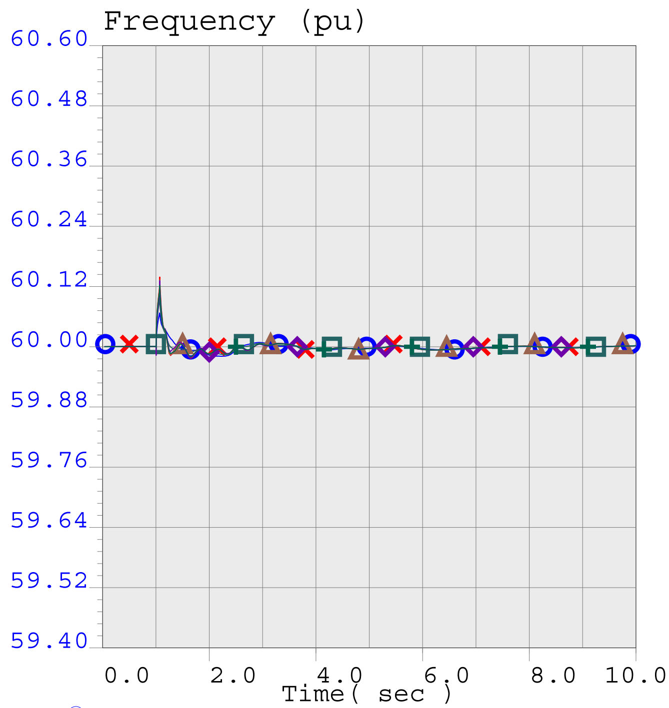

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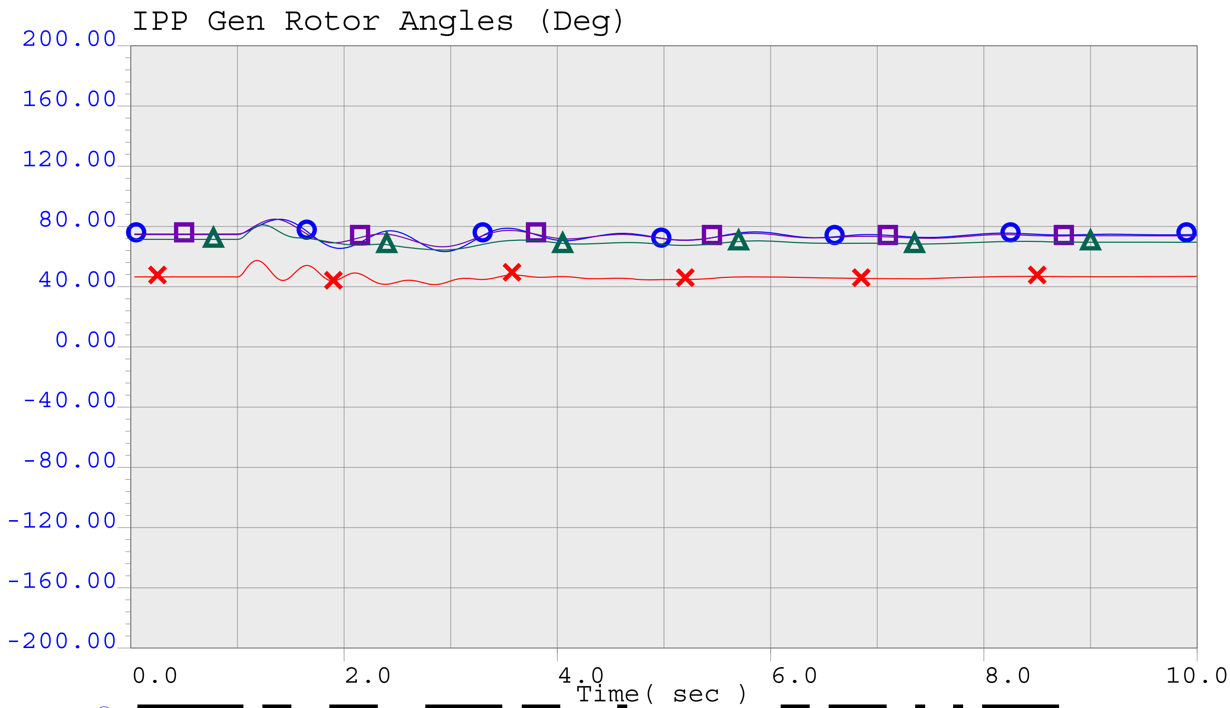

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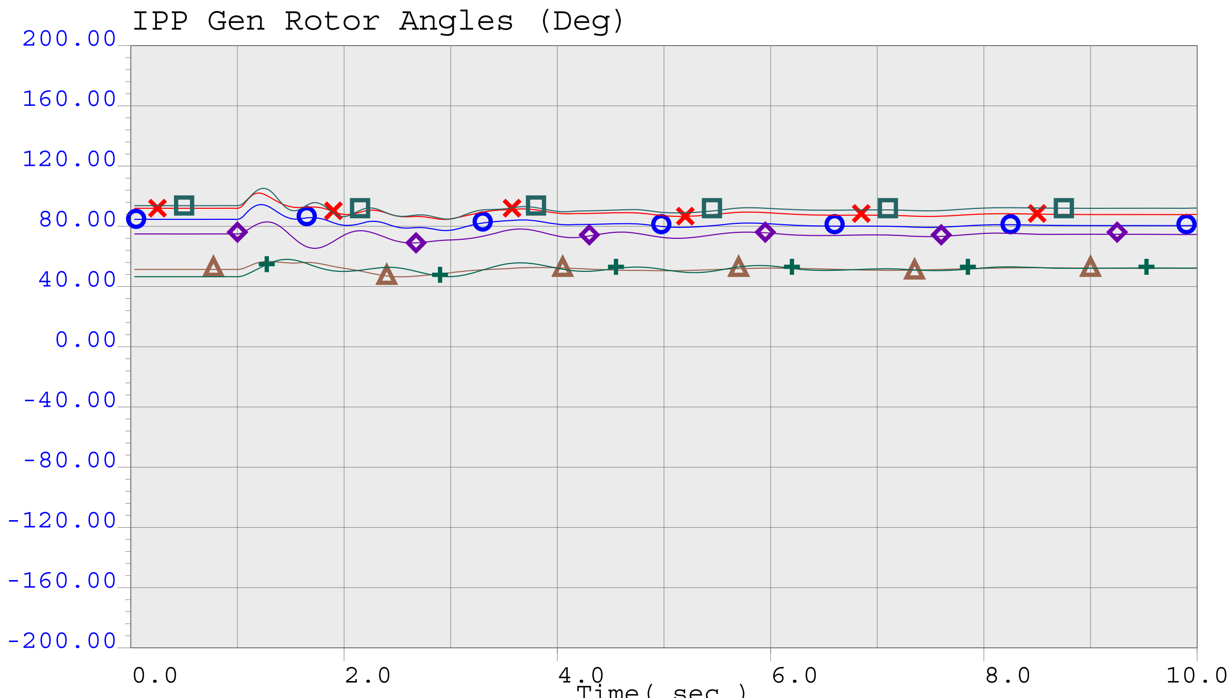

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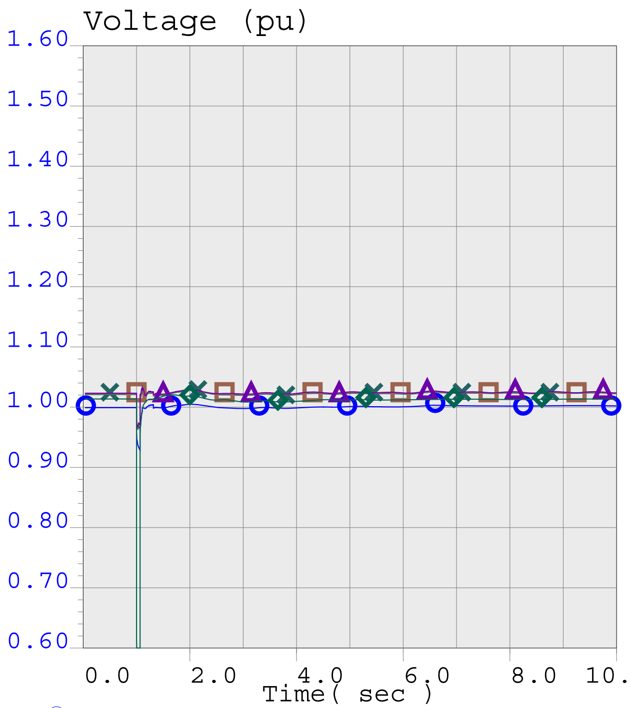

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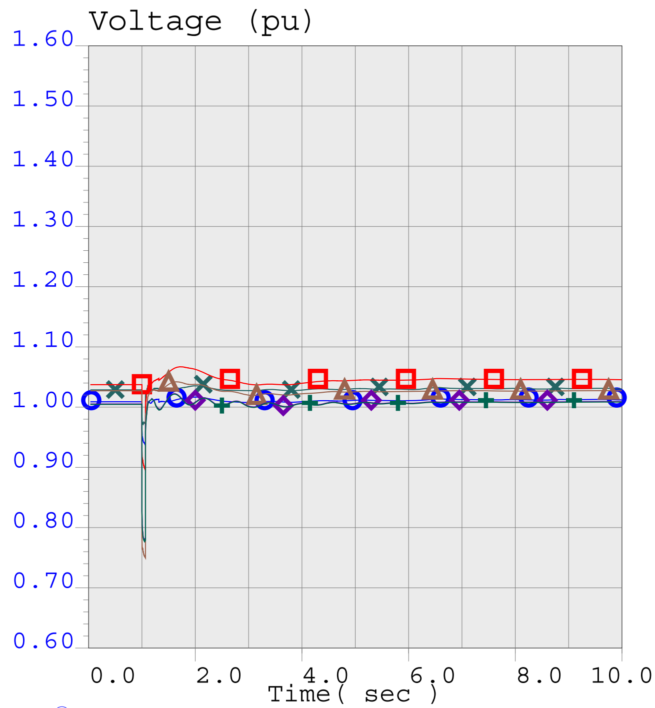

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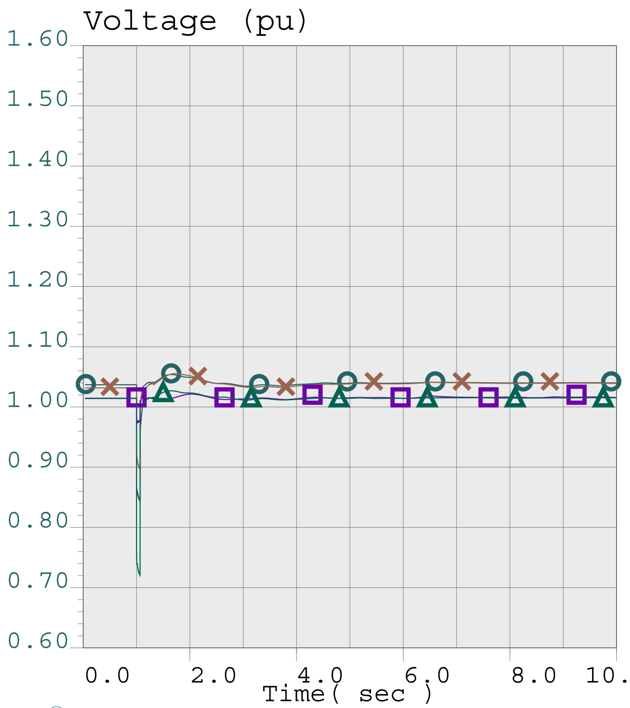

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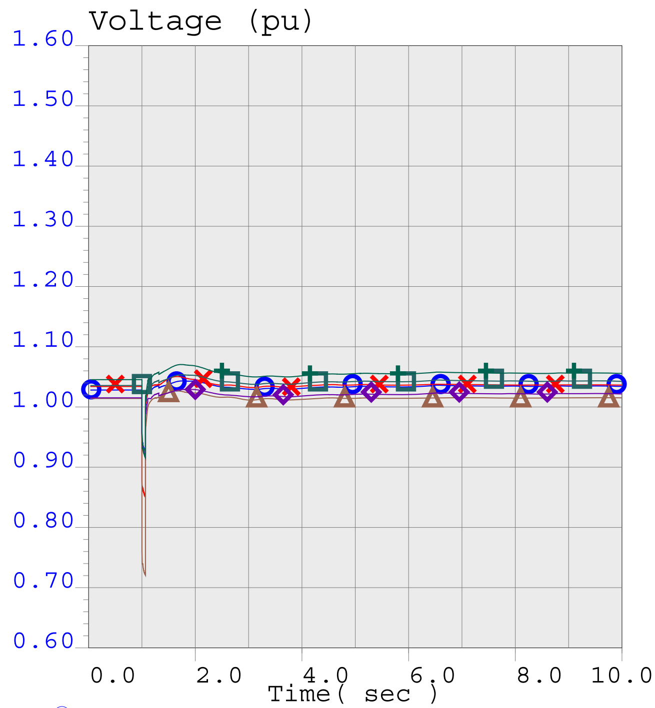

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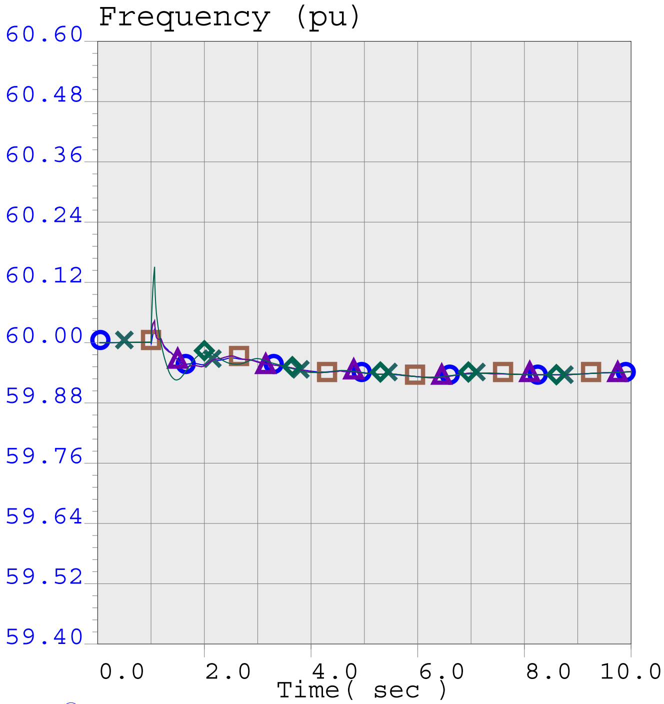

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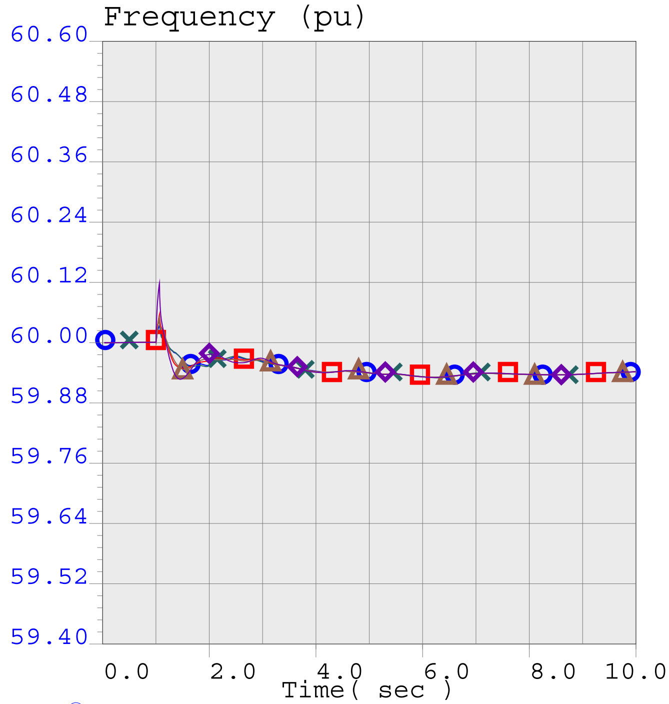

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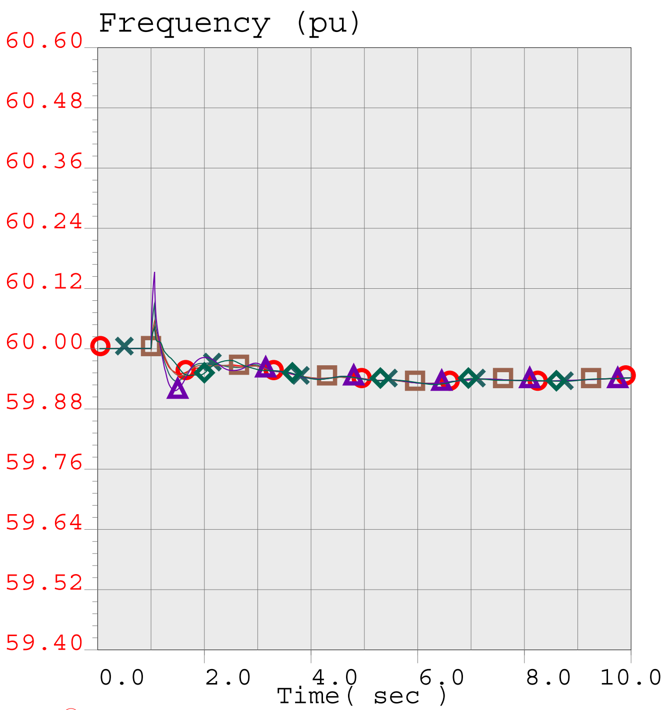

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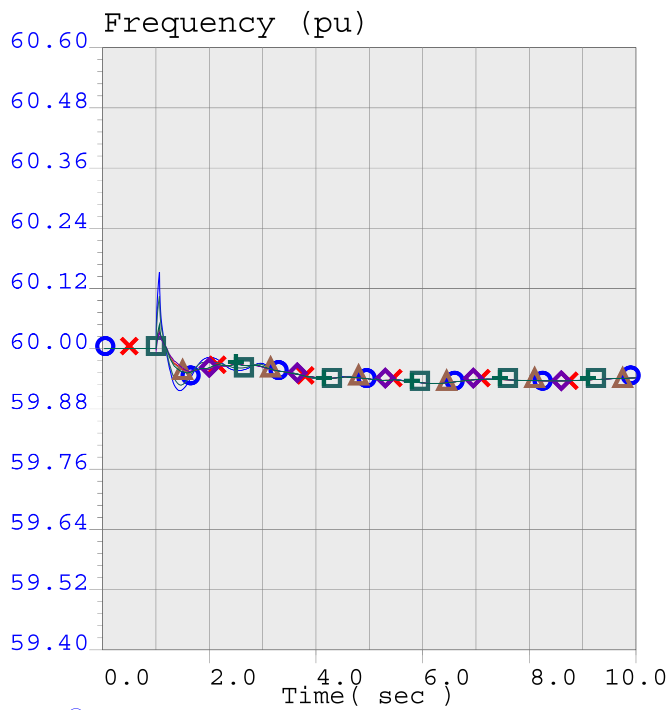

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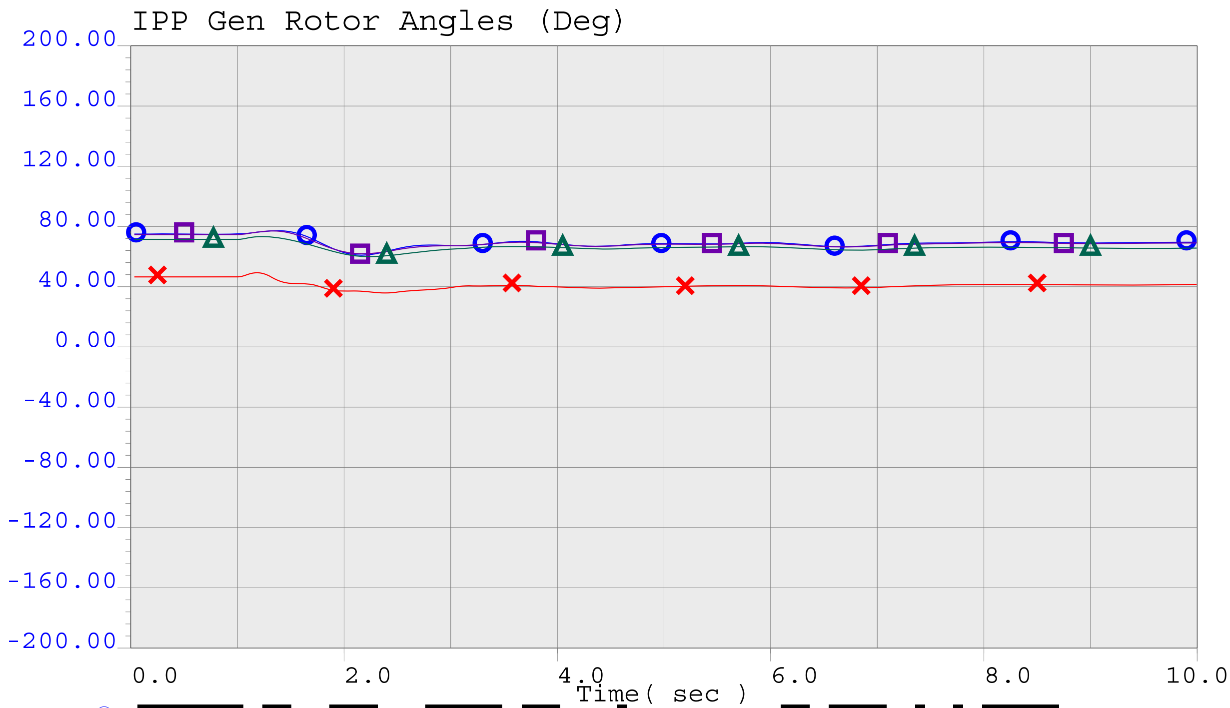
SYSTEM IMPACT STUDY (Rotor Angles)



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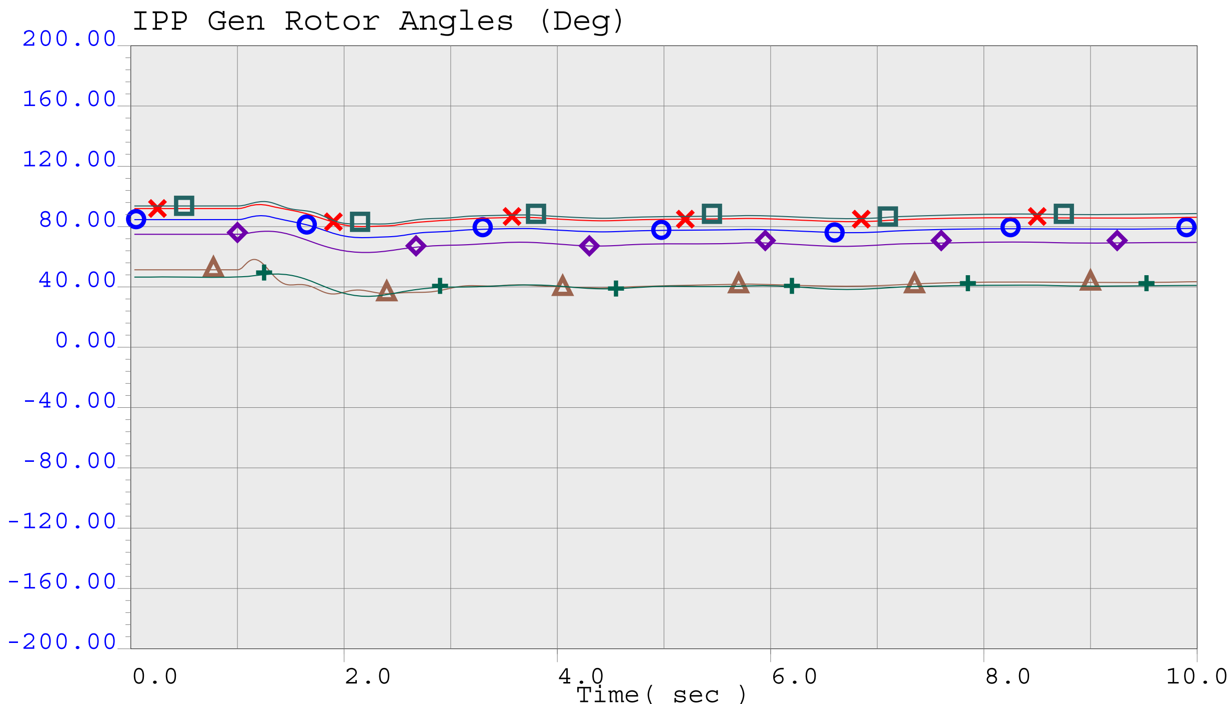

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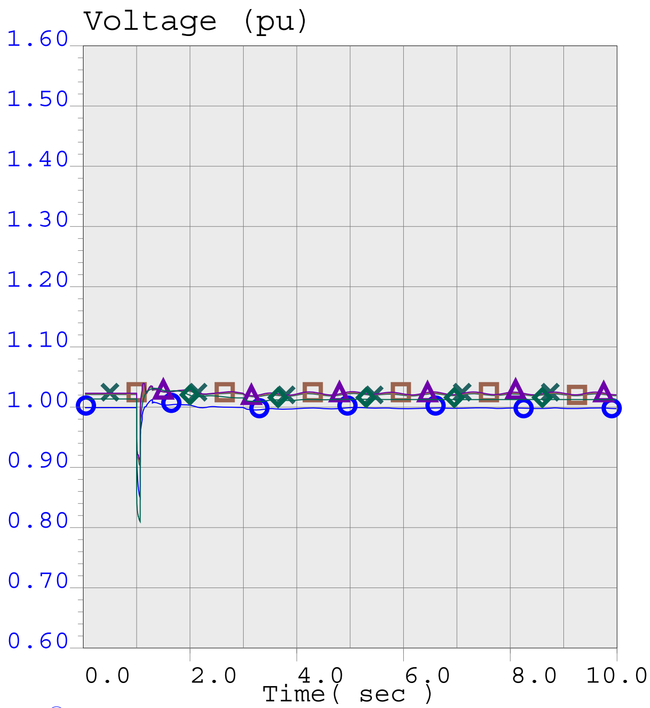

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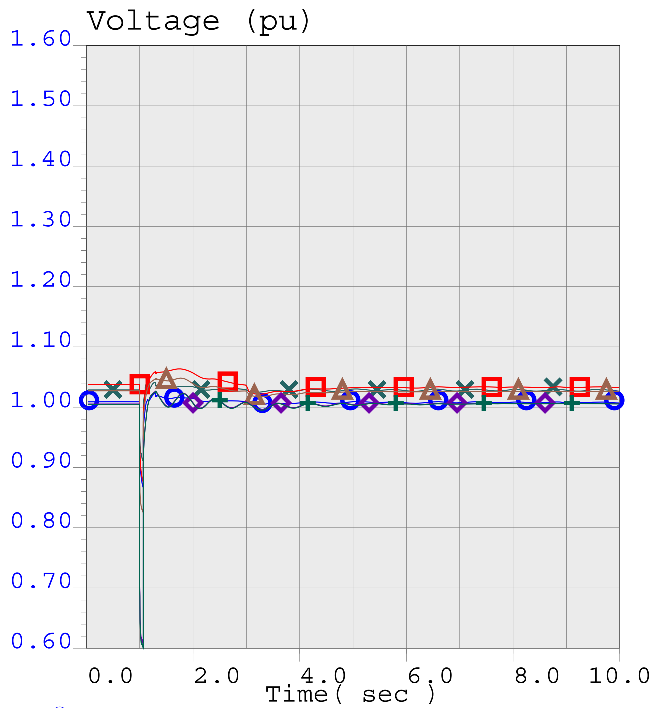

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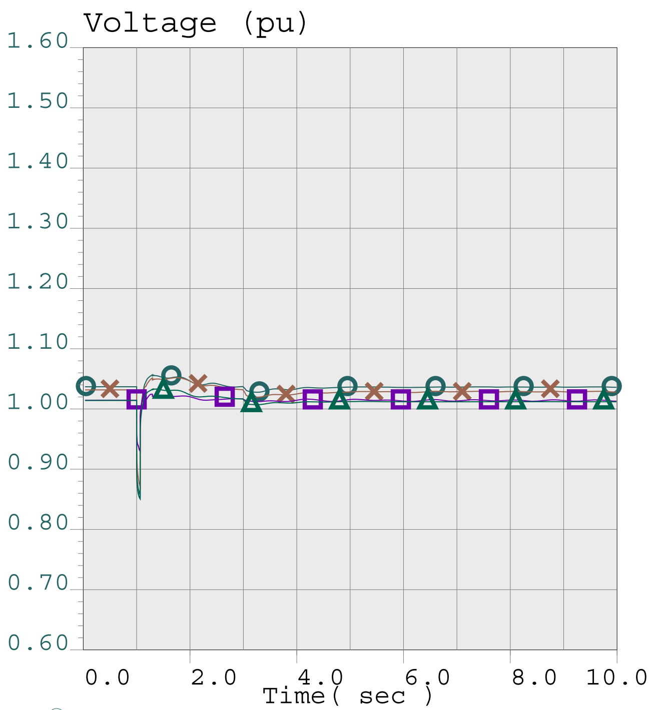

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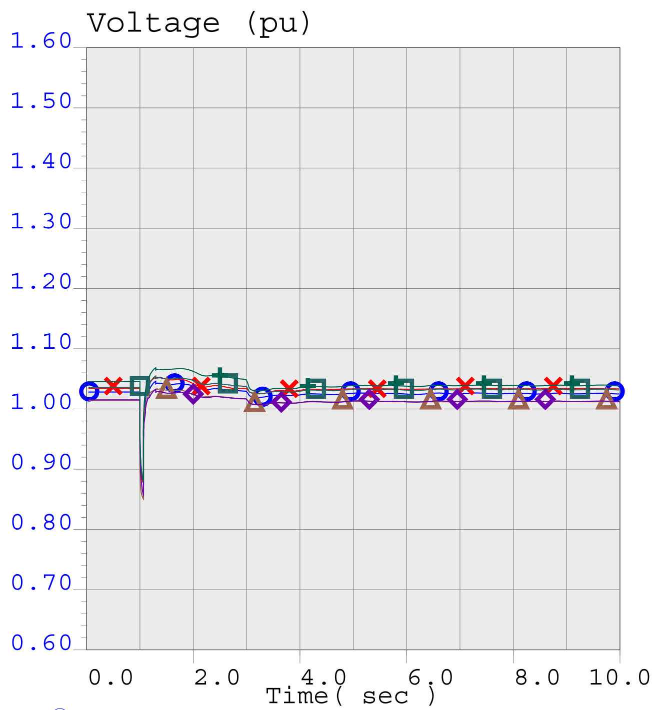

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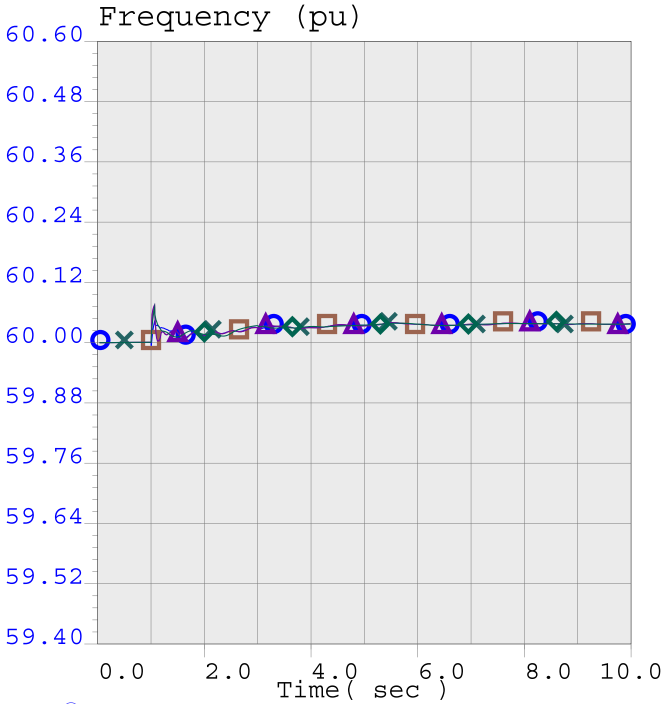

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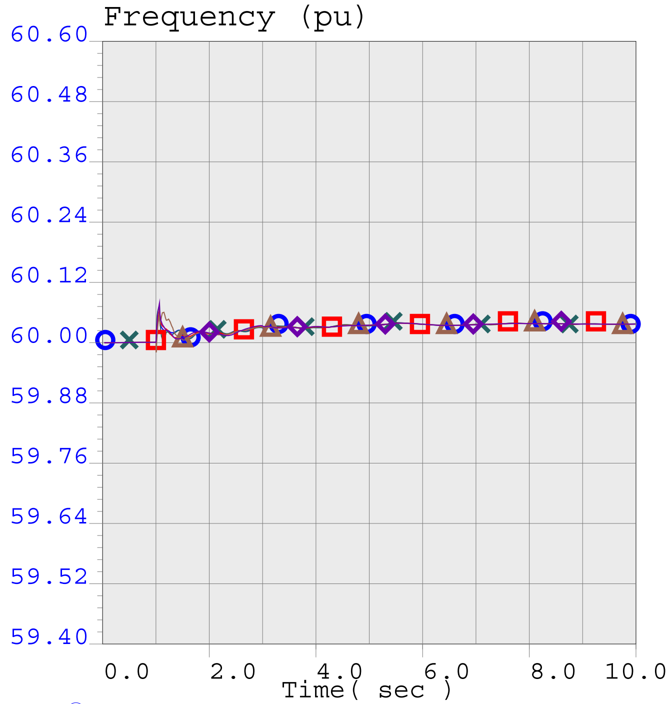

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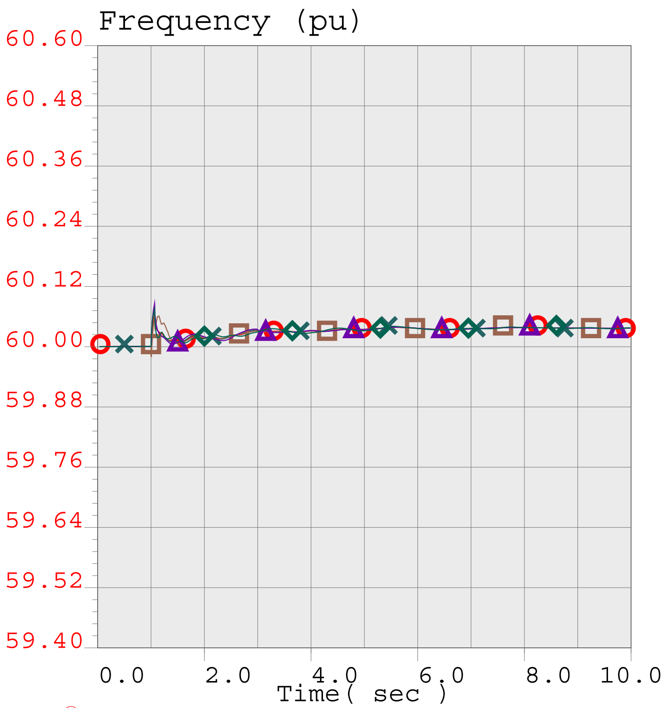

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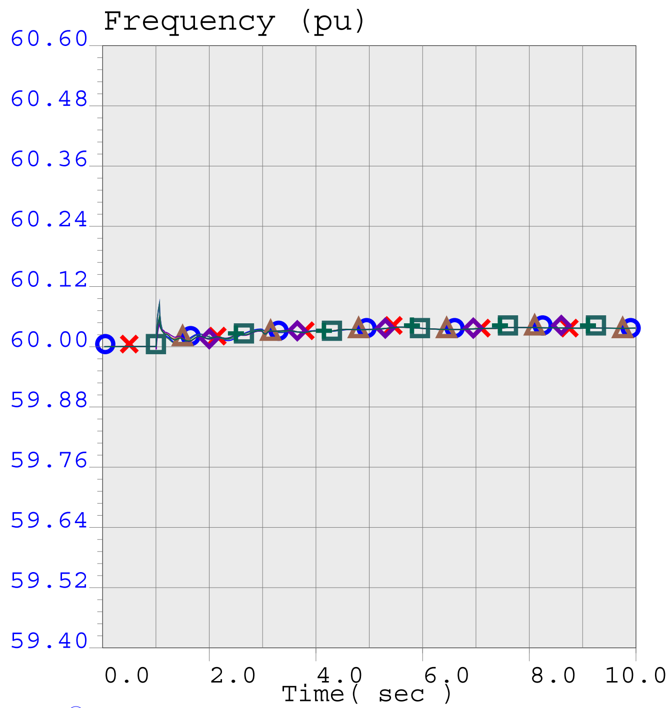

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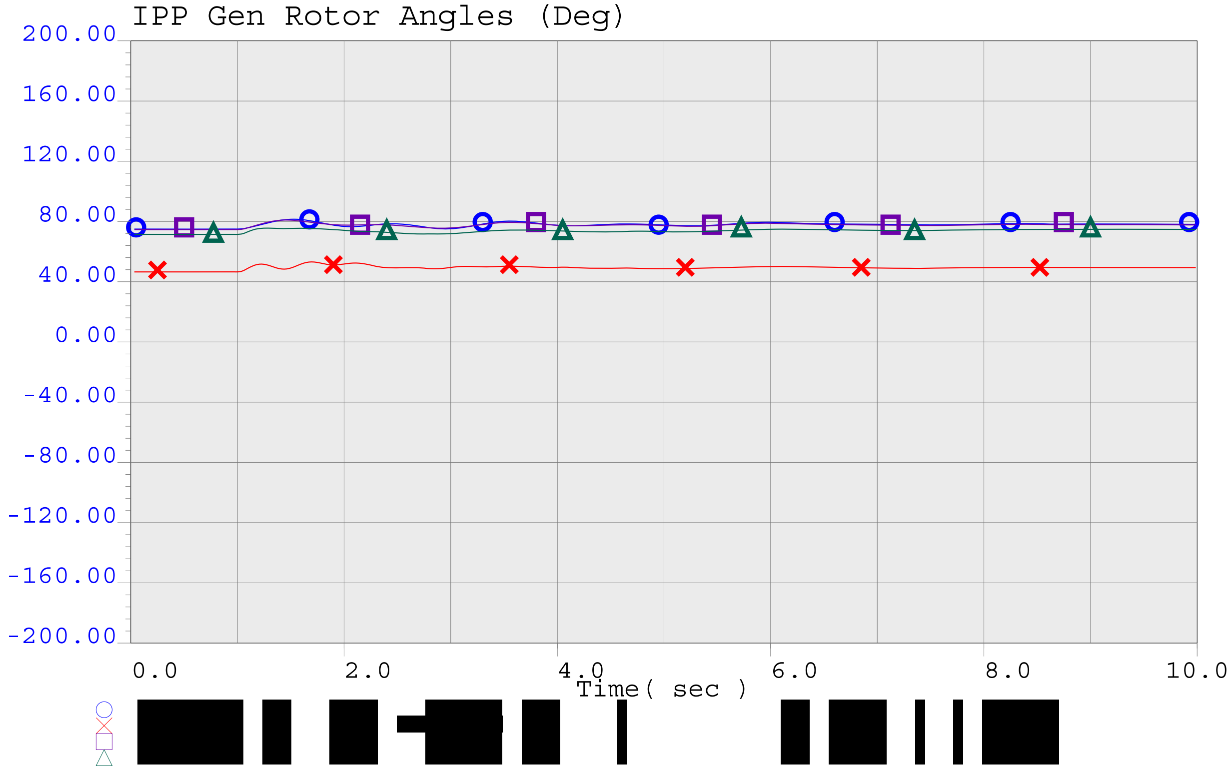
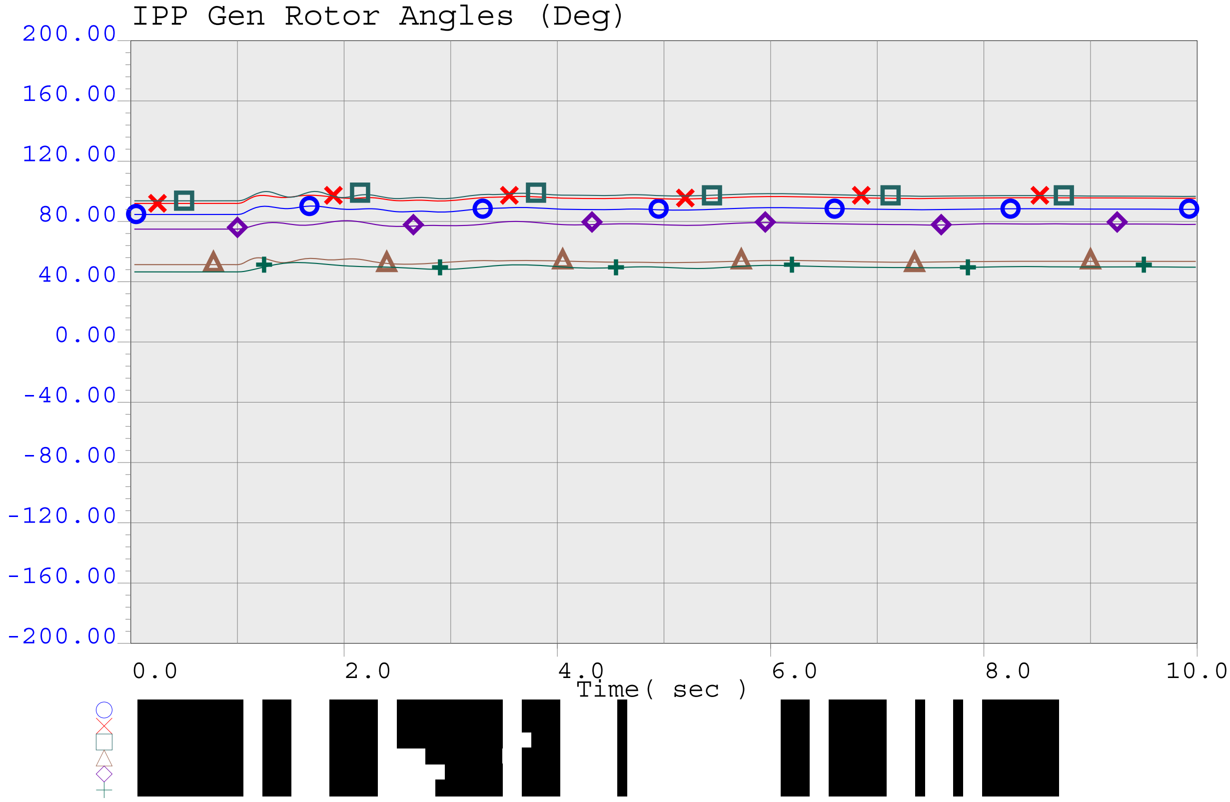
SYSTEM IMPACT STUDY (Rotor Angles)

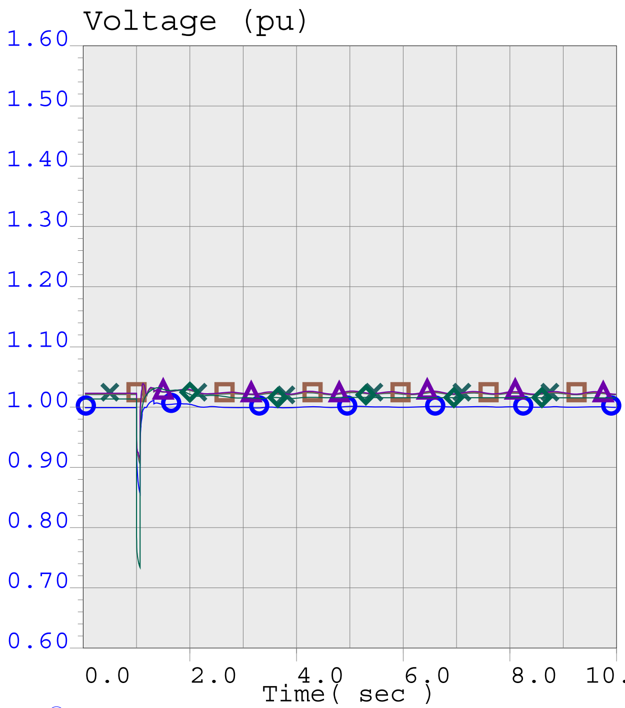
IPP Gen Rotor Angles (Deg)



IPP Gen Rotor Angles (Deg)



SYSTEM IMPACT STUDY (Voltage)



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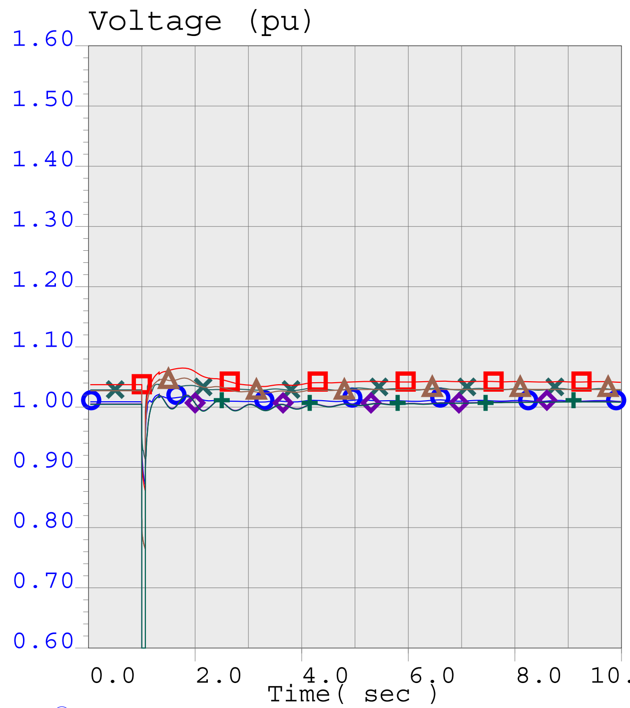

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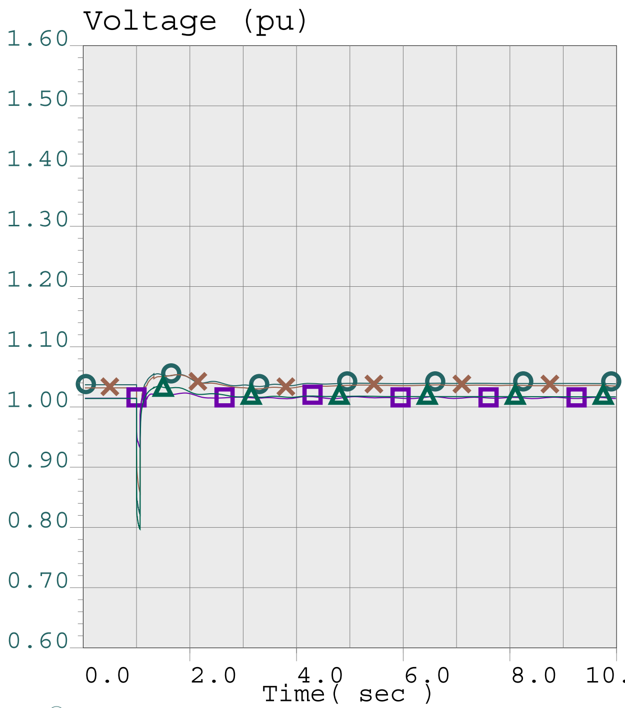

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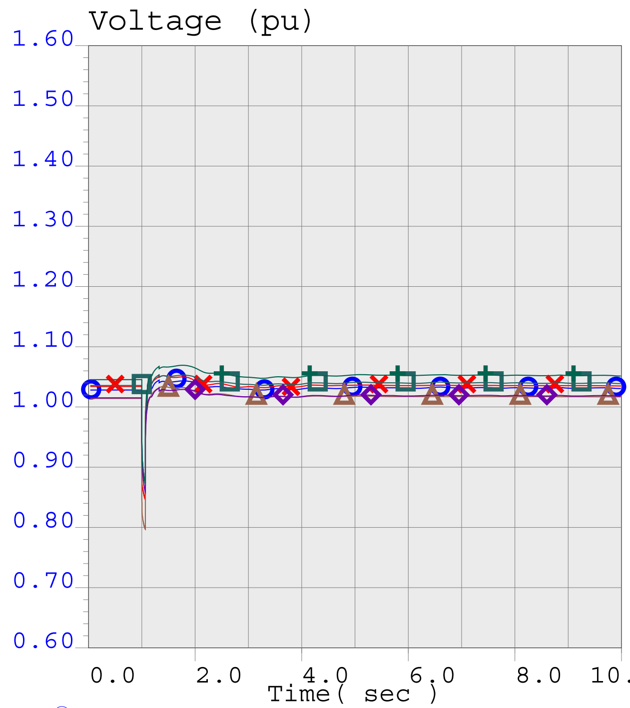

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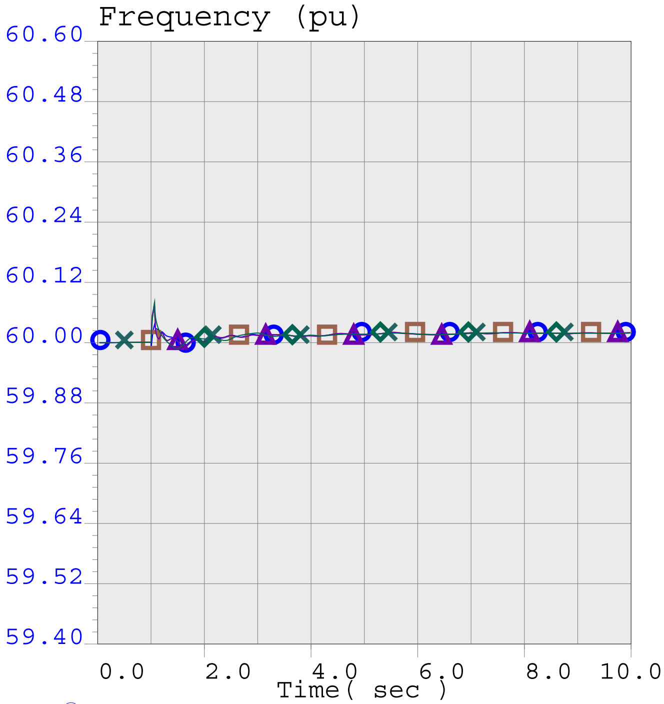

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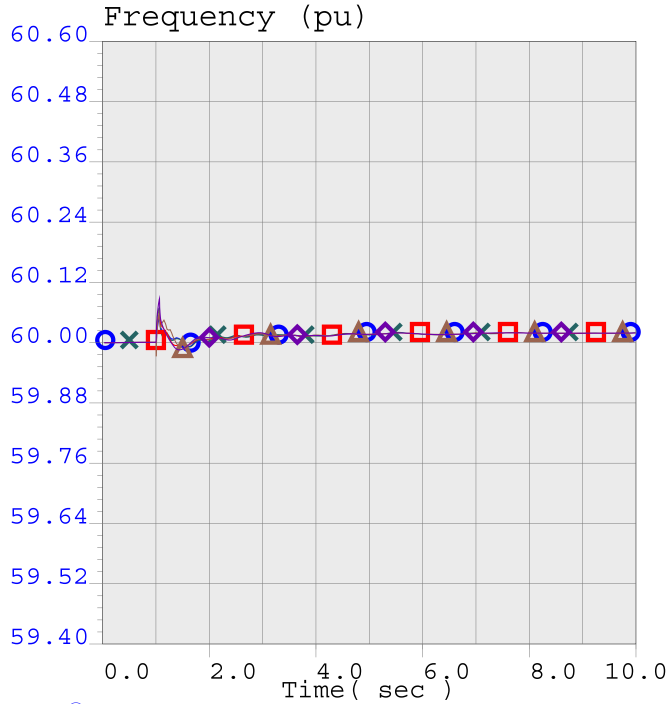

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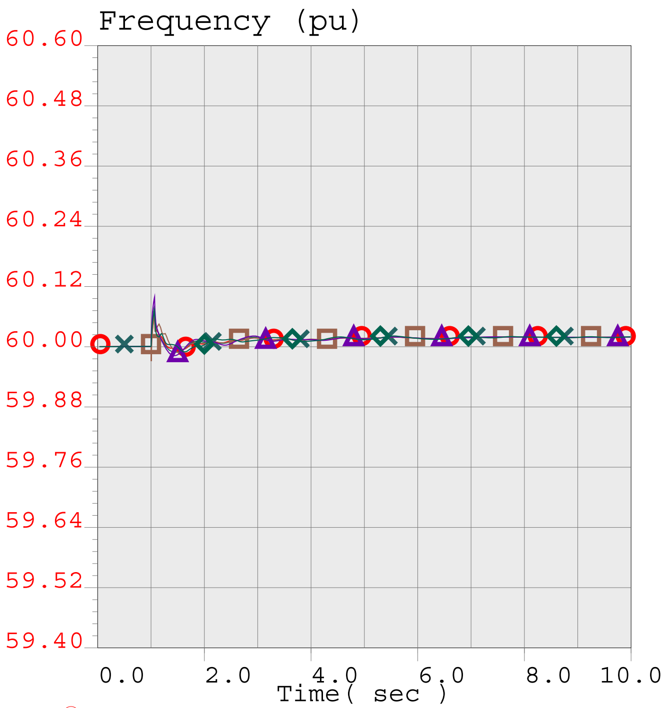

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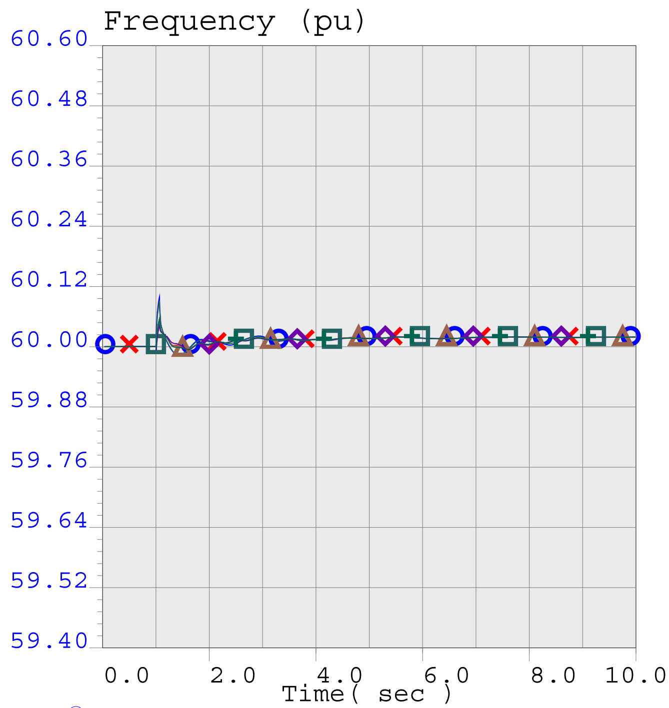

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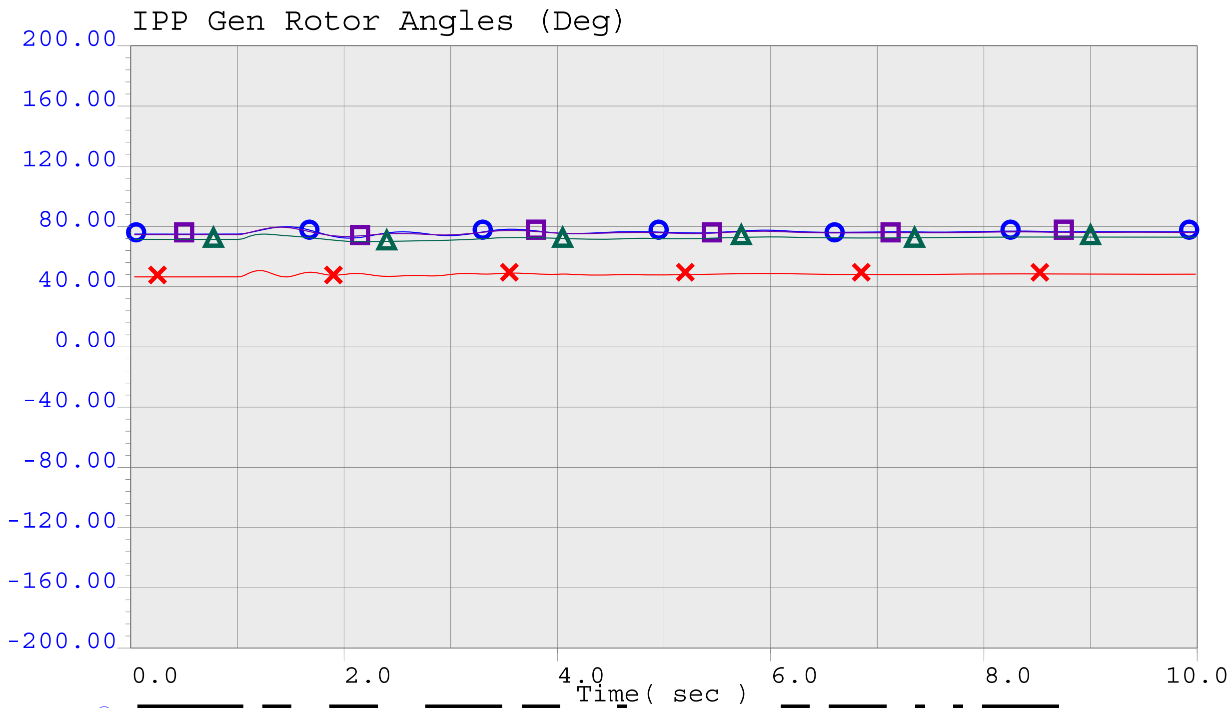
SYSTEM IMPACT STUDY (Rotor Angles)



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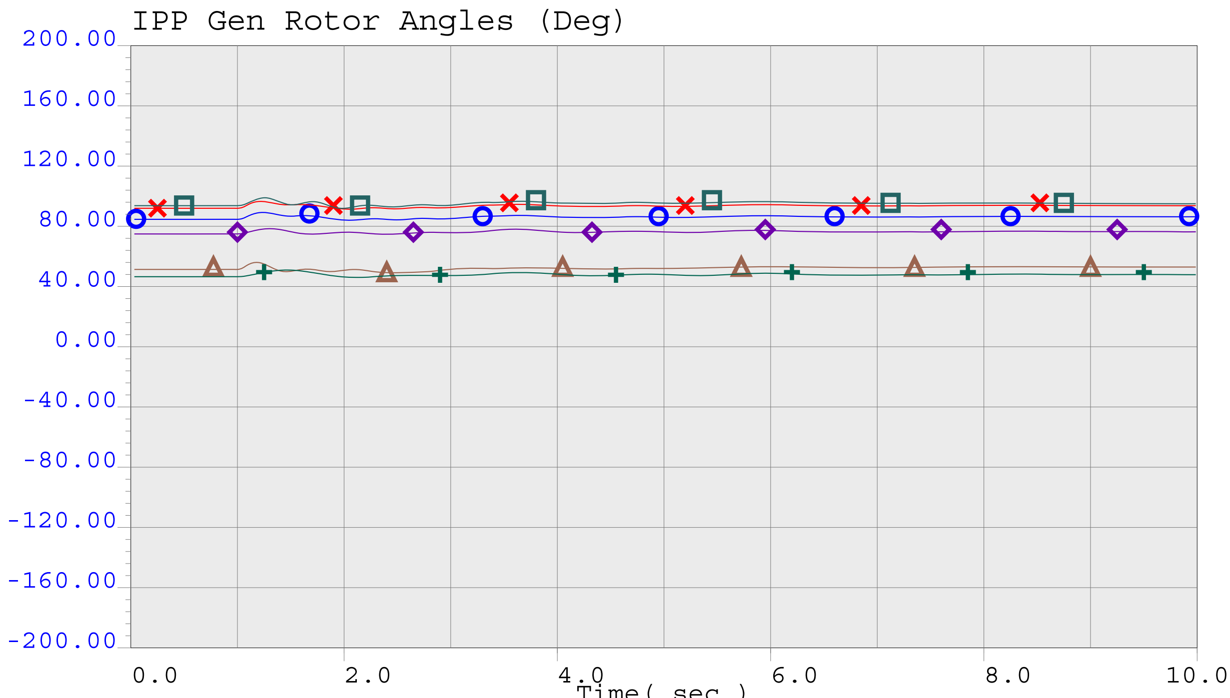

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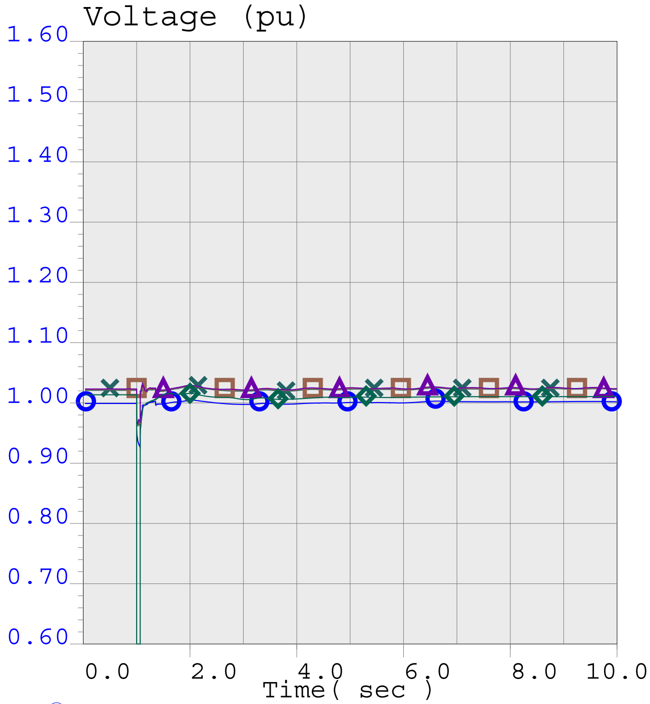

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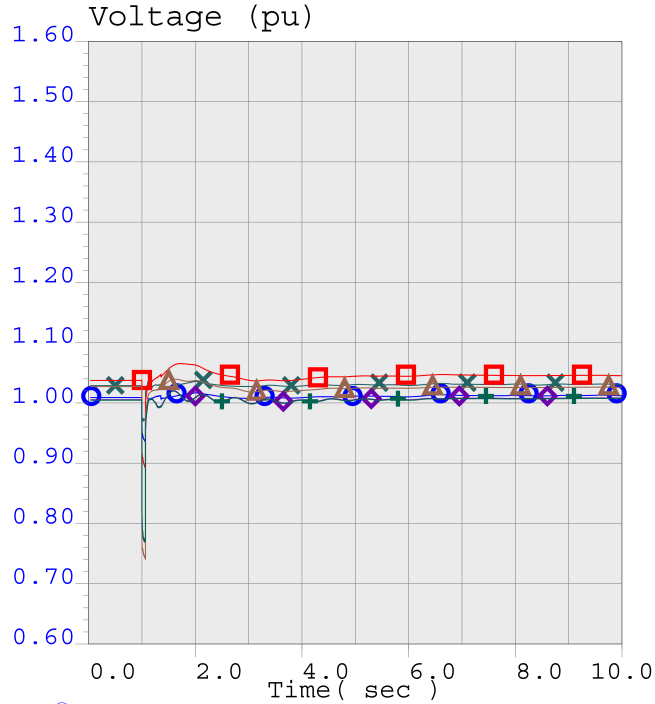

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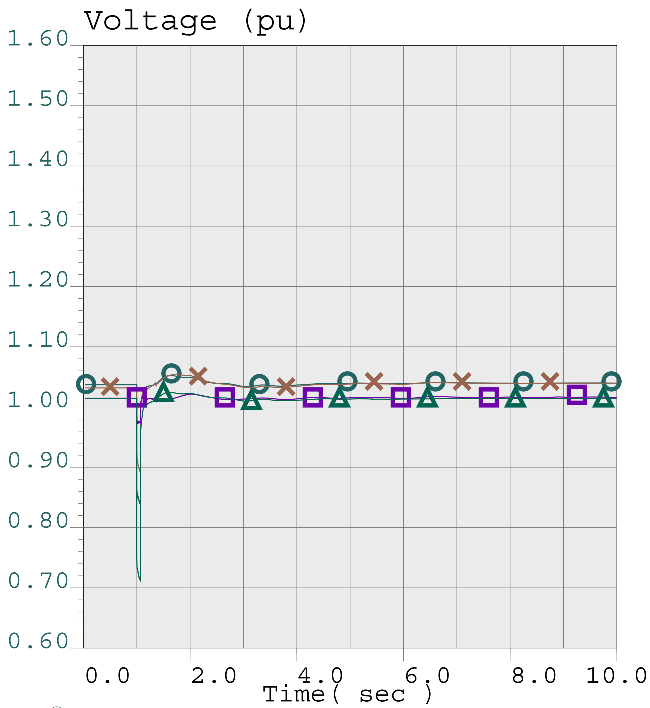

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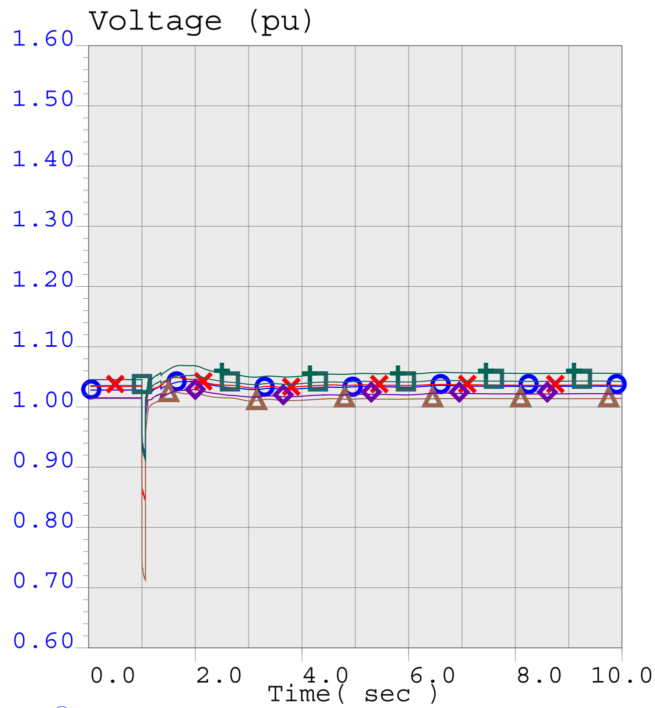

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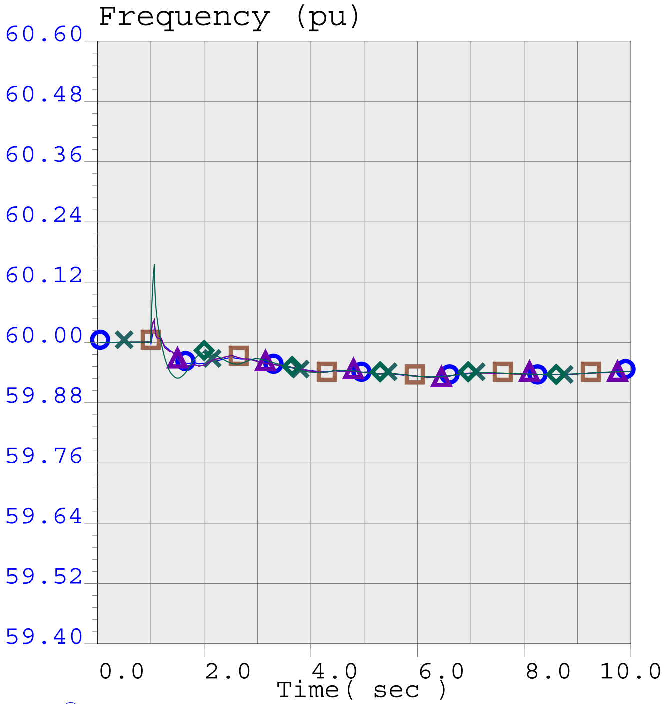
SYSTEM IMPACT STUDY (Frequency)



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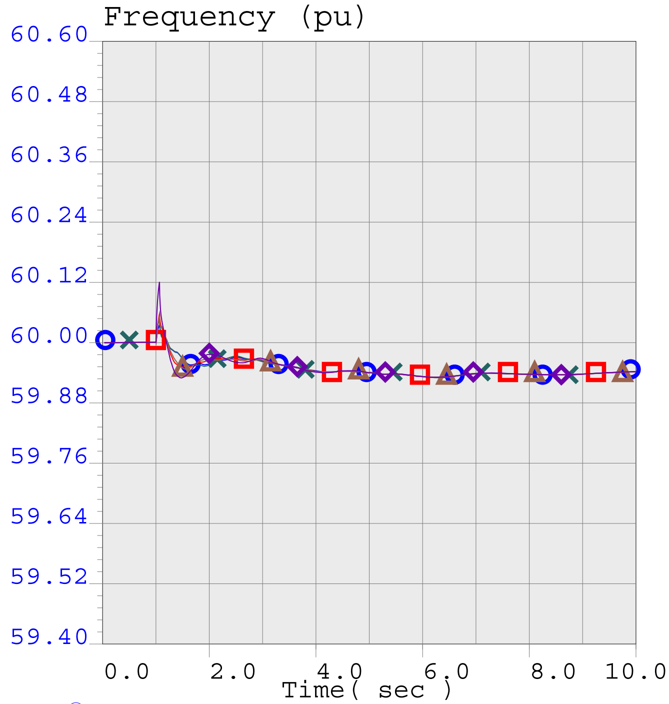

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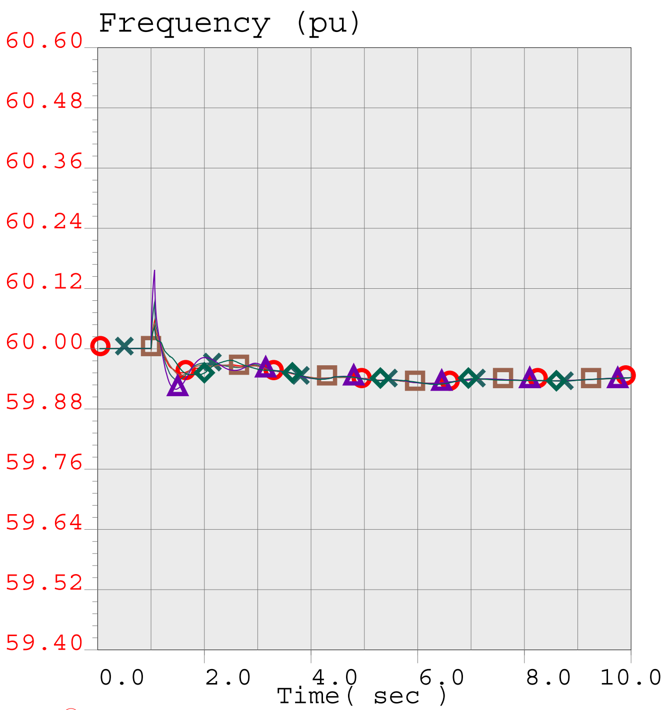

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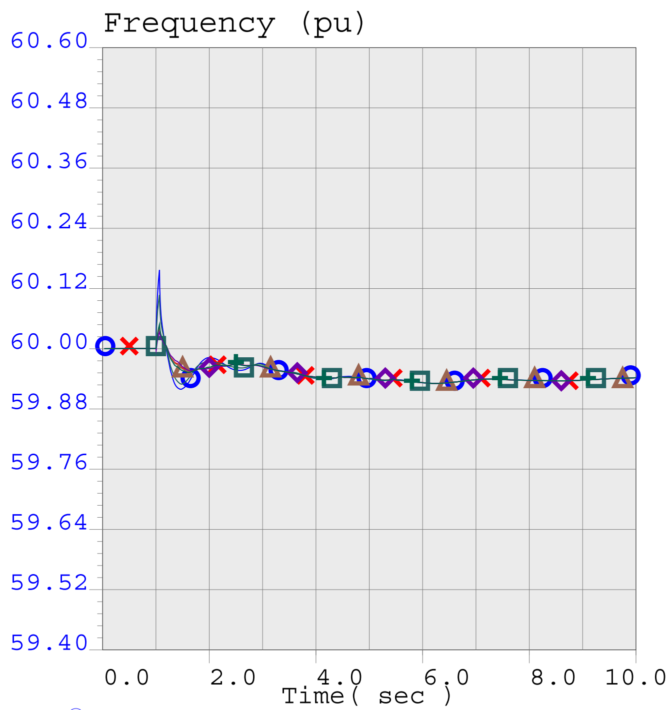

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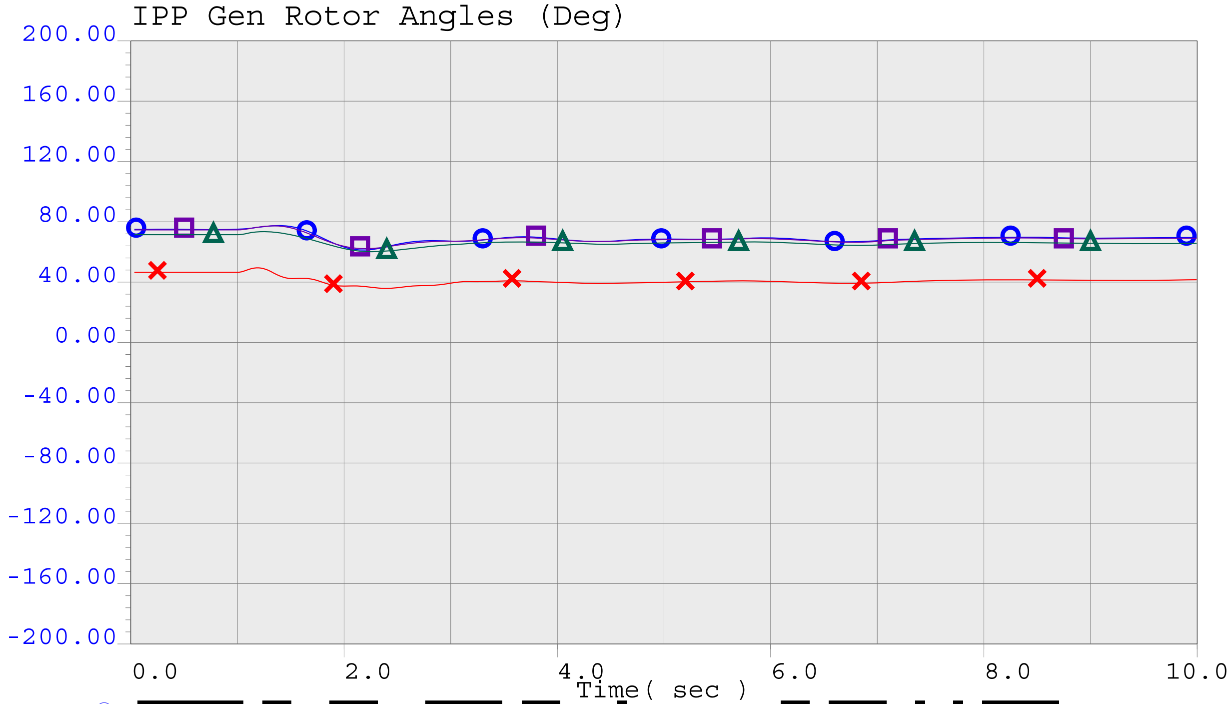
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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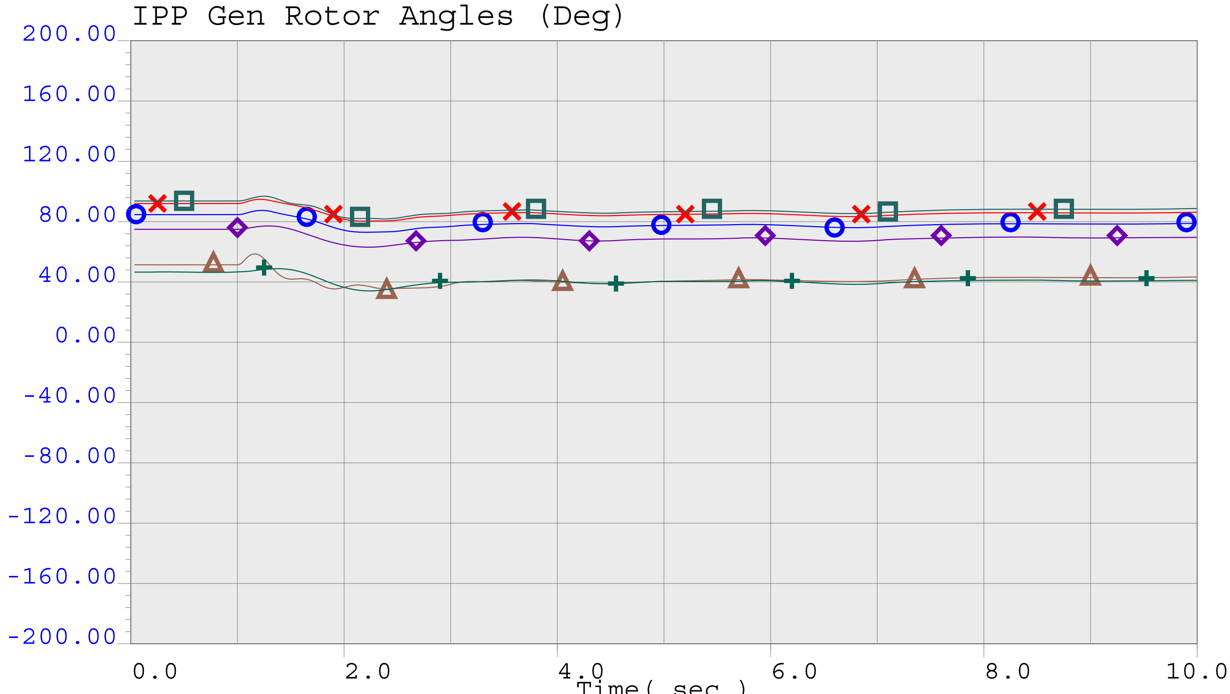
IPP Gen Rotor Angles (Deg)



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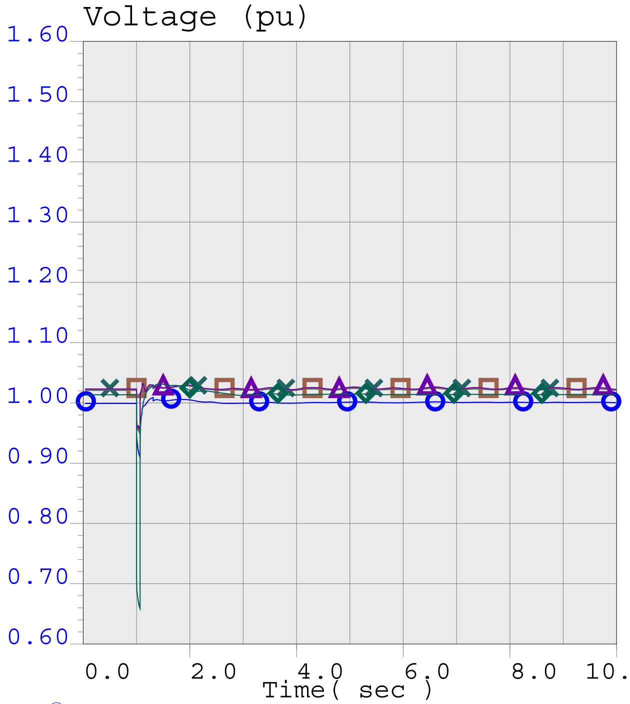
SYSTEM IMPACT STUDY (Voltage)



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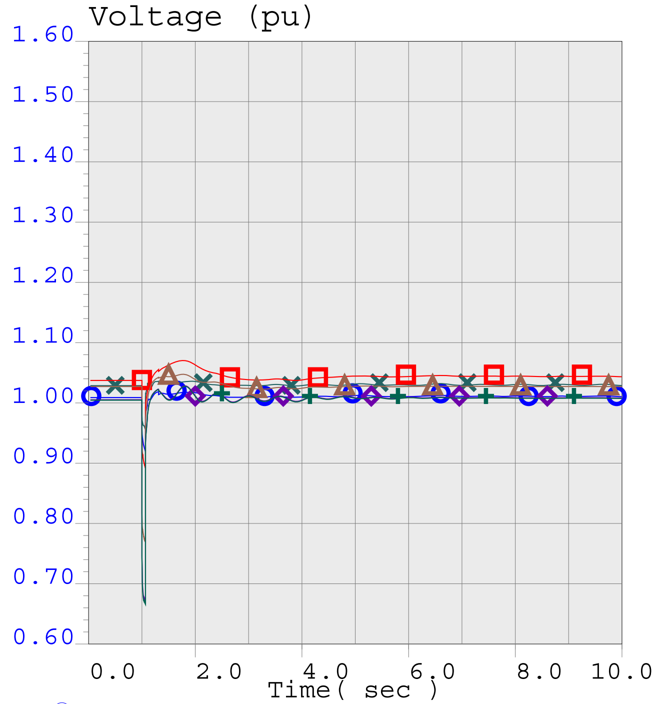

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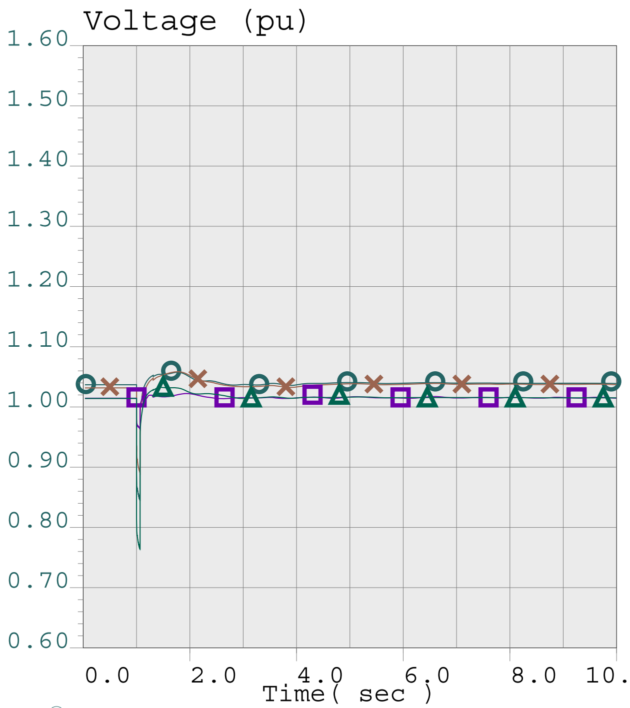

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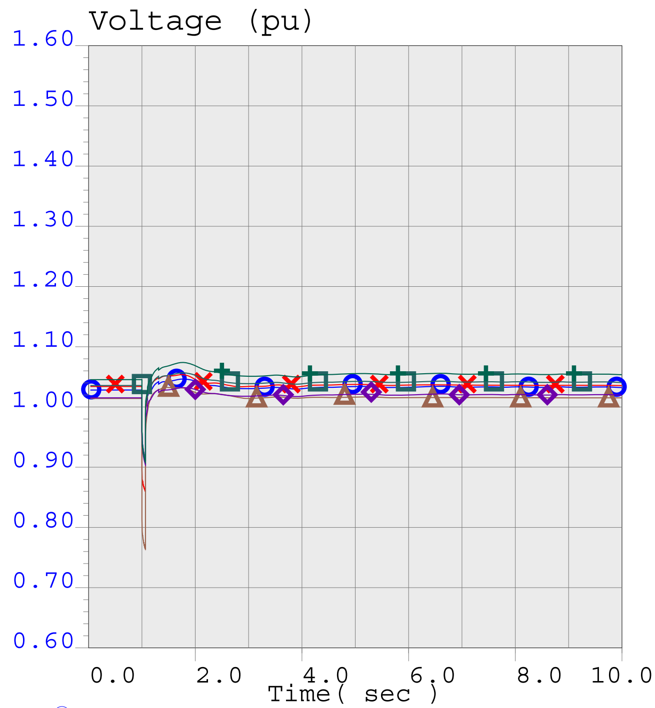

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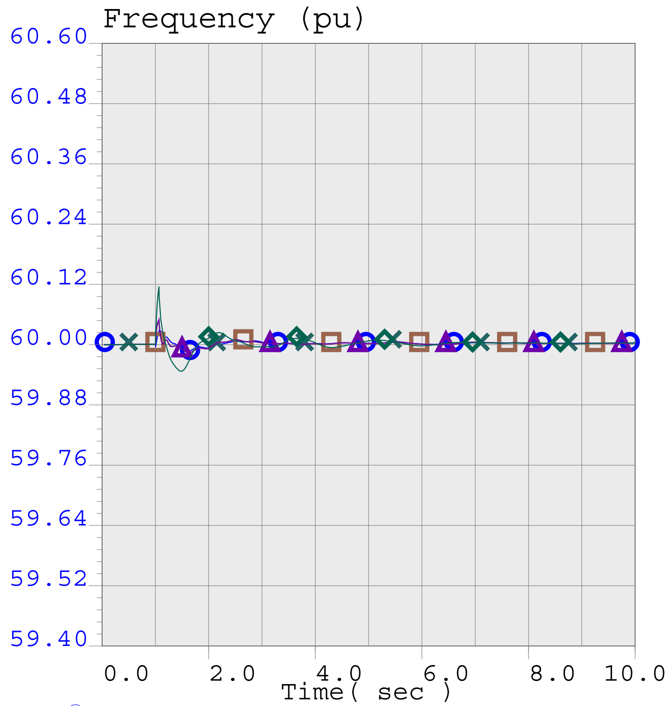

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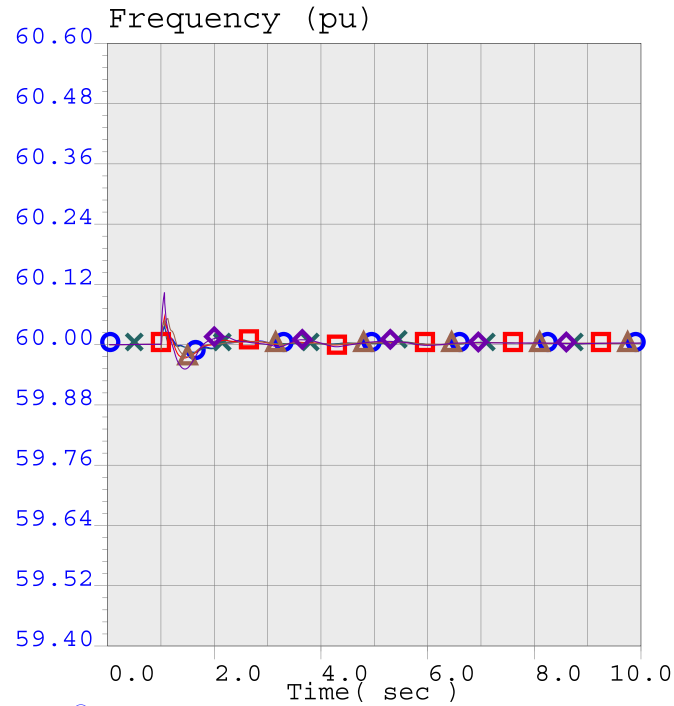

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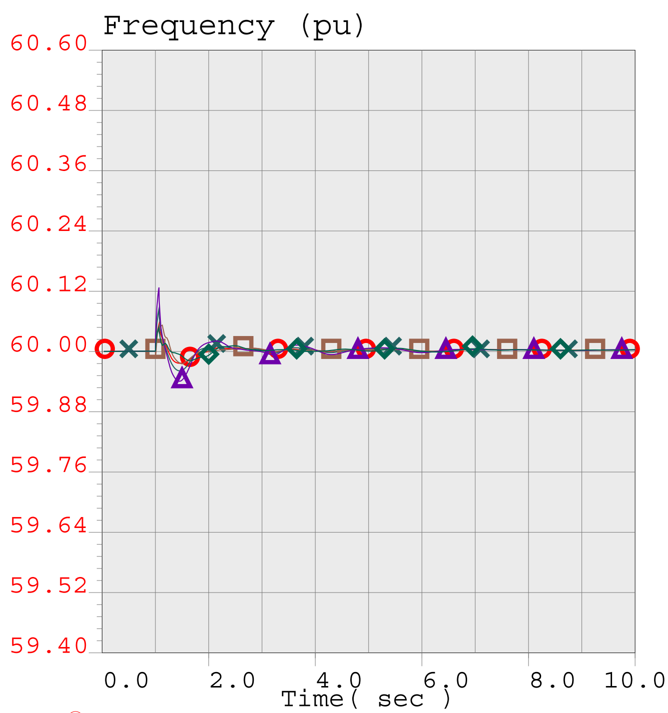

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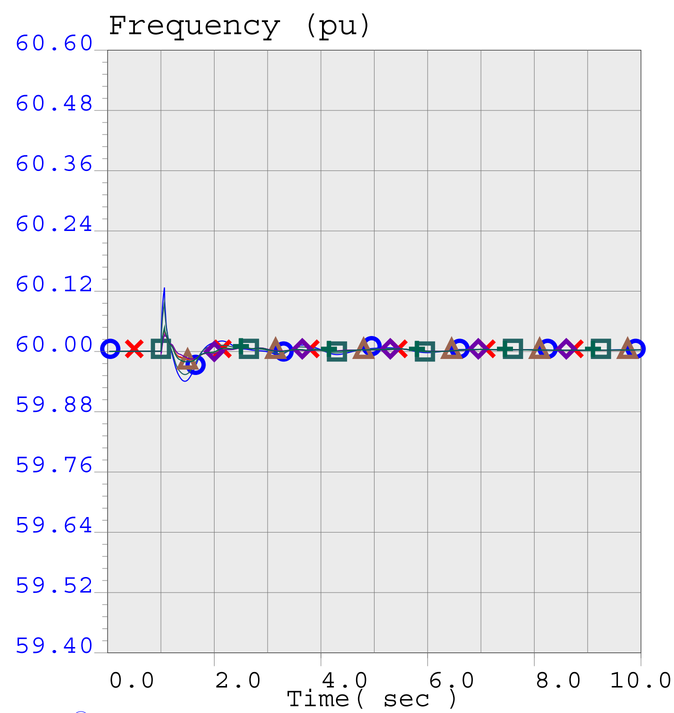

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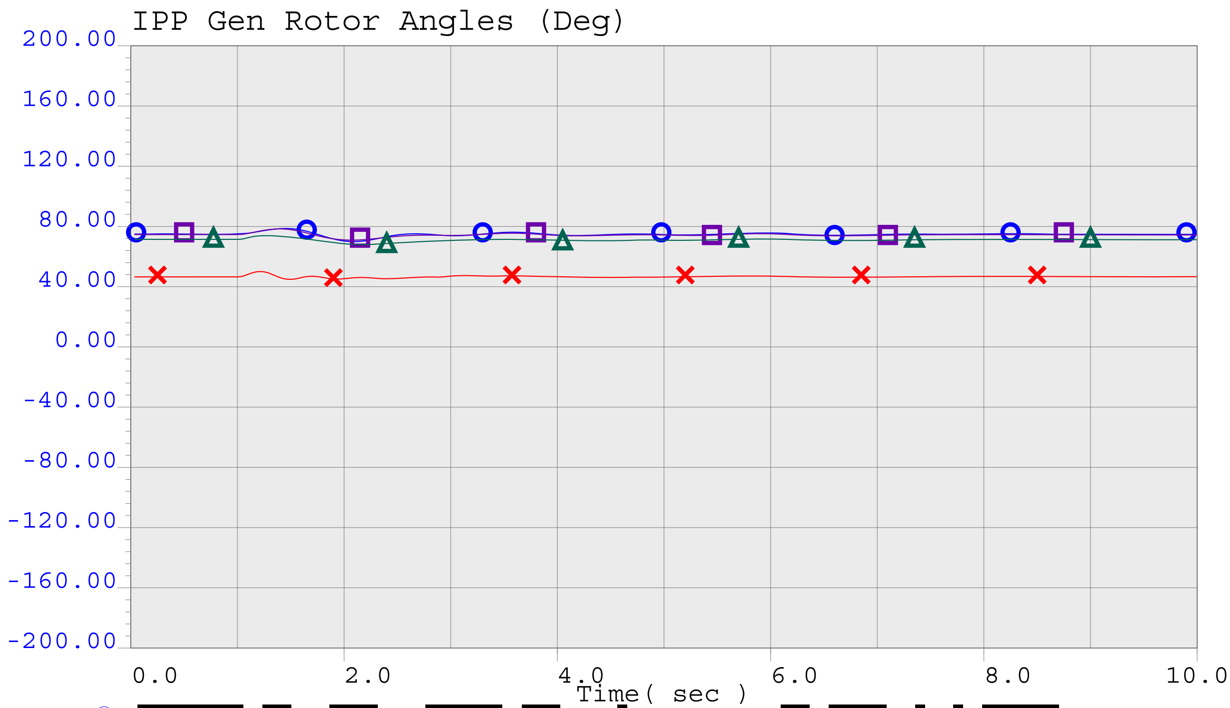
Fri Aug 26 08:39:39 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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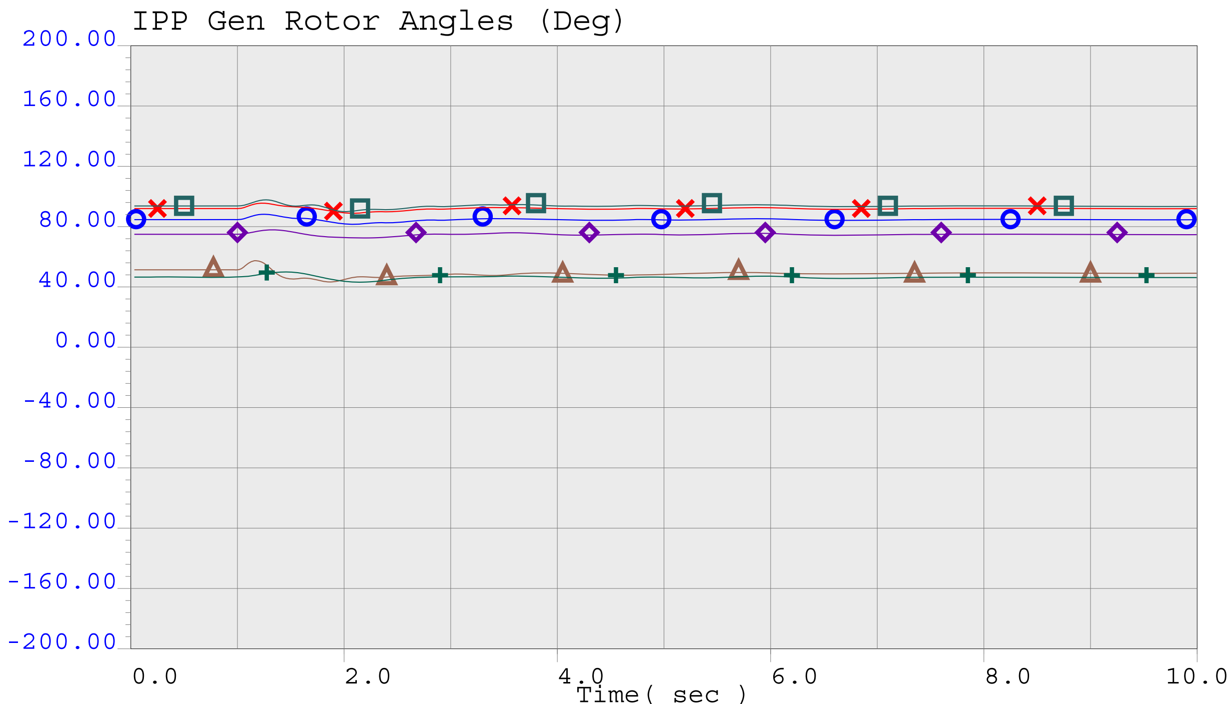

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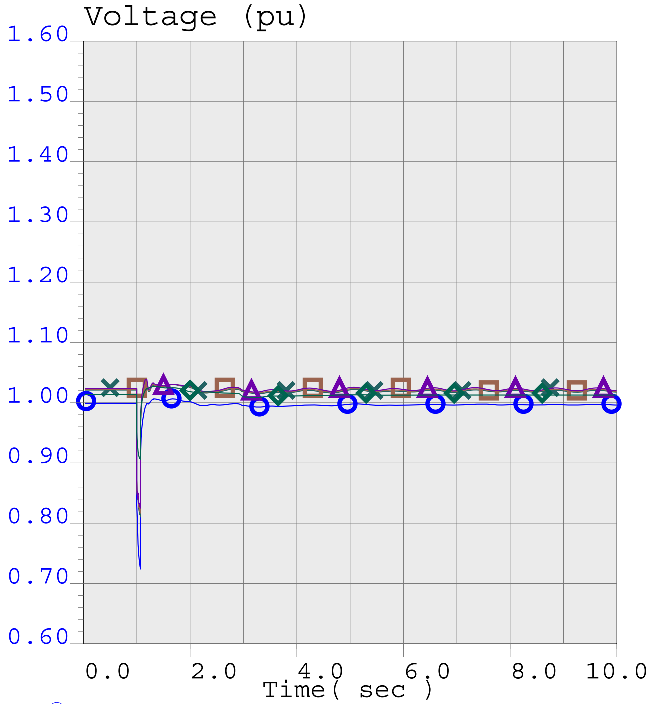
SYSTEM IMPACT STUDY (Voltage)



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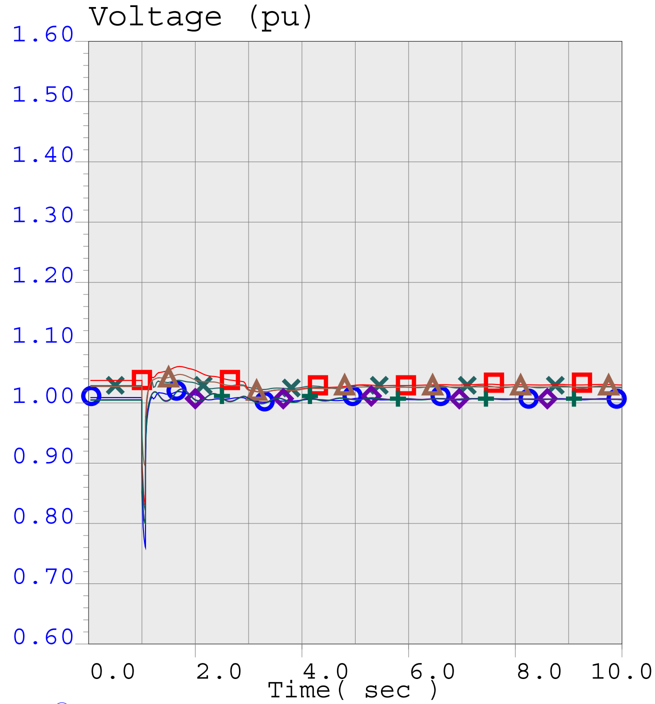

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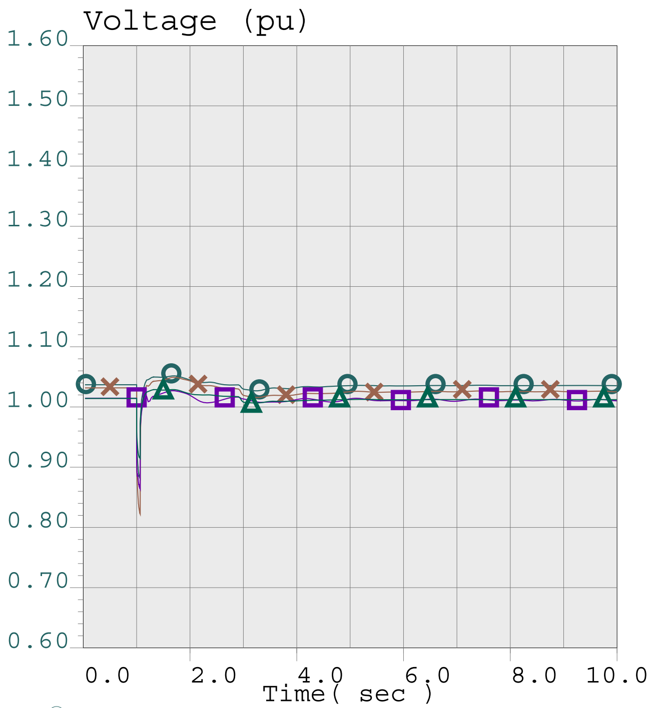

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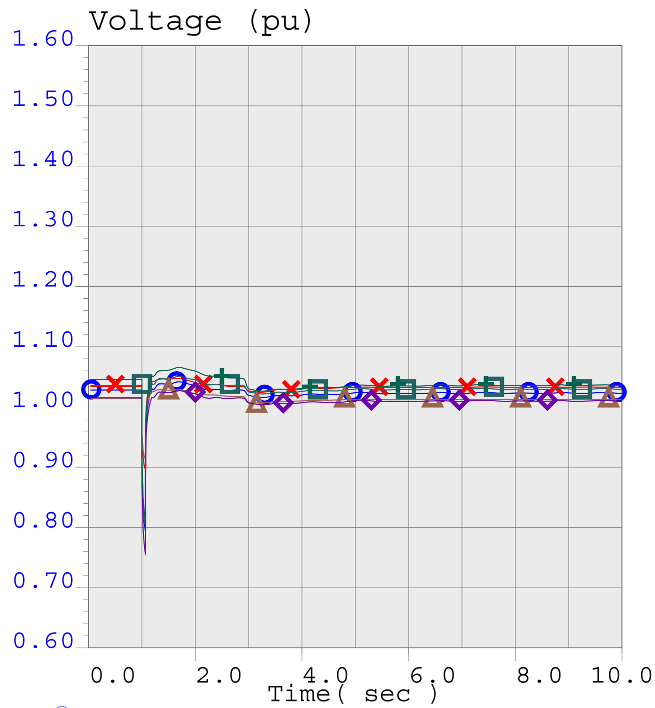

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Fri Aug 26 08:39:42 2022

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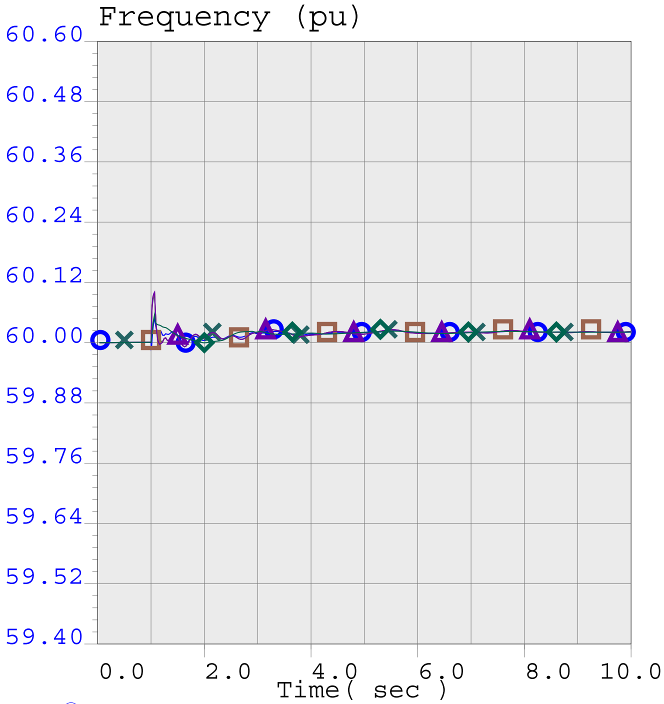

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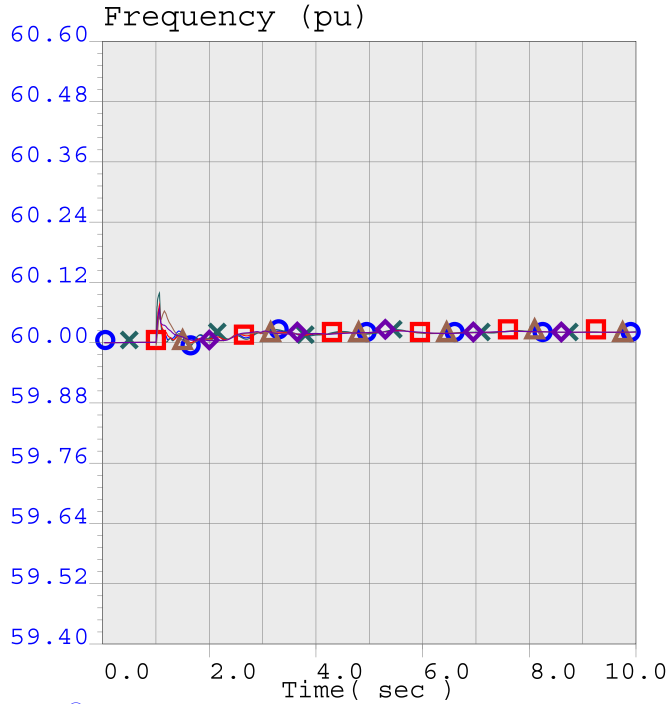

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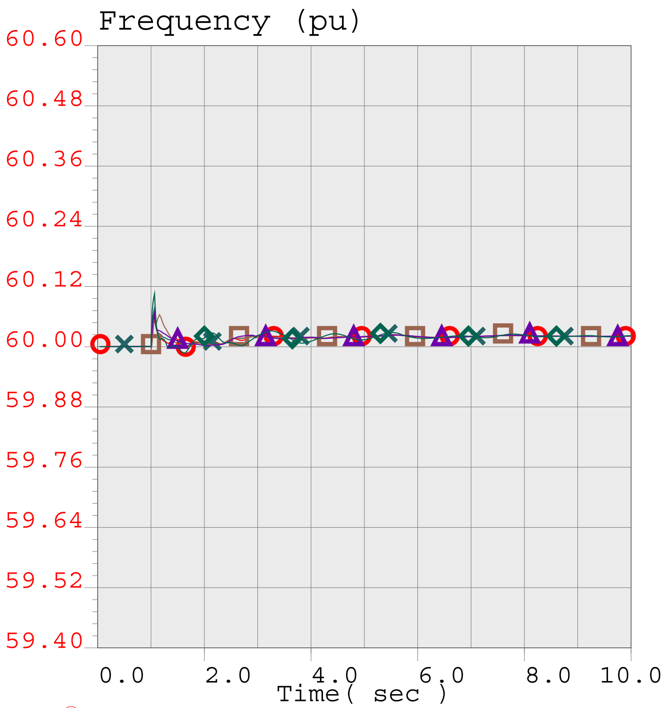

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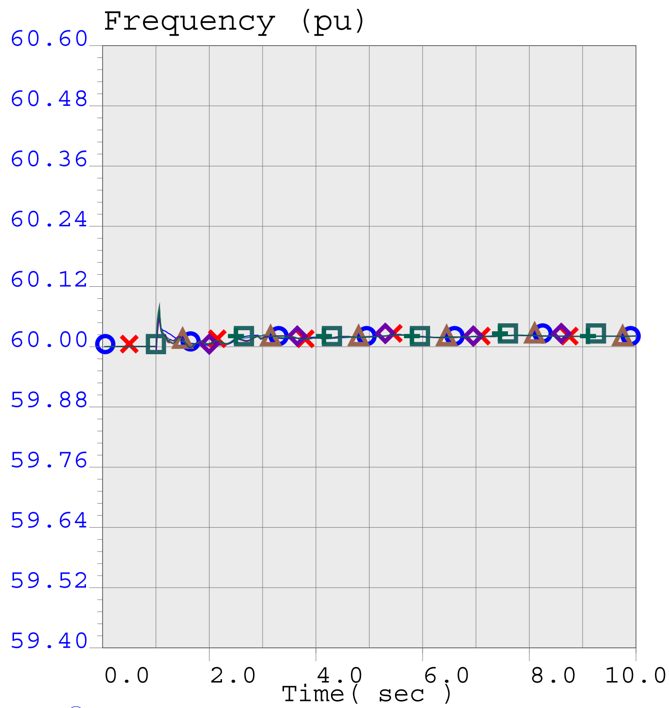

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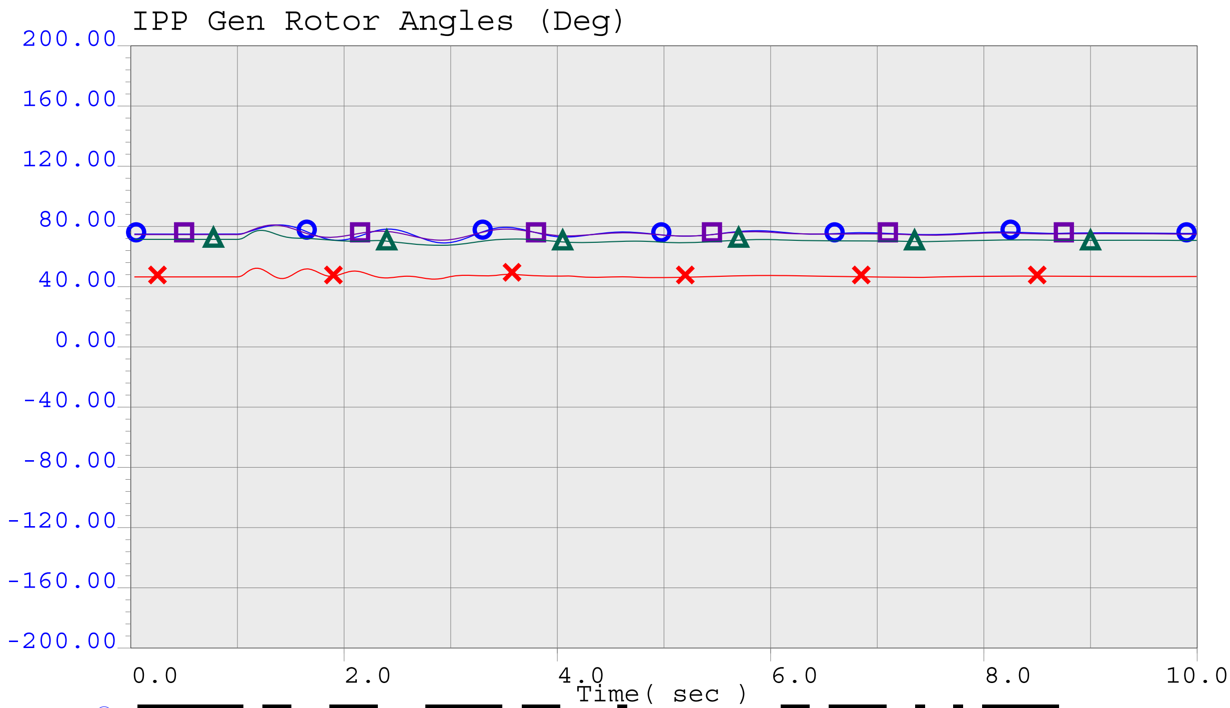
SYSTEM IMPACT STUDY (Rotor Angles)



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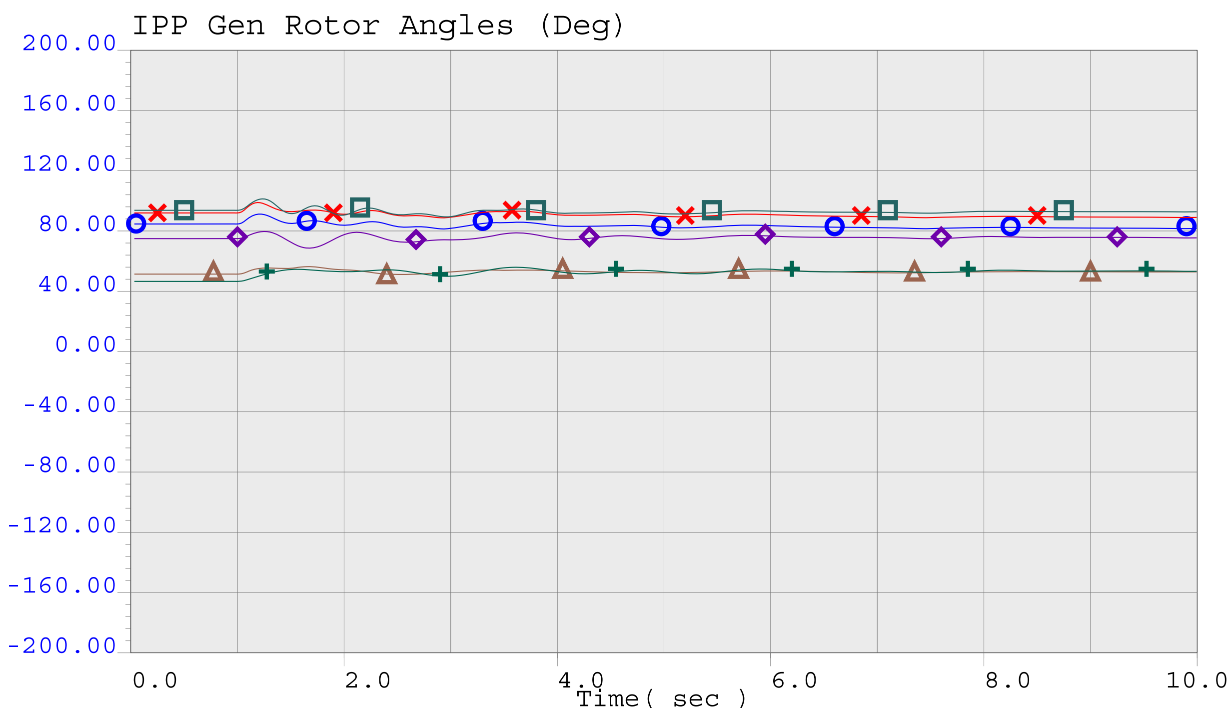

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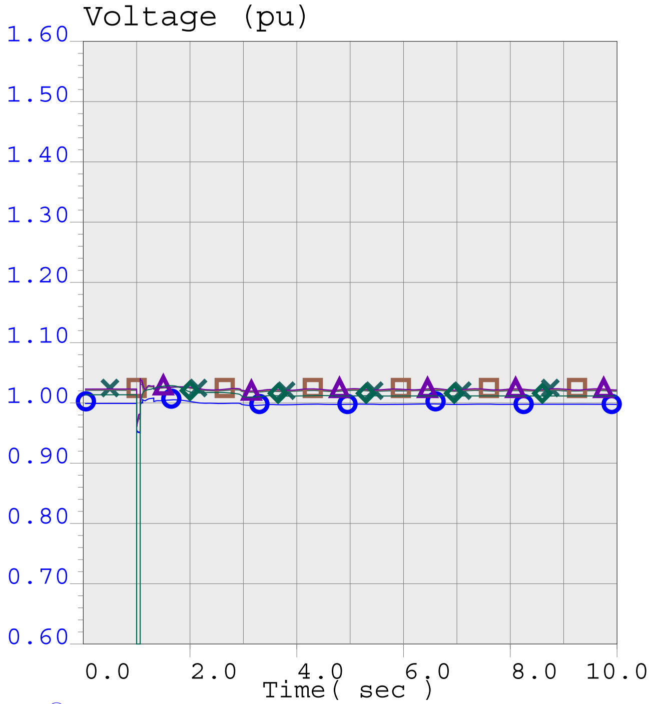
SYSTEM IMPACT STUDY (Voltage)



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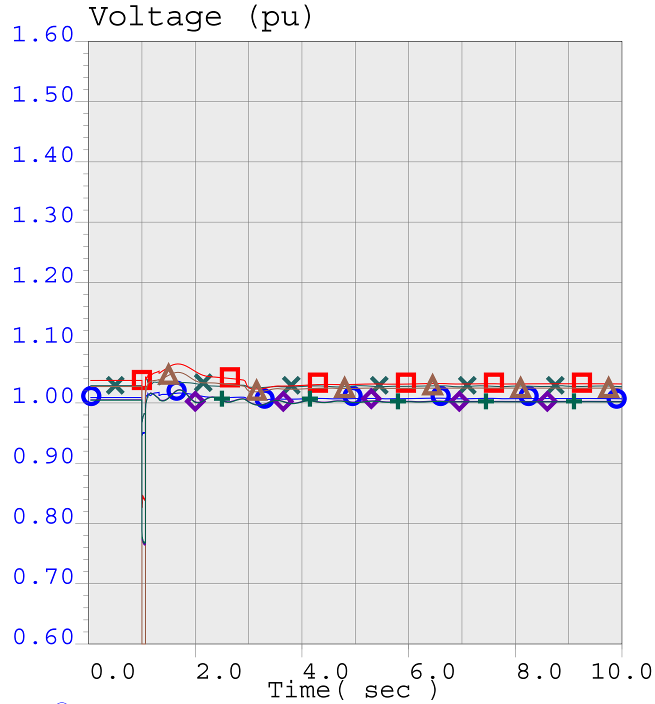

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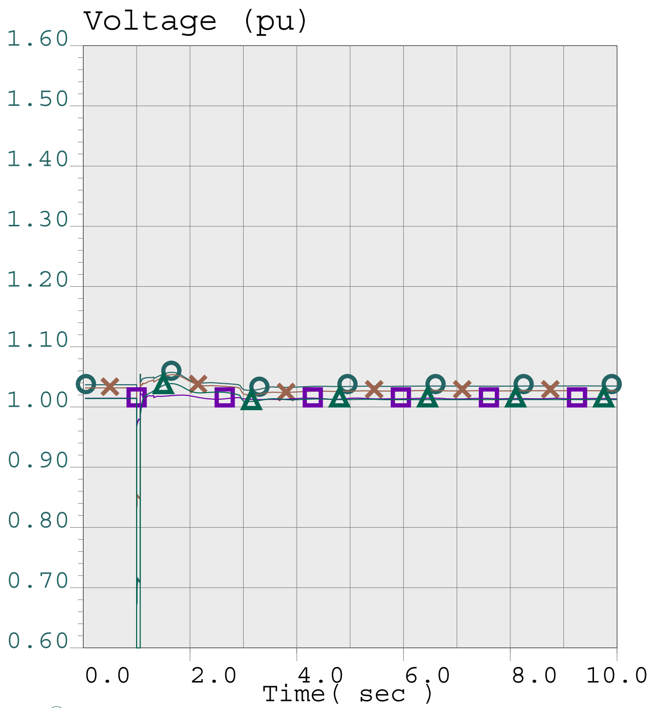

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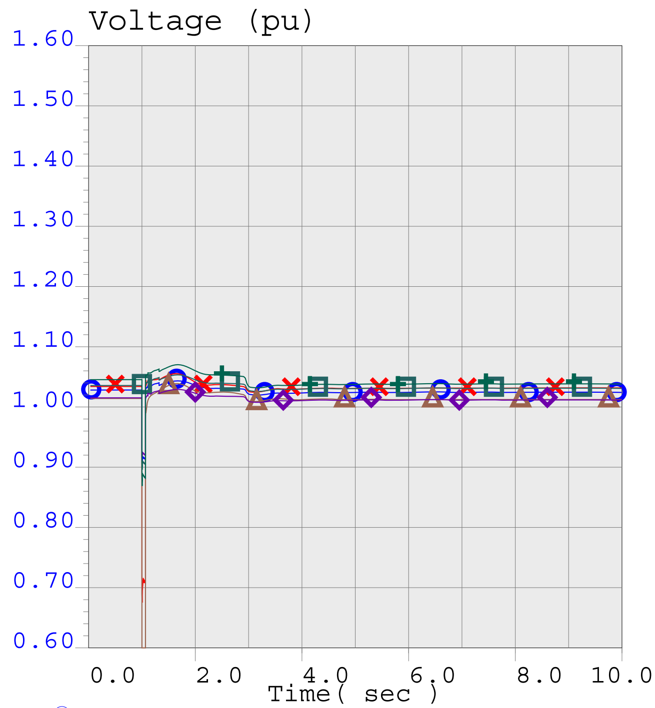

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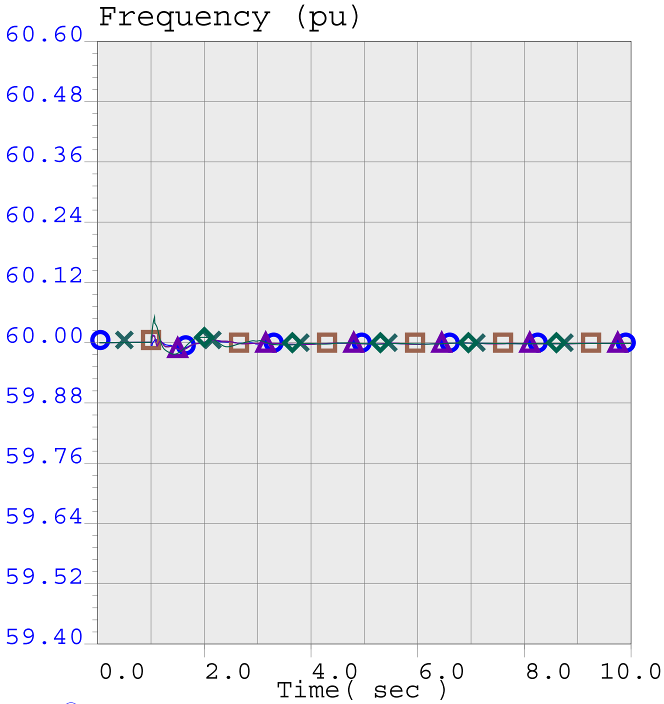

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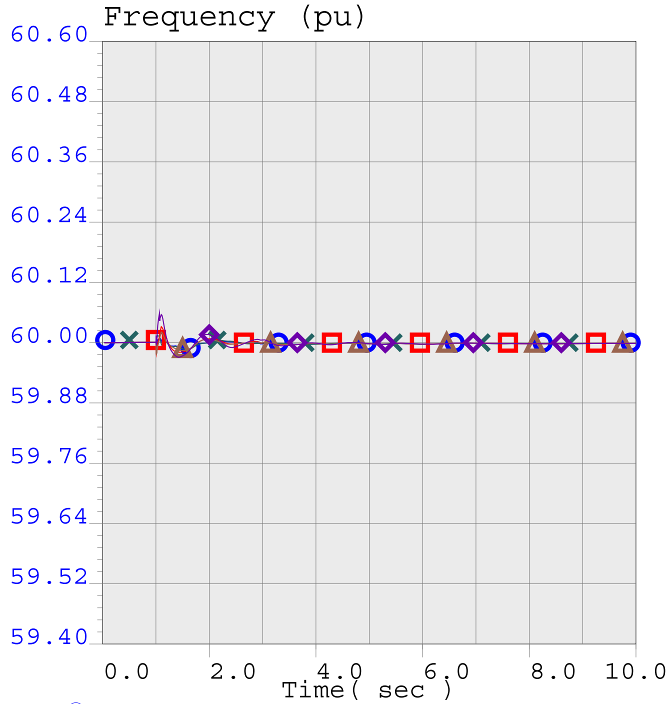

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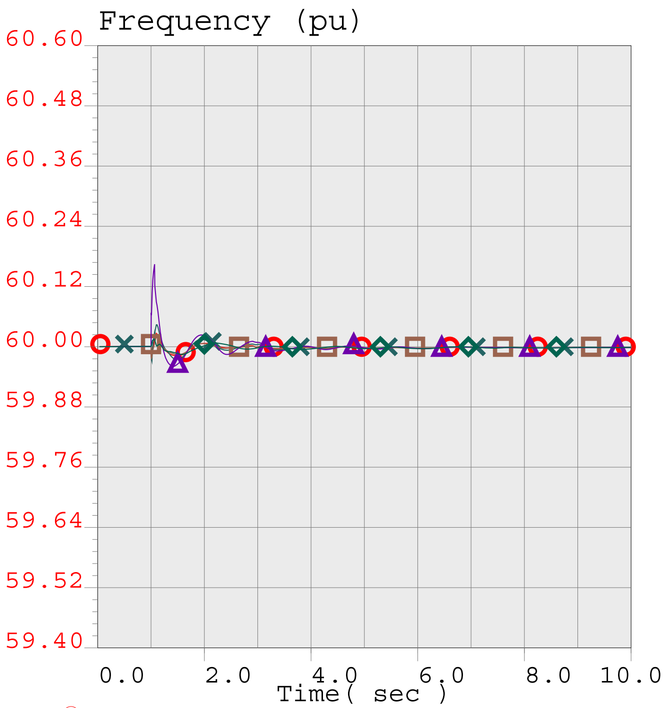

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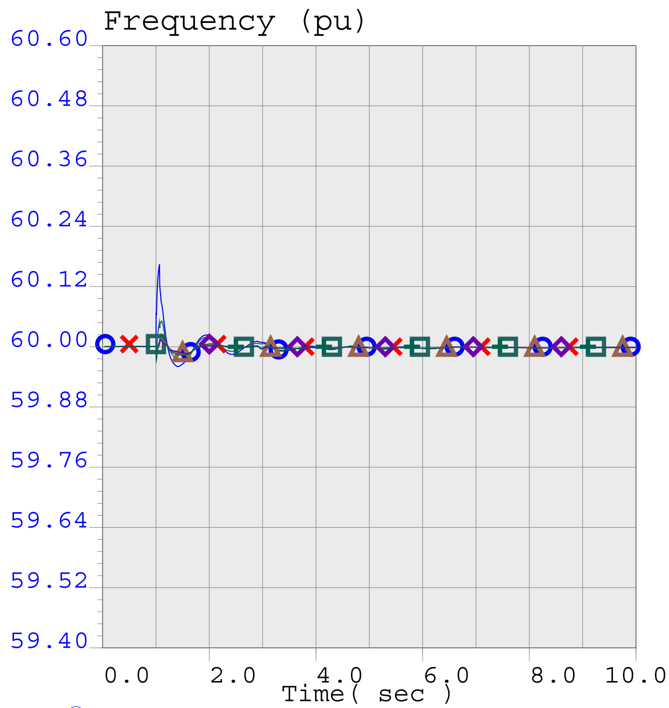

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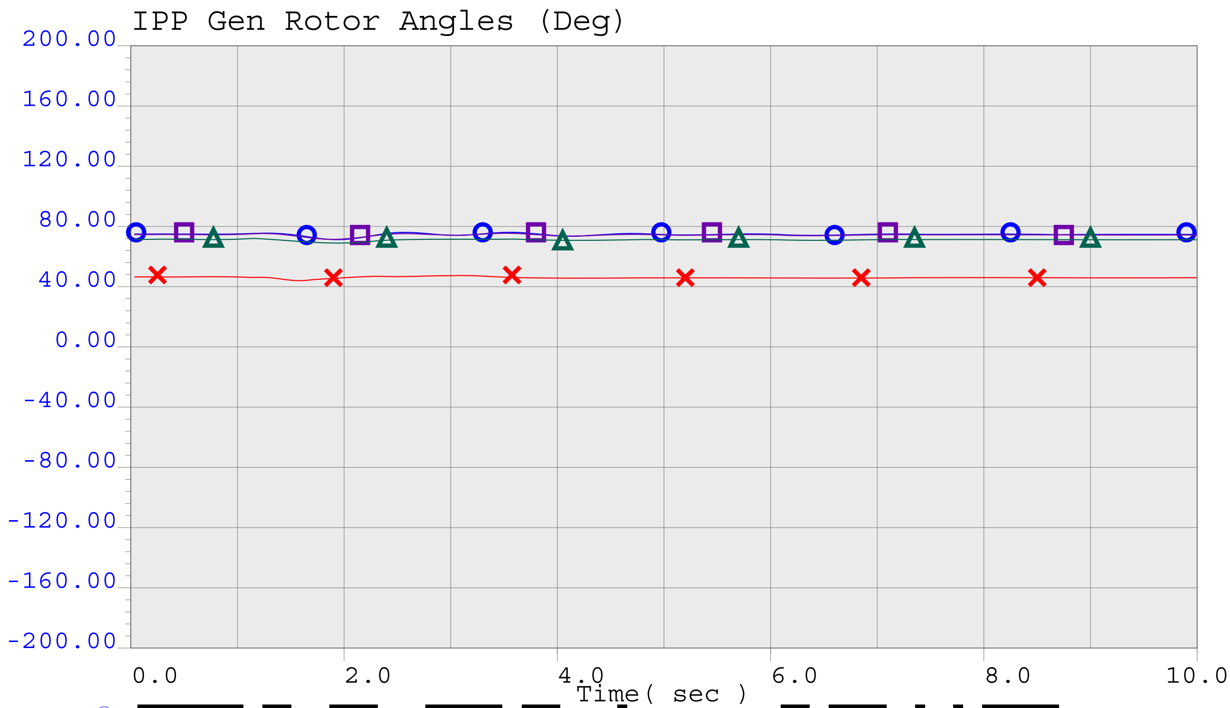

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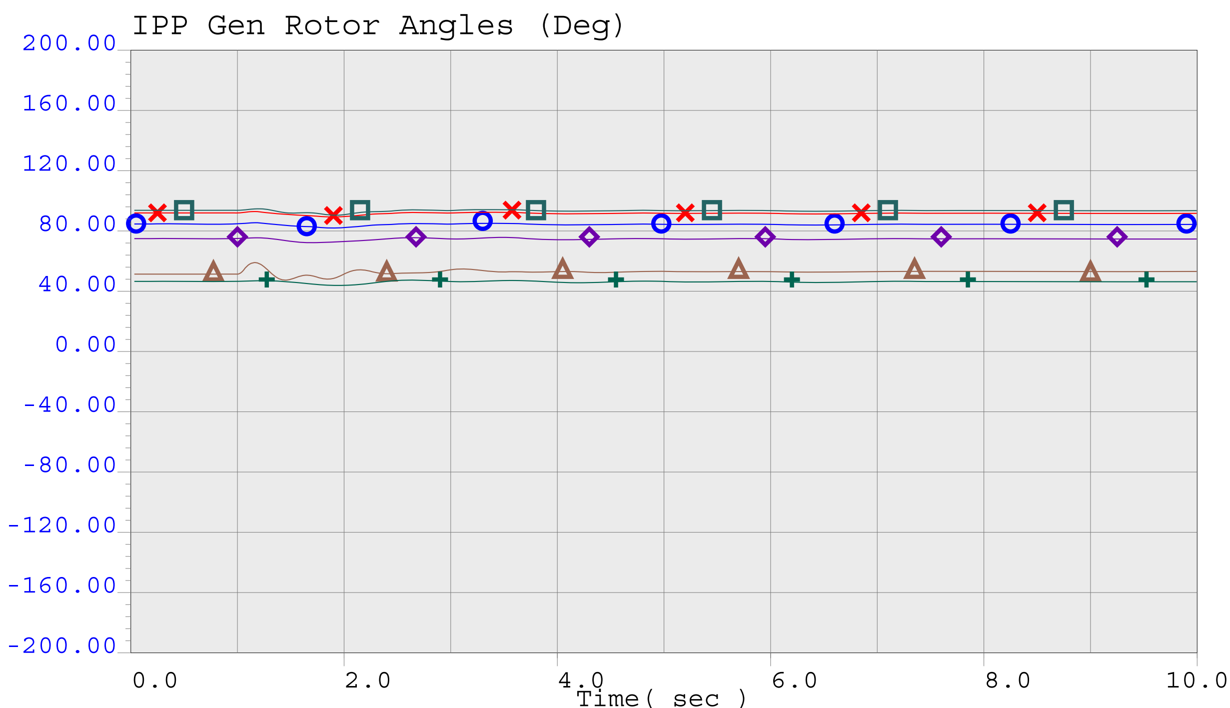

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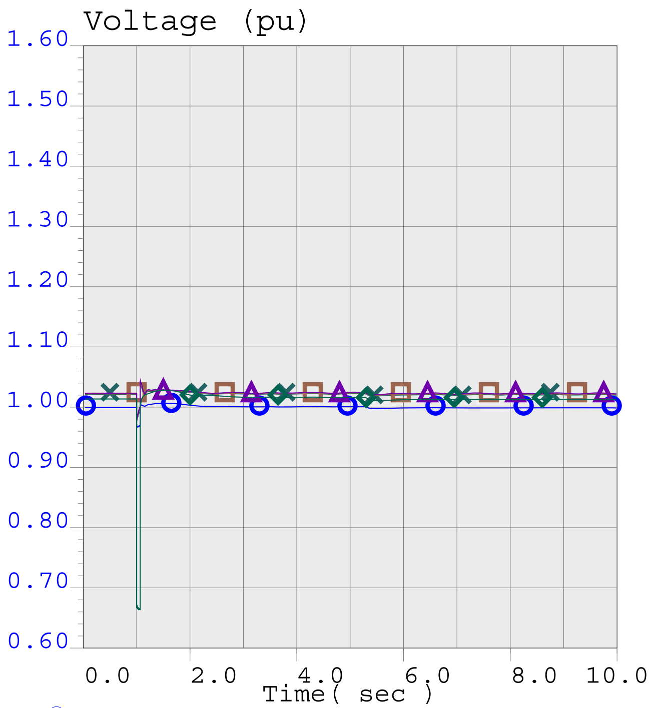

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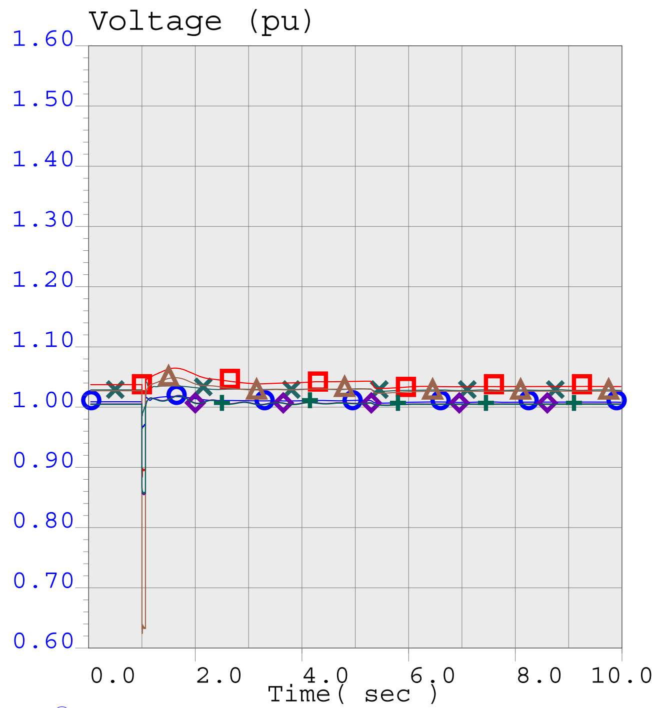

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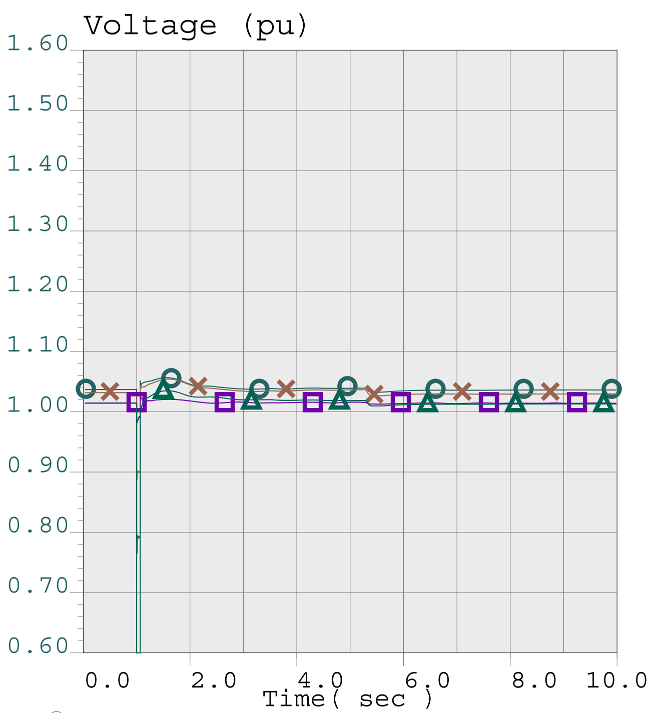

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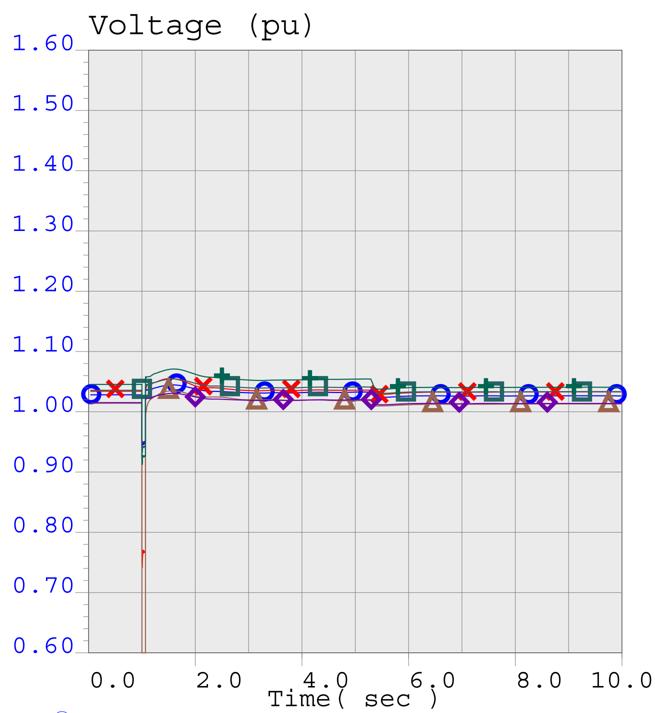

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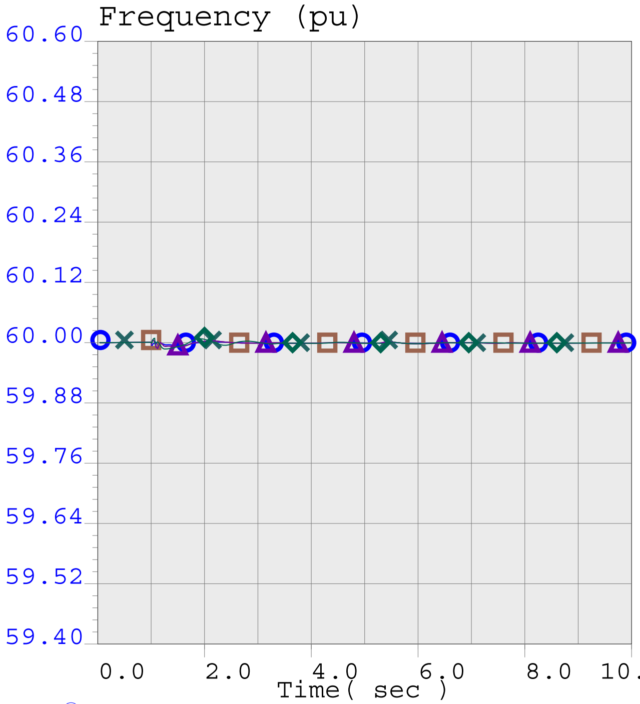

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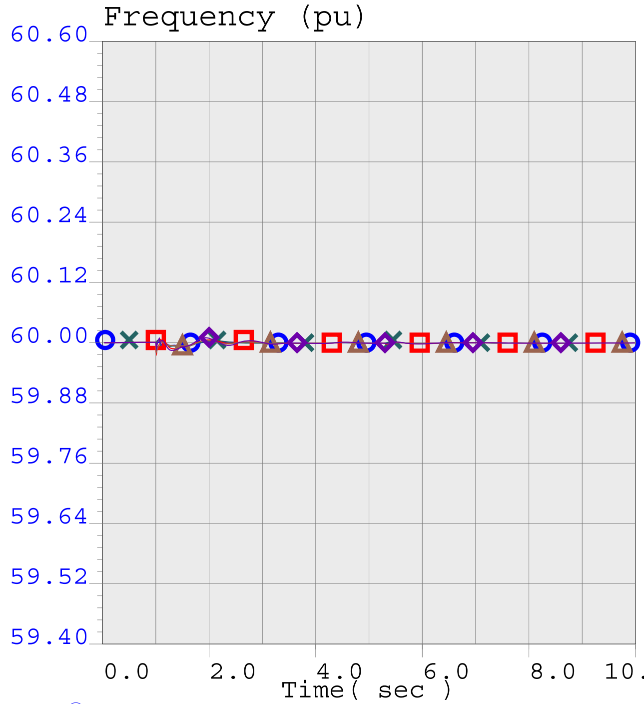

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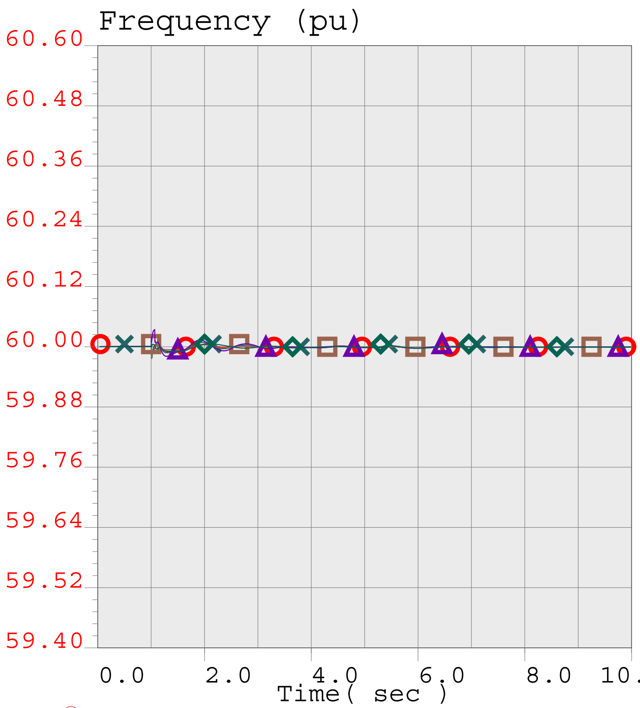

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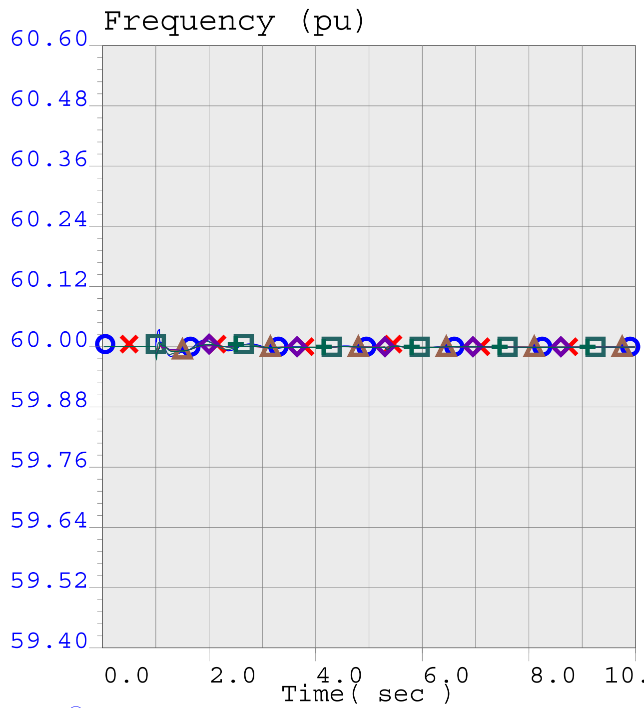

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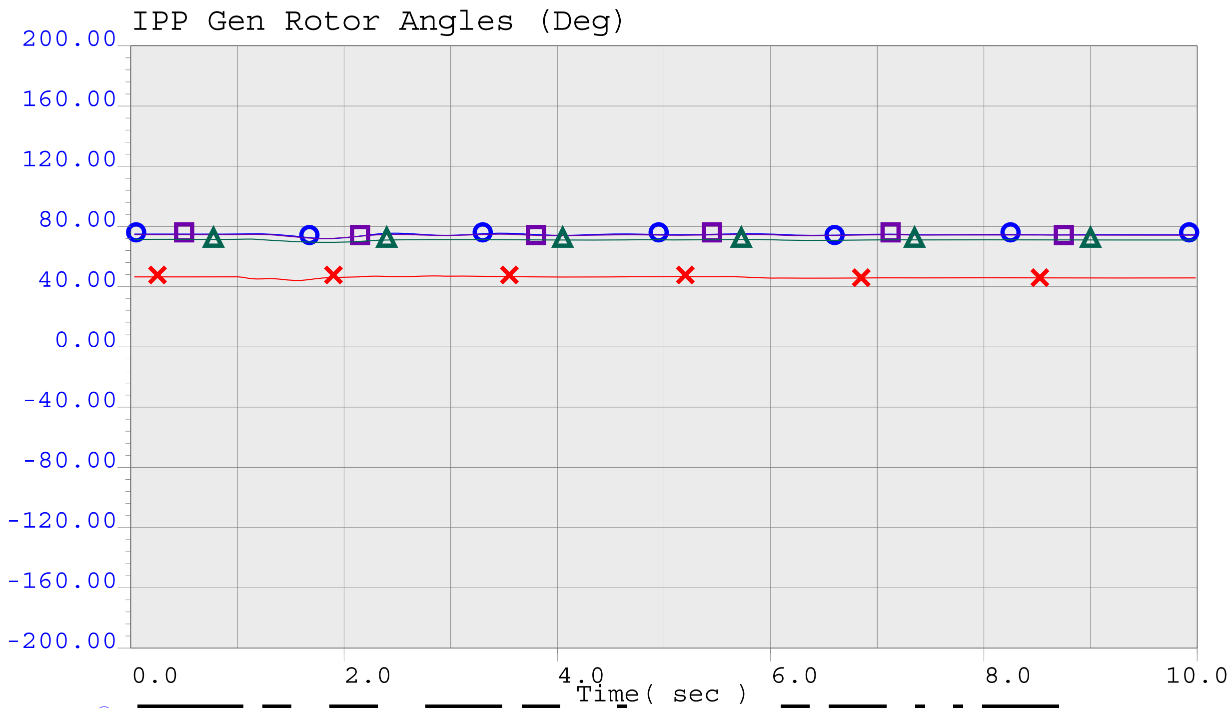

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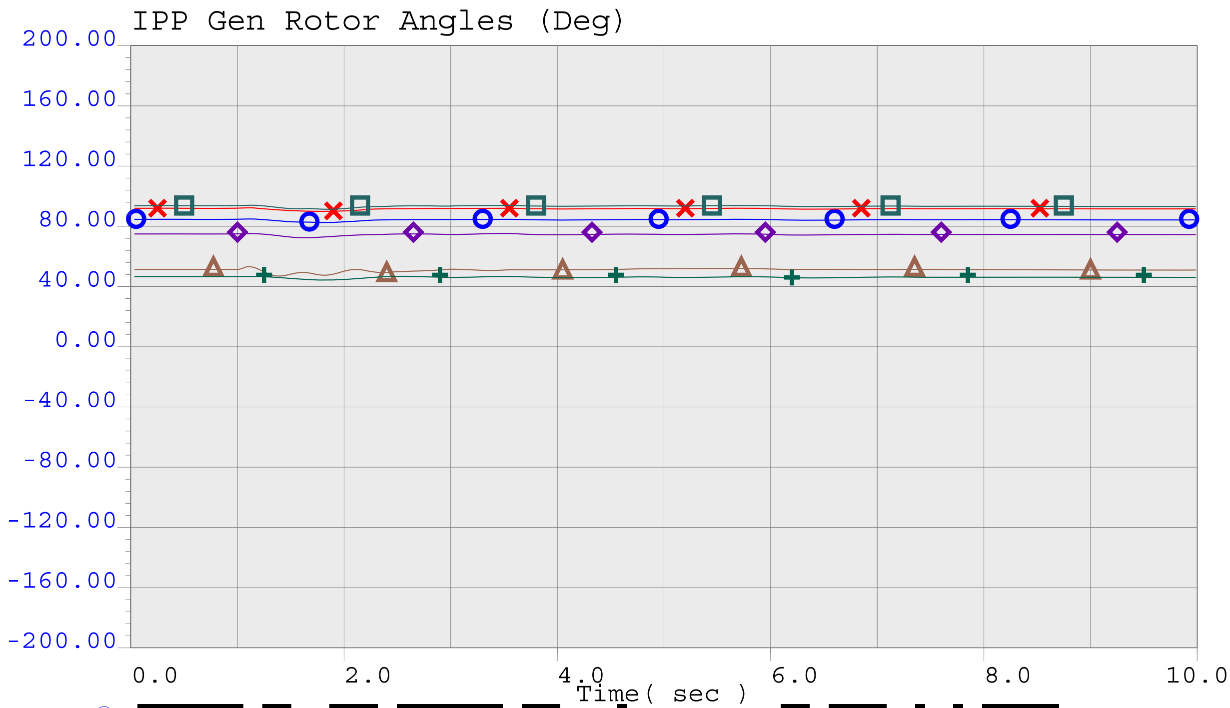

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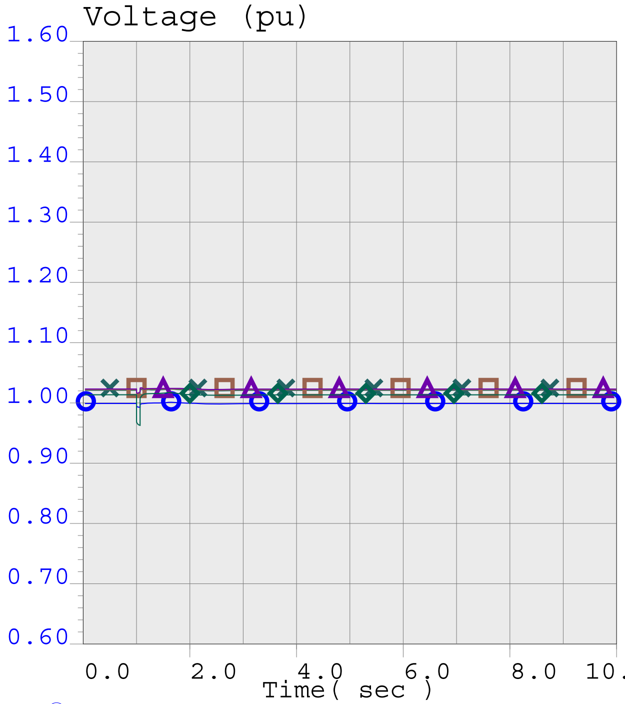

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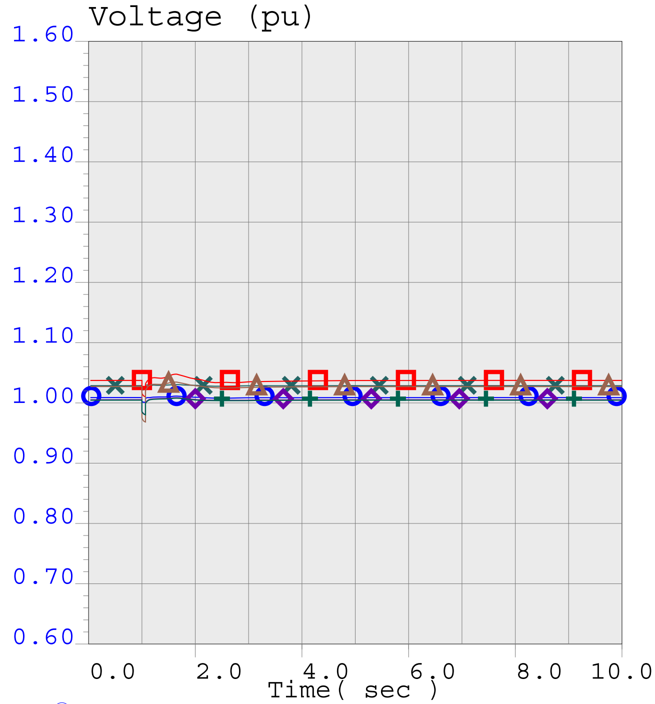

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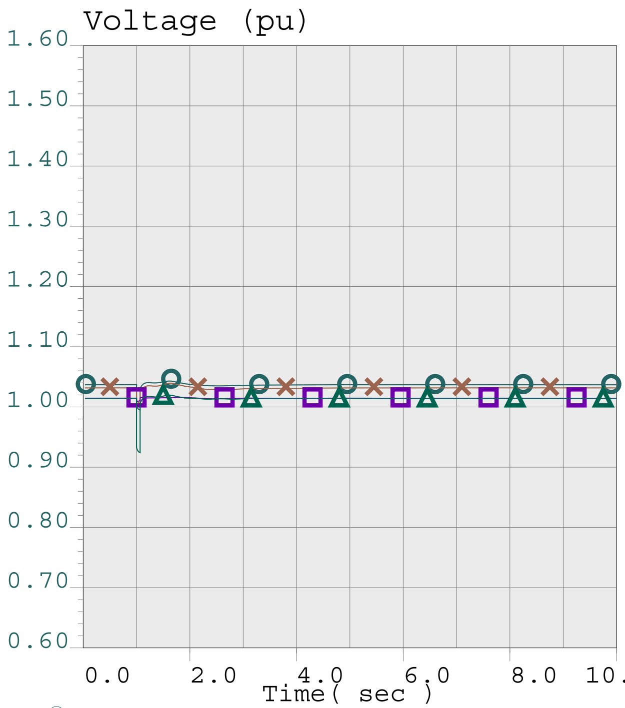

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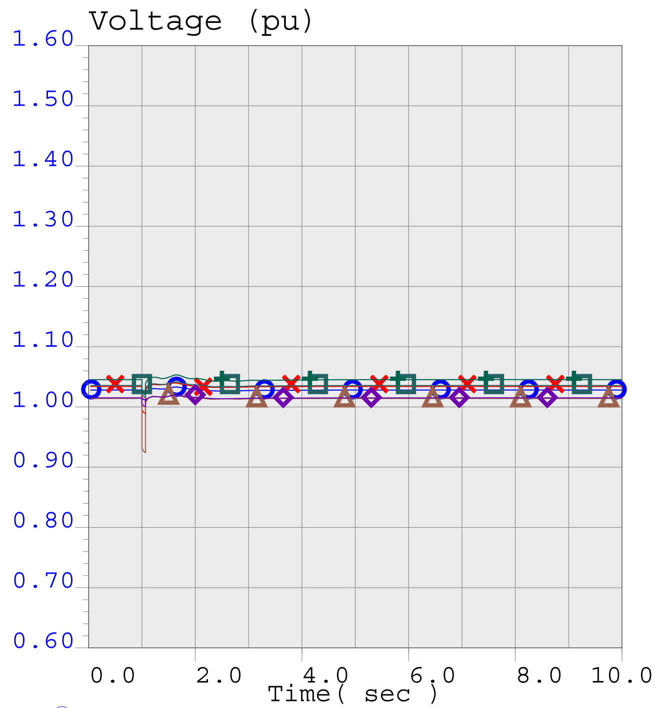

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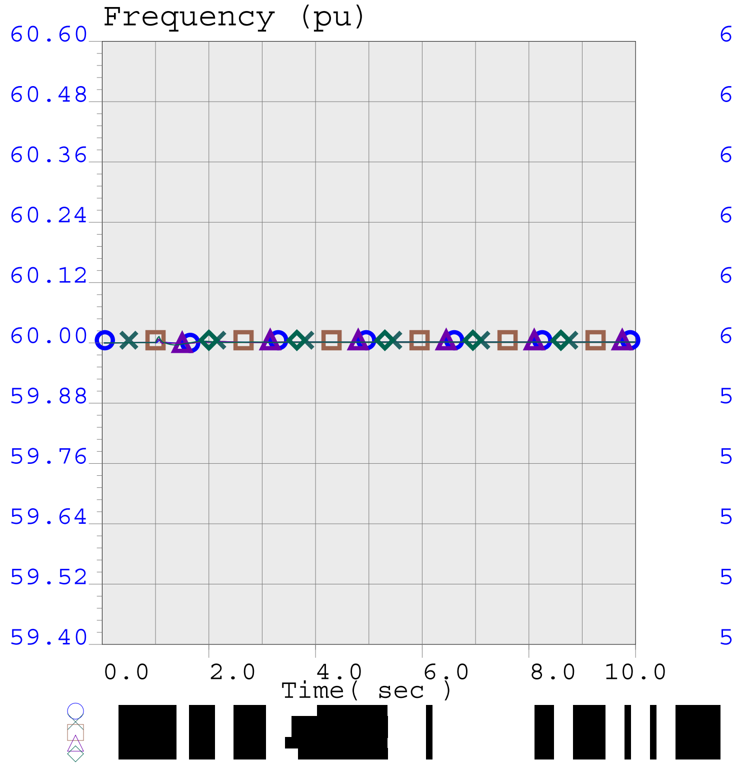

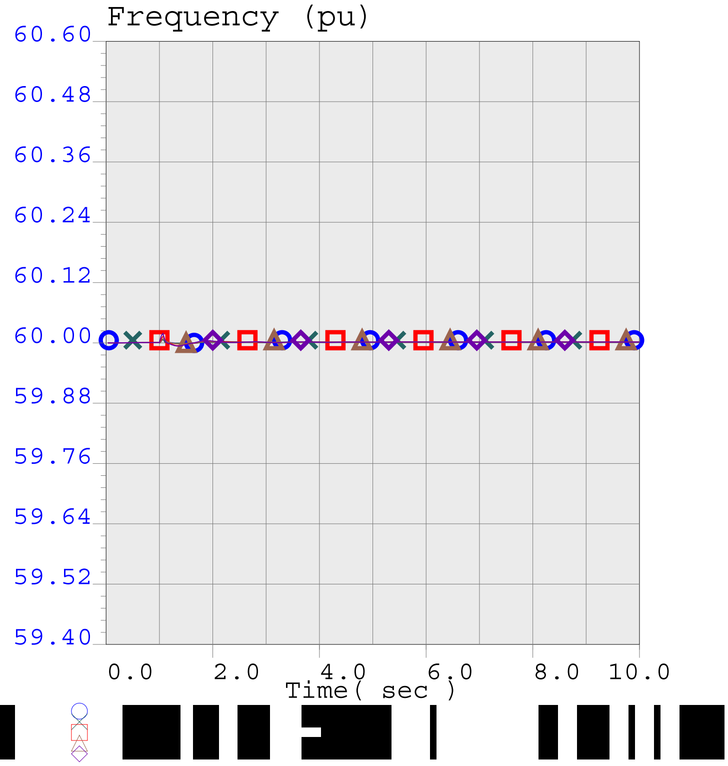

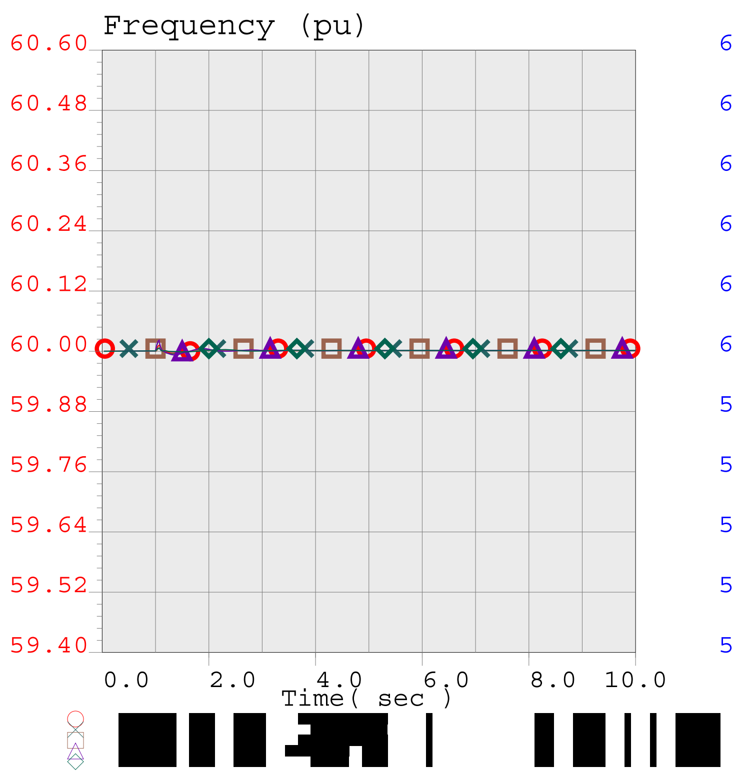

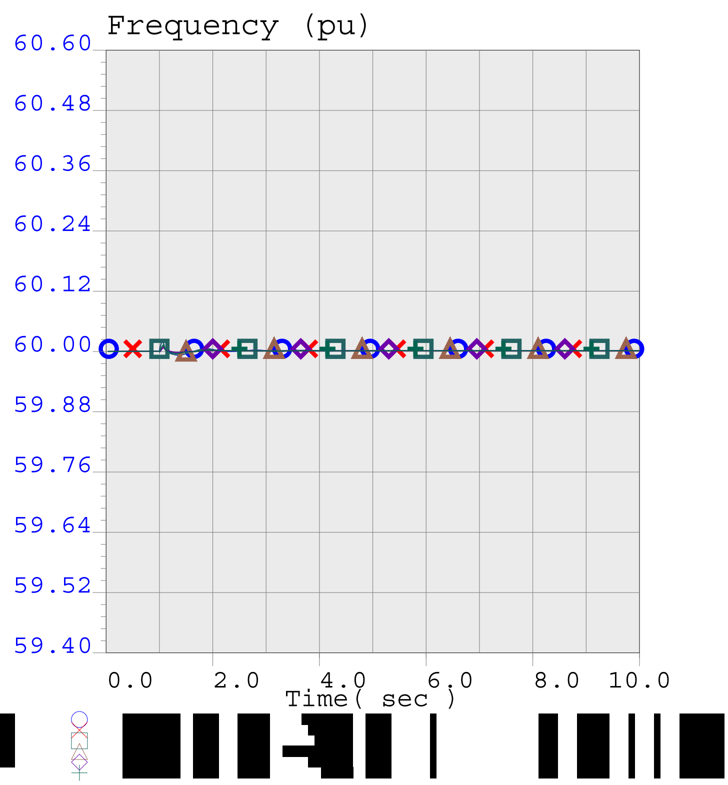

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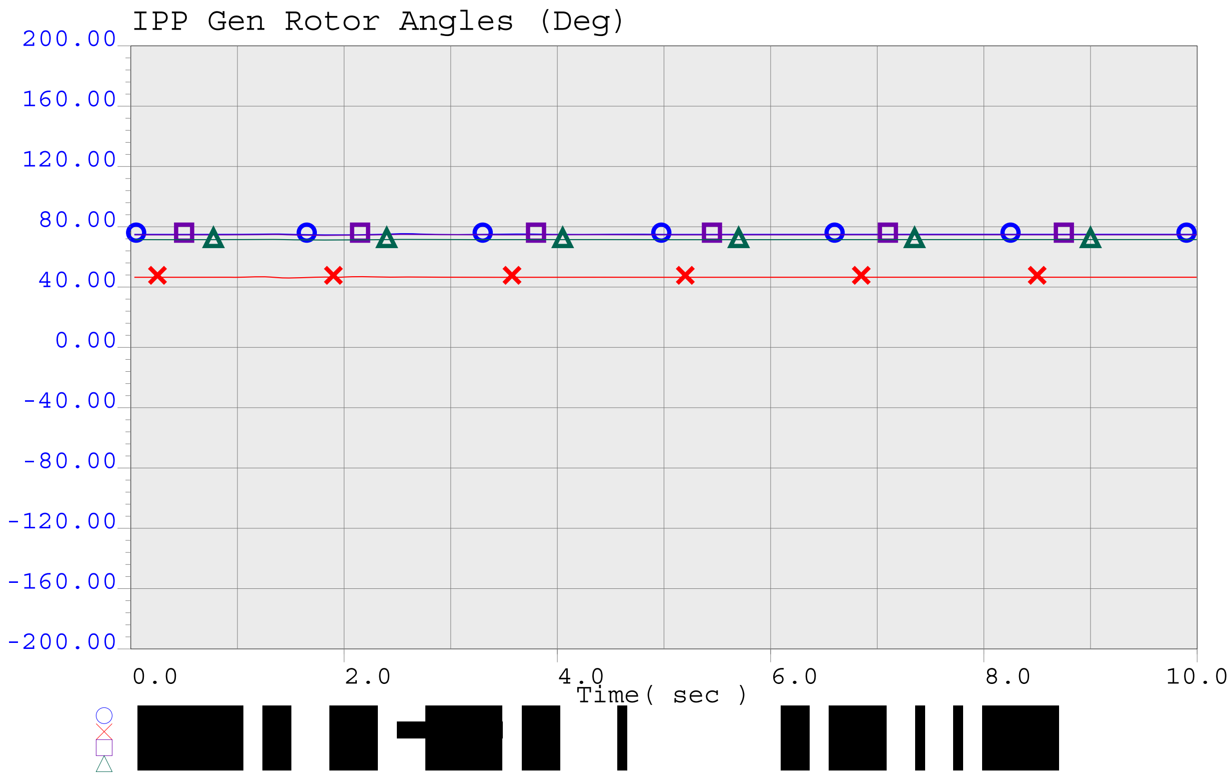

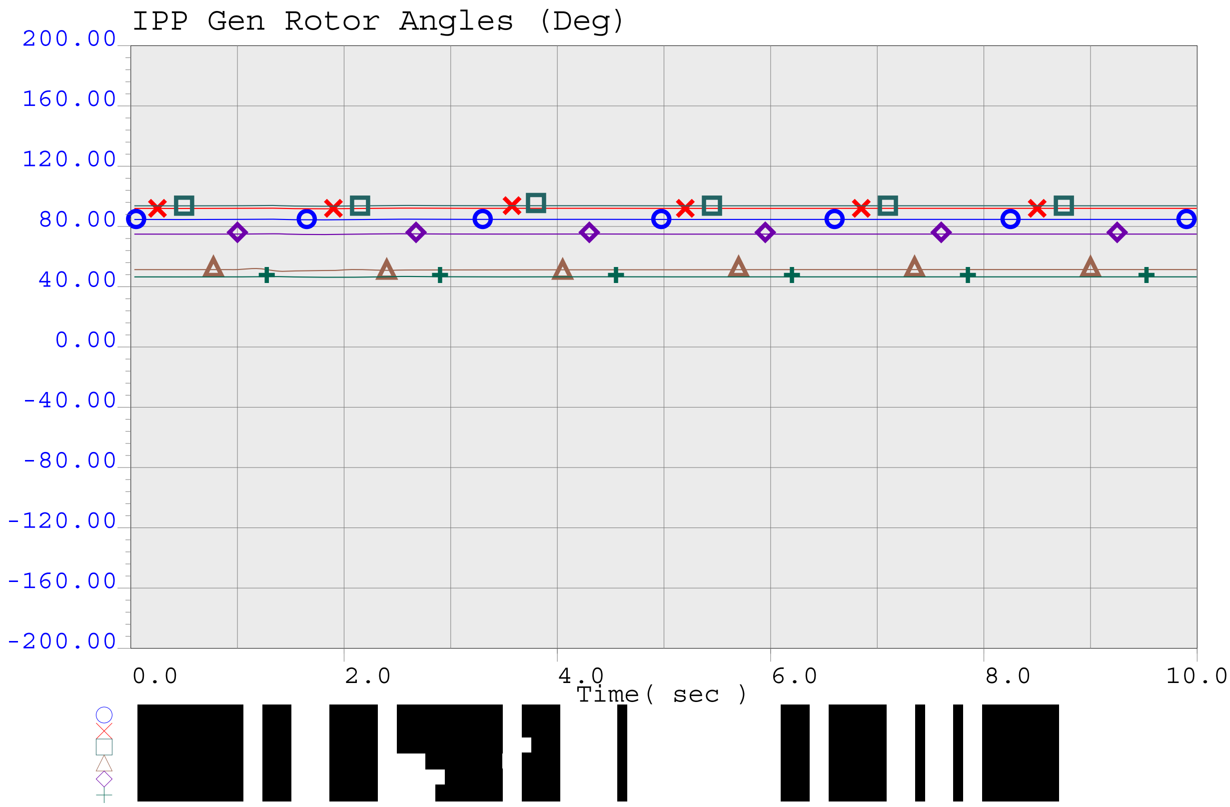

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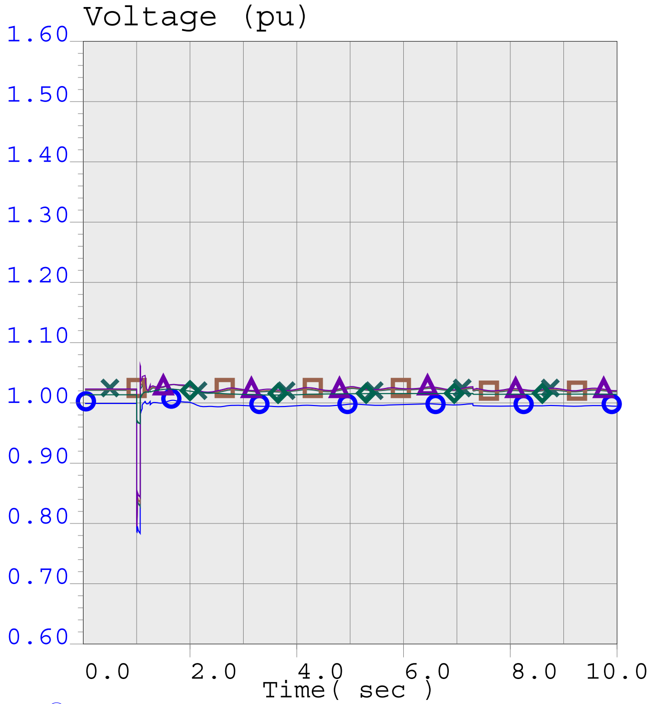

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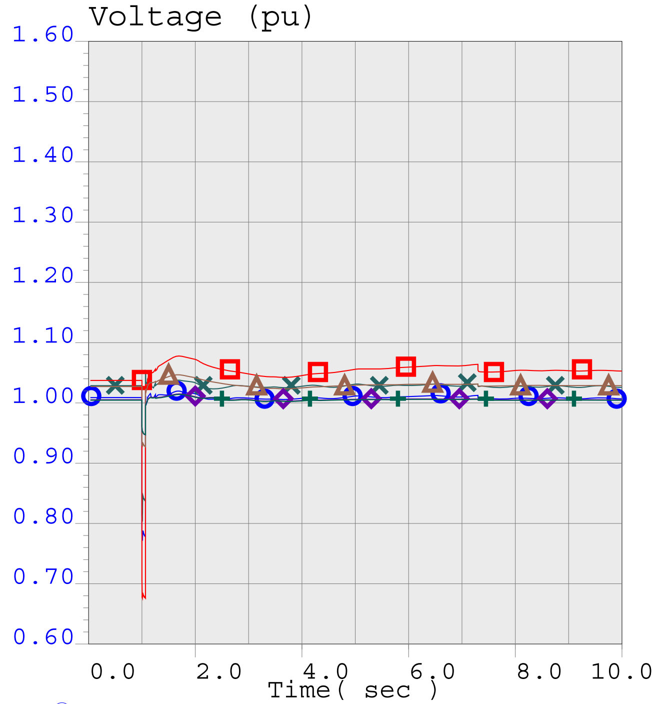

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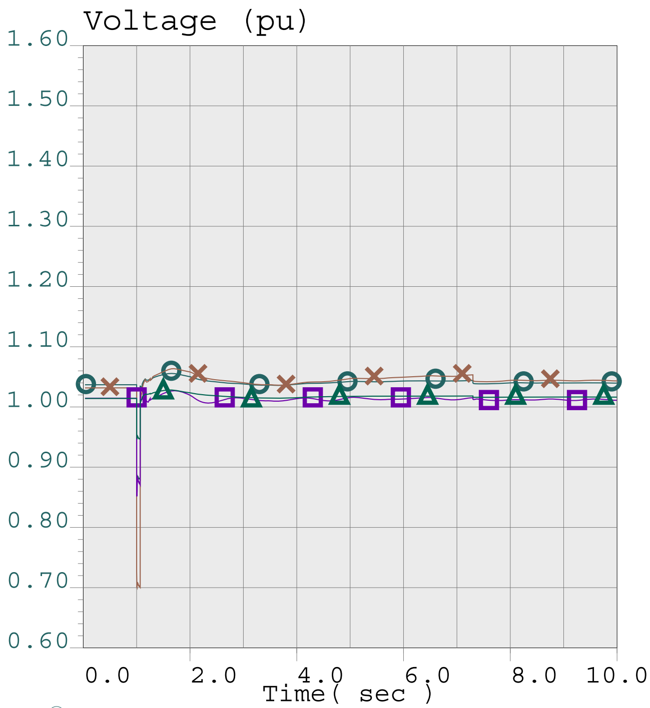

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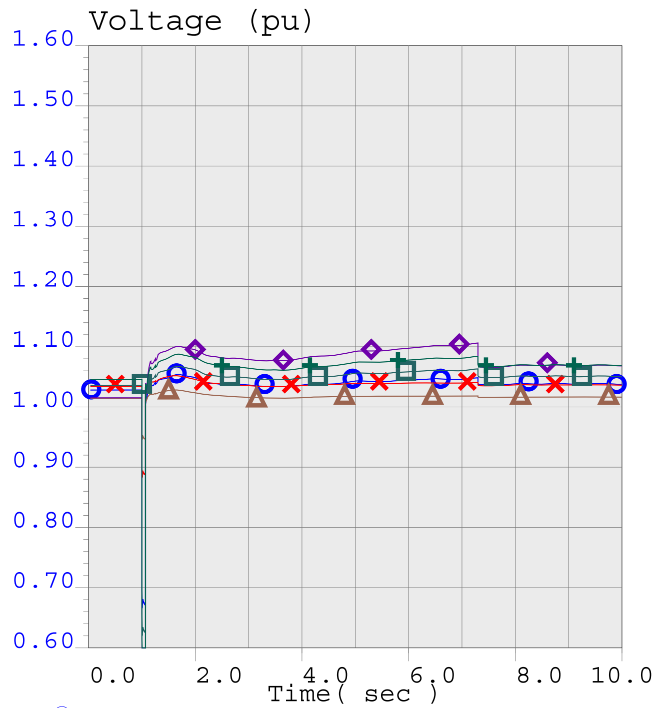

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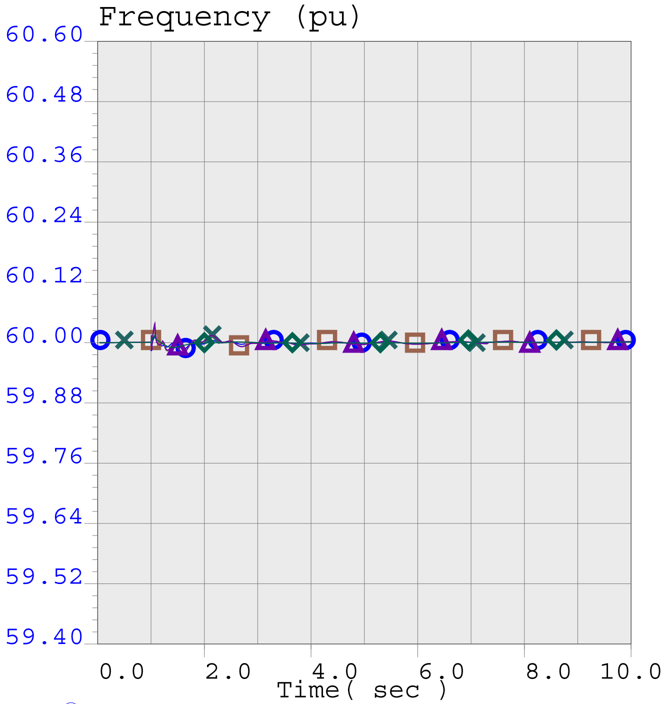

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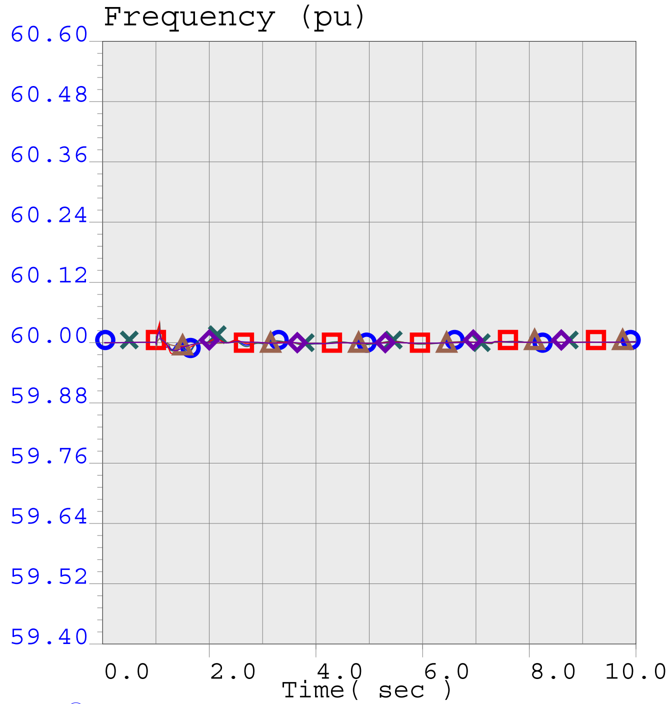

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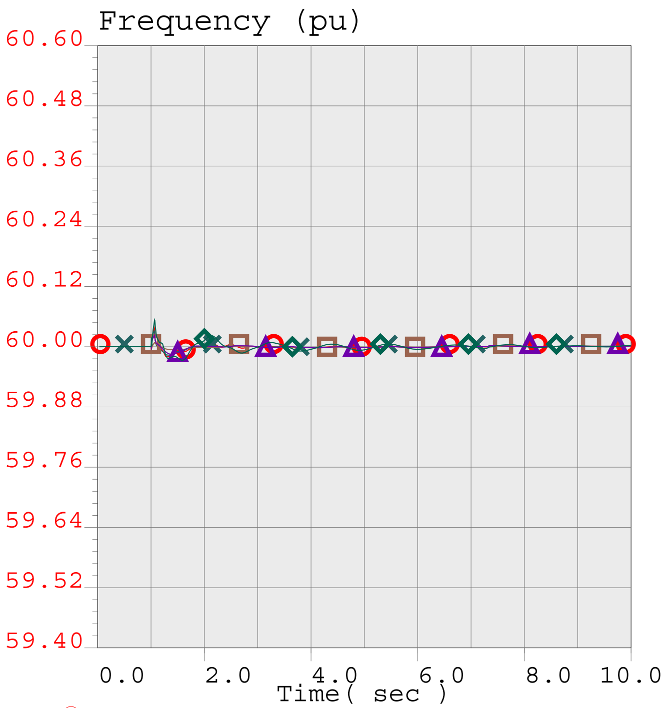

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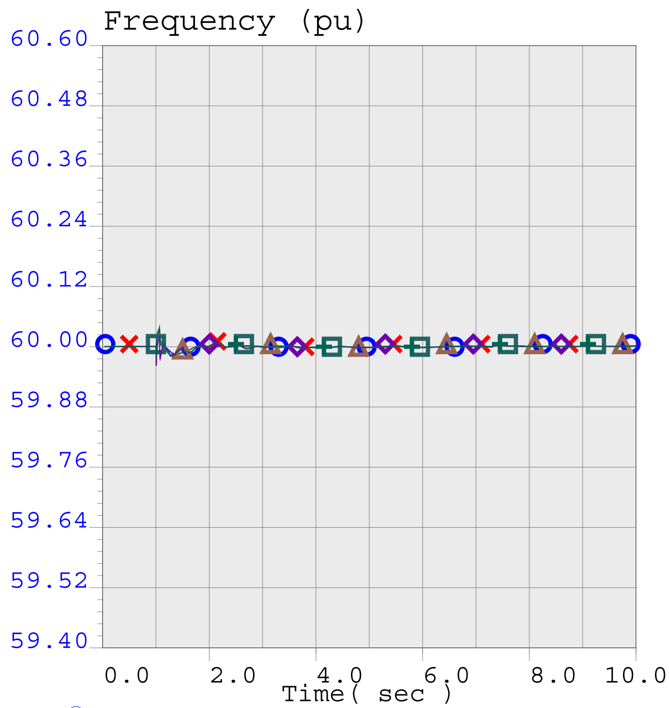

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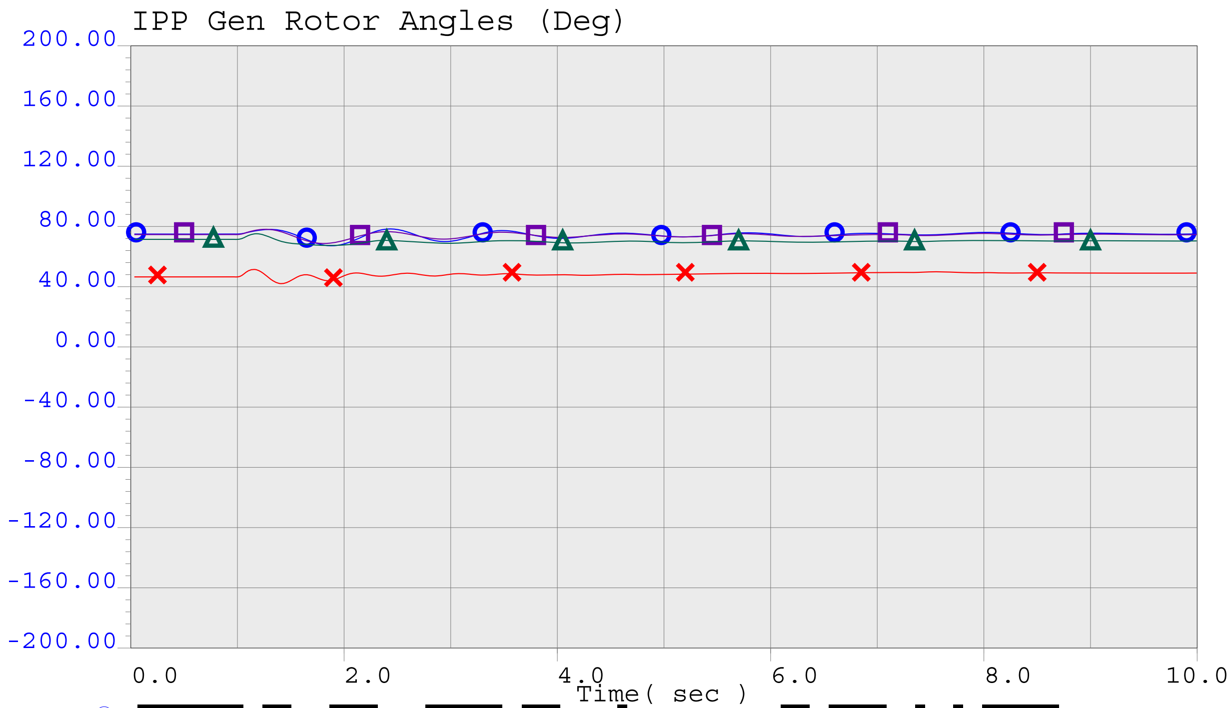
SYSTEM IMPACT STUDY (Rotor Angles)



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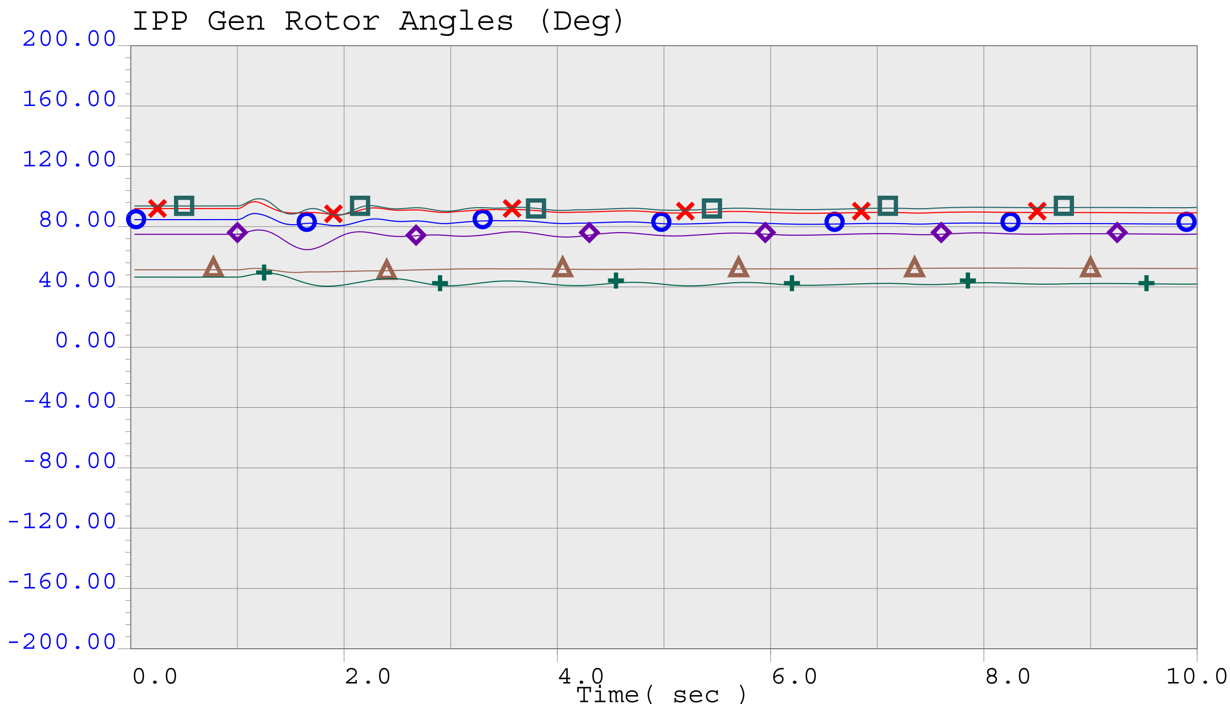

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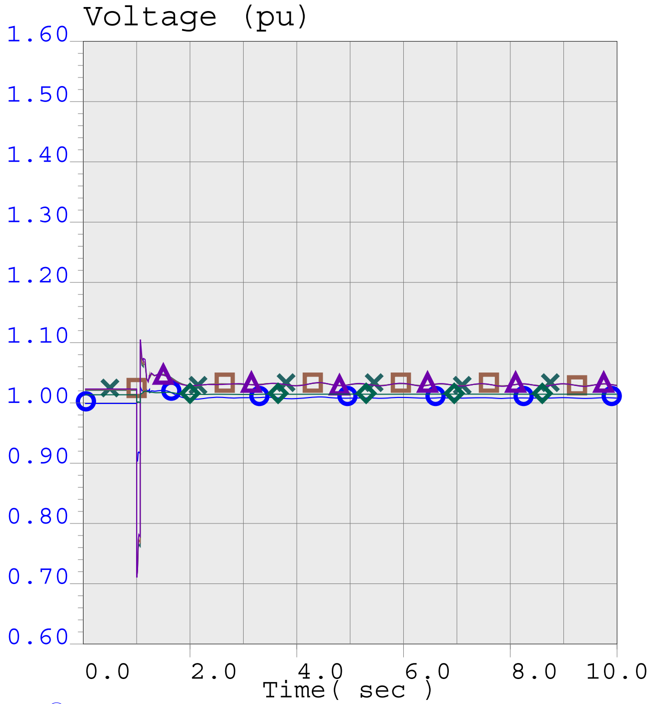

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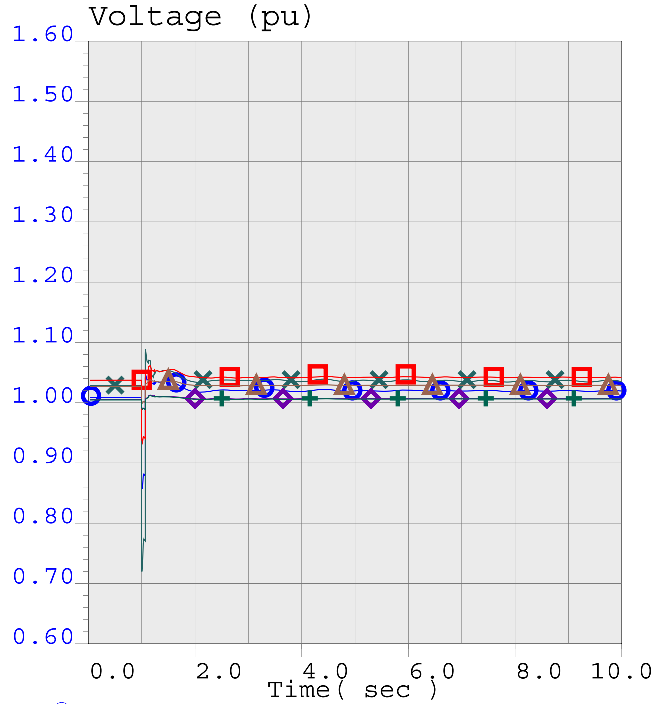

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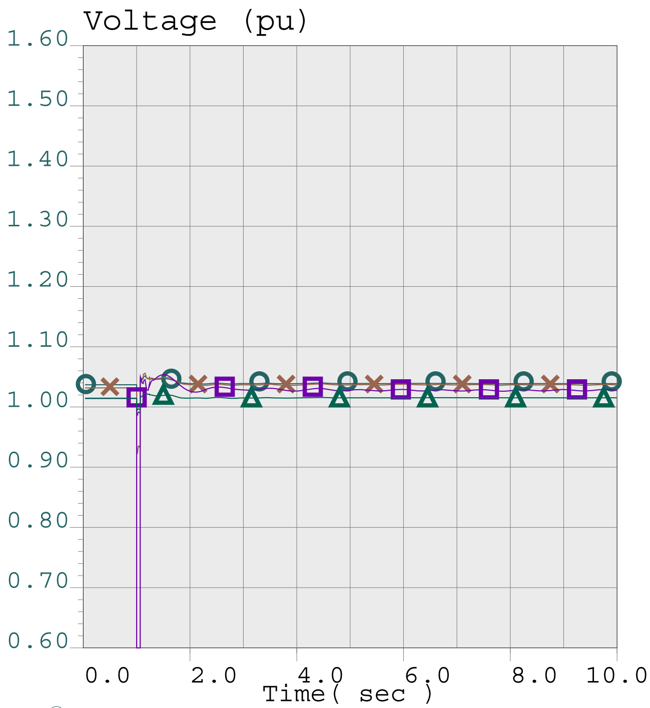

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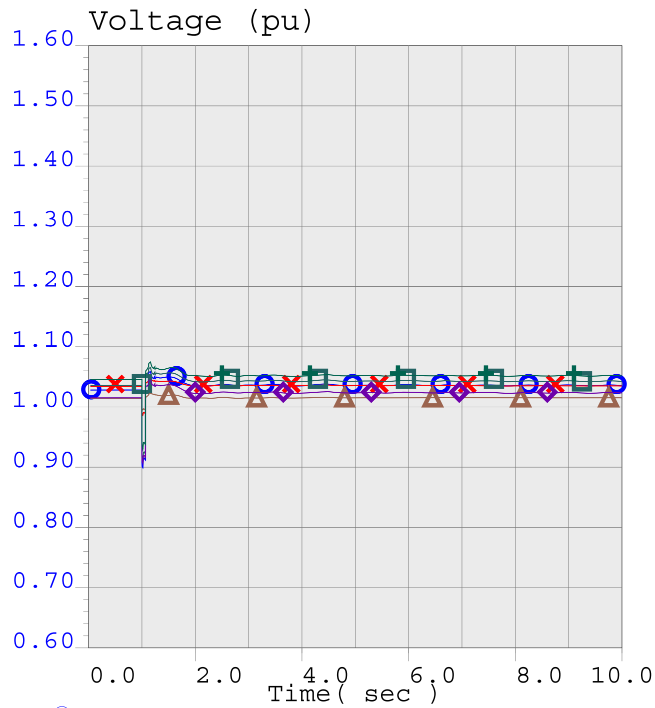

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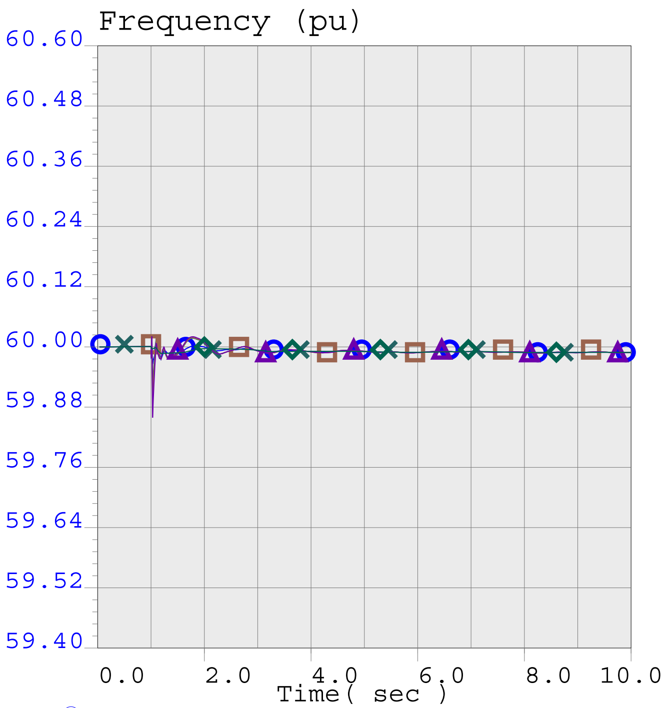

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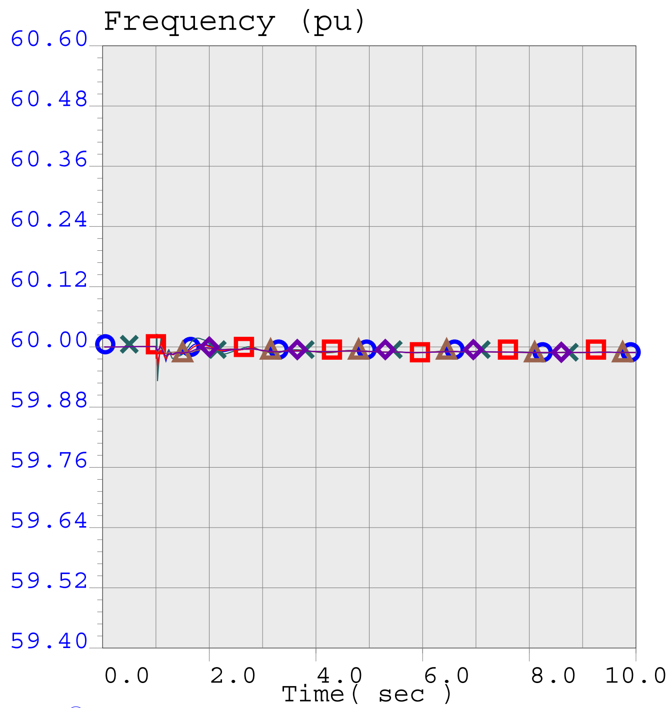

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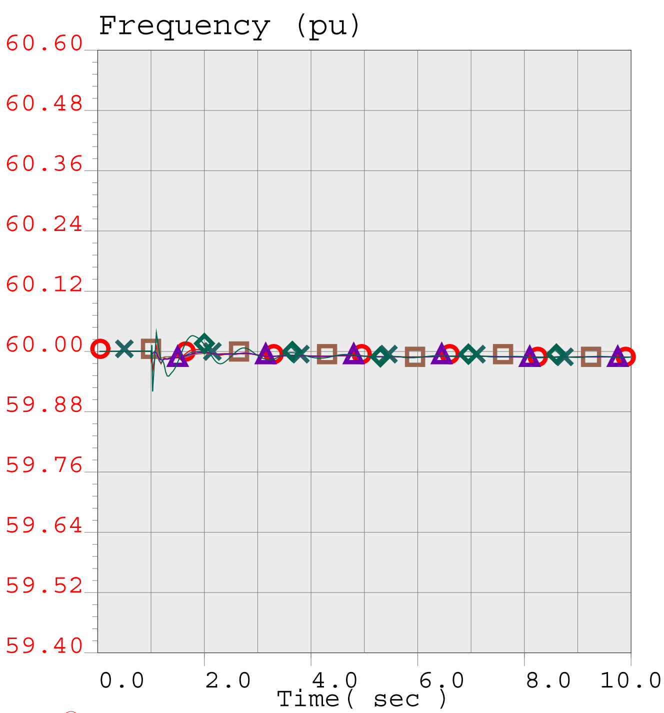

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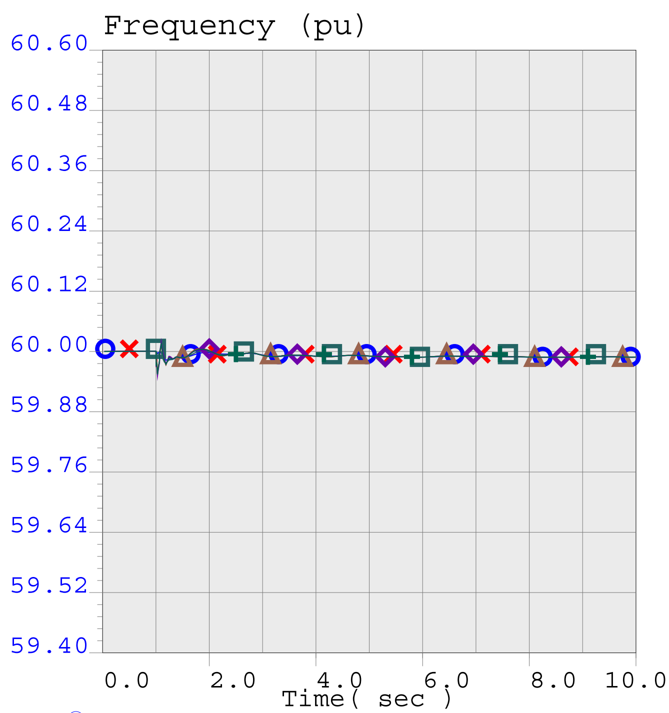

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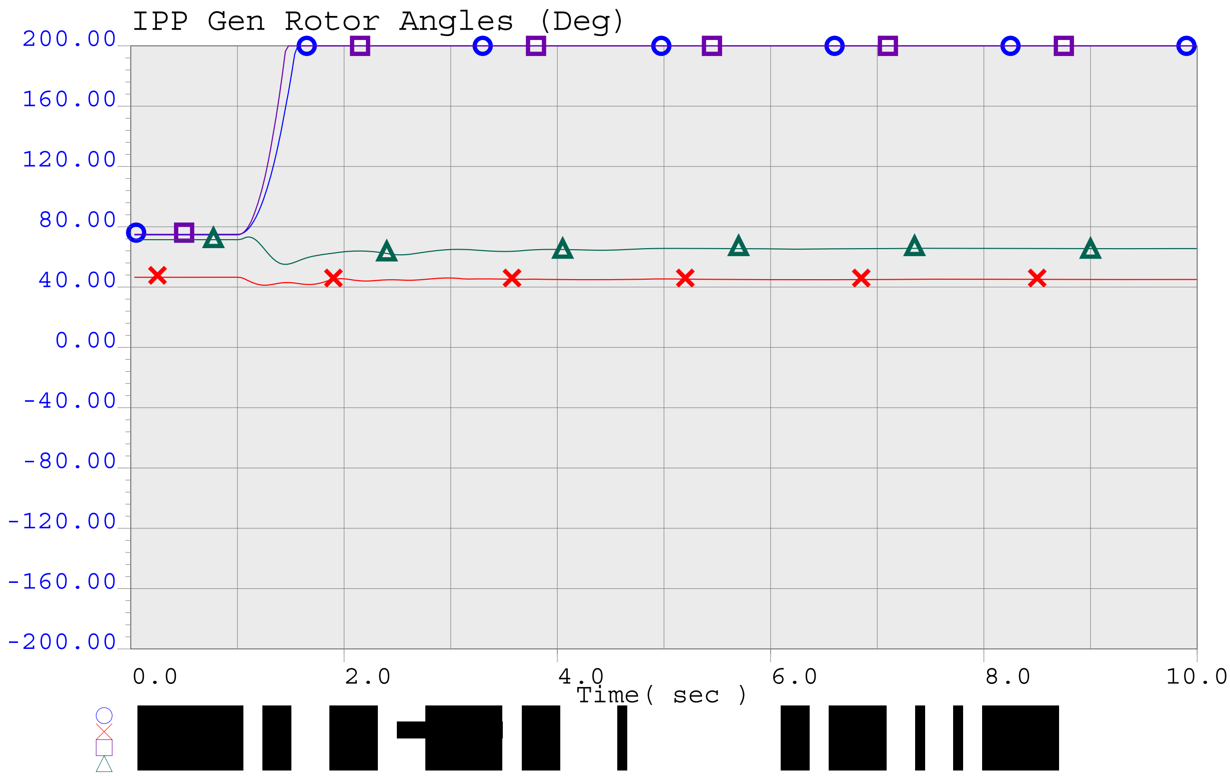

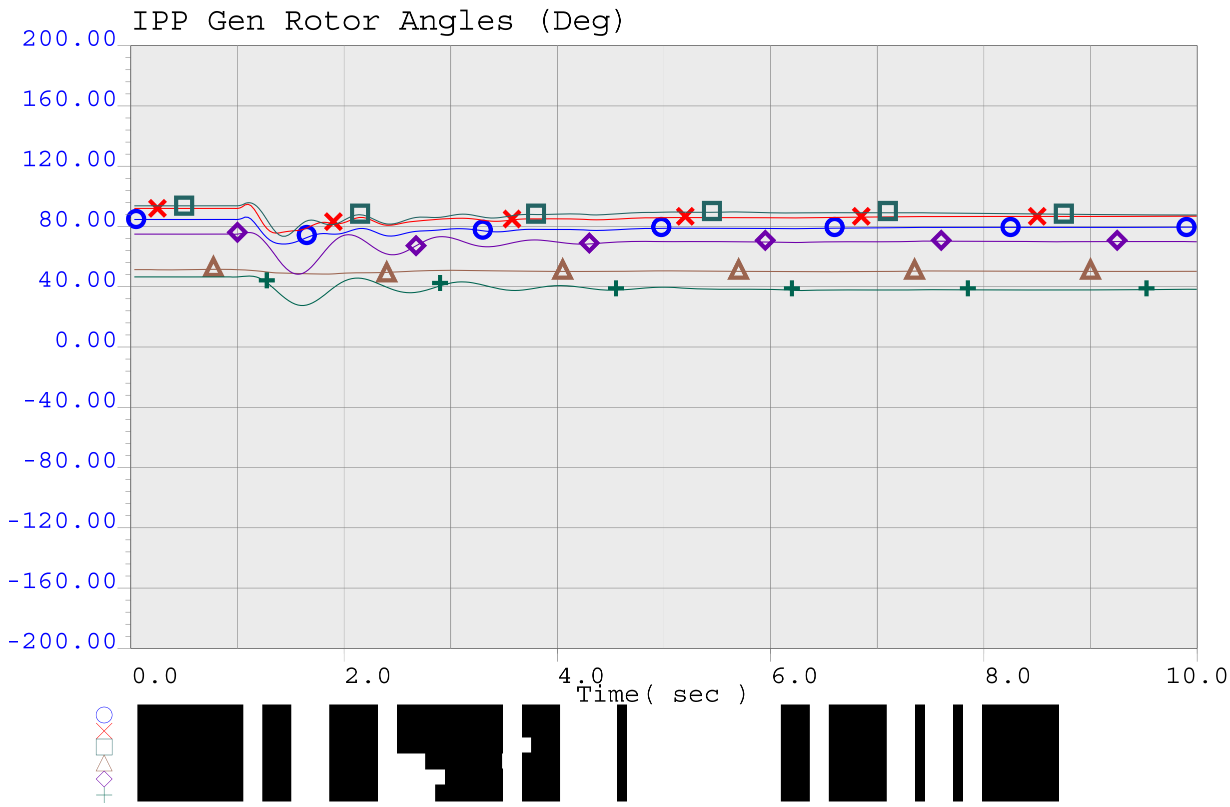

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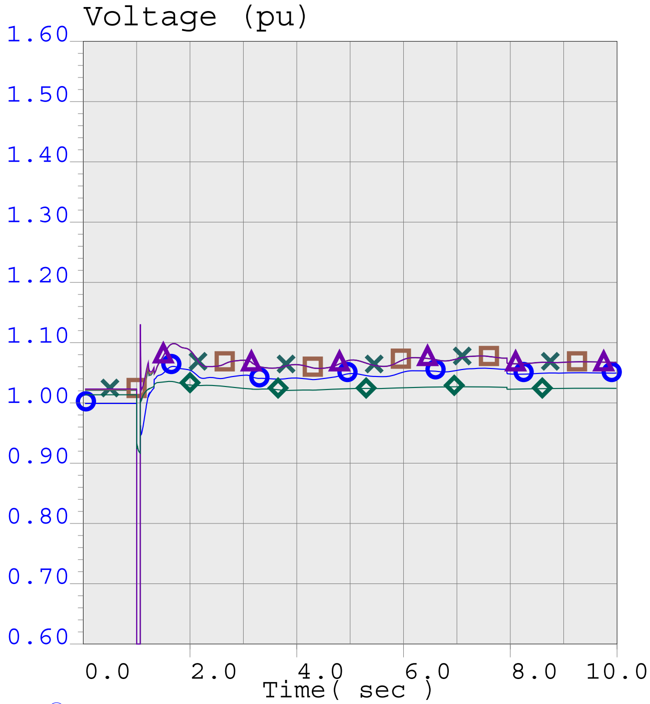

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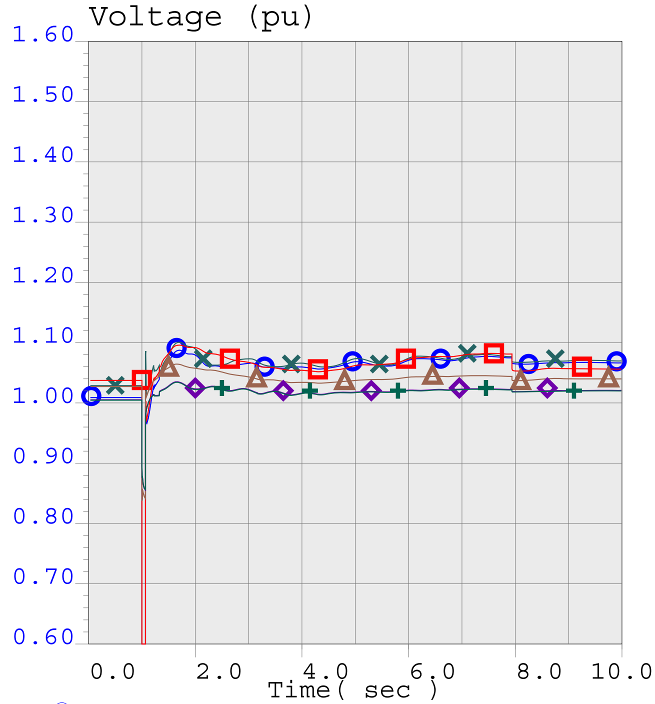

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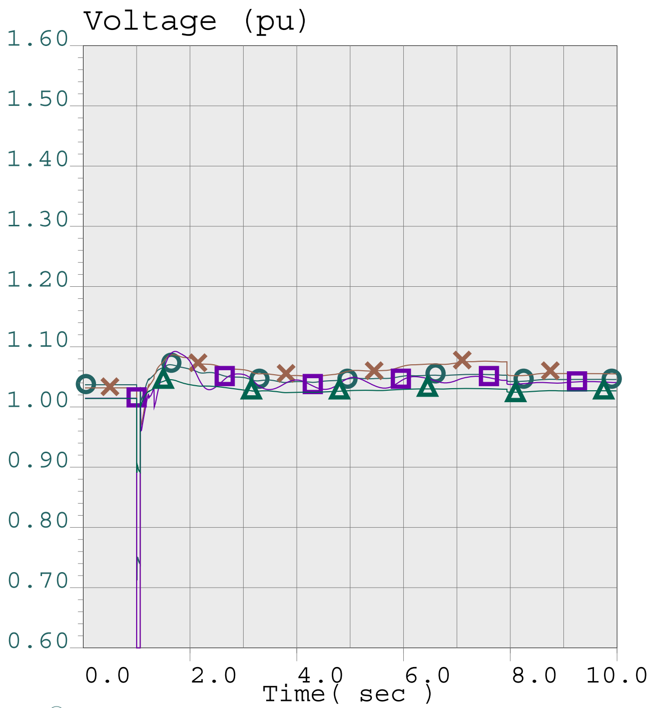

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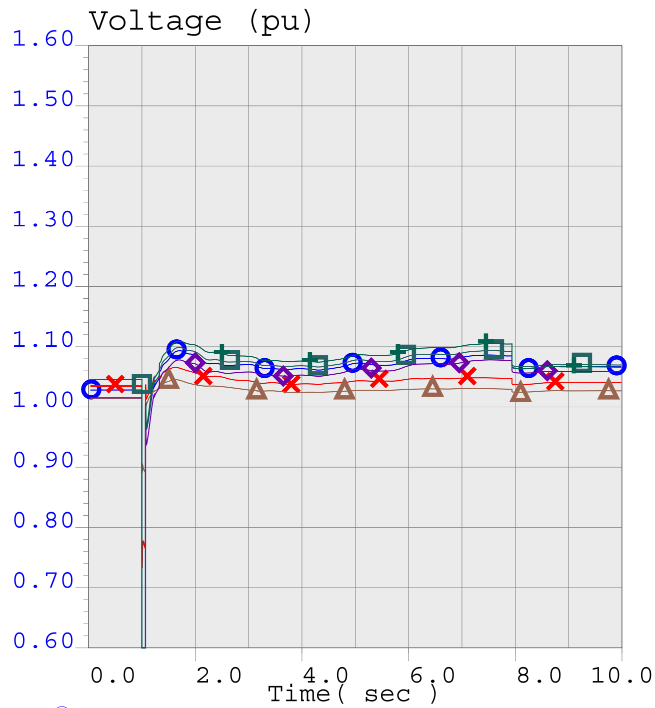

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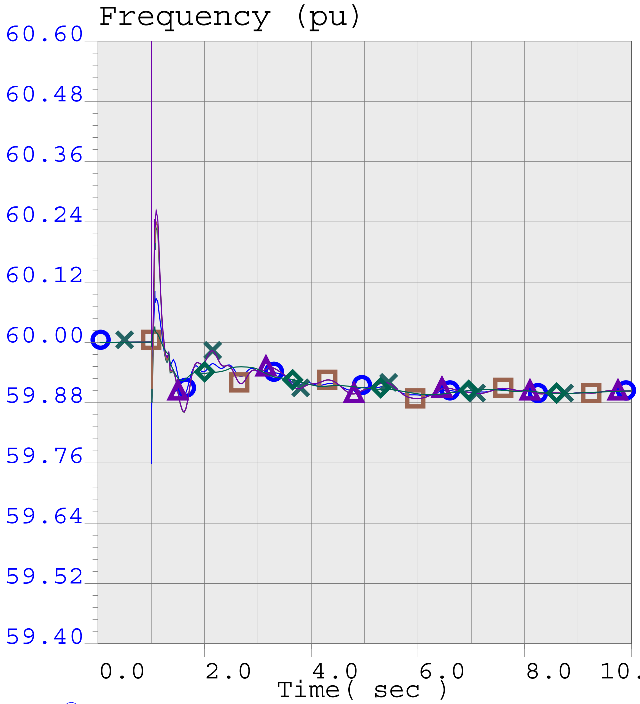
Fri Aug 26 08:39:54 2022

SYSTEM IMPACT STUDY (Frequency)



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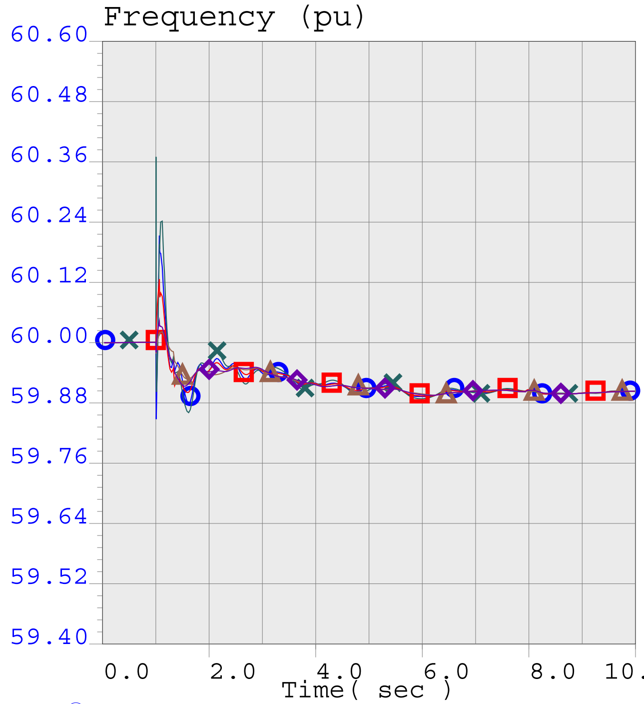

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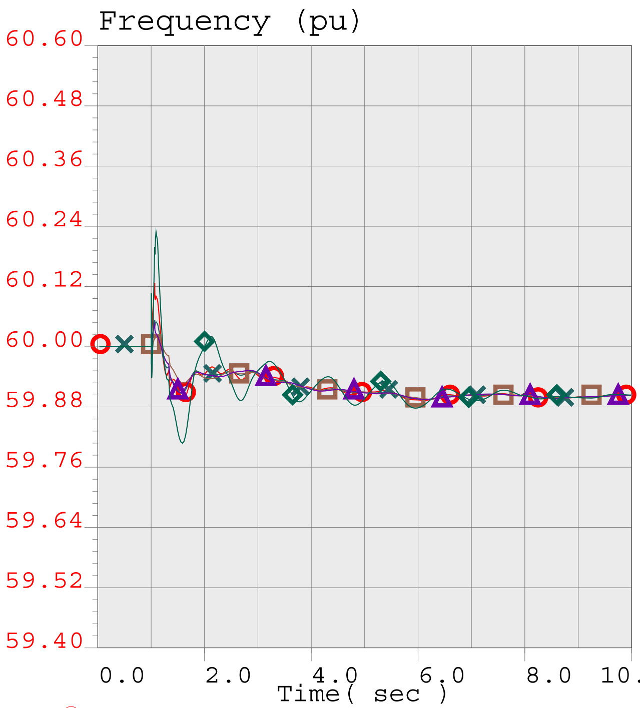

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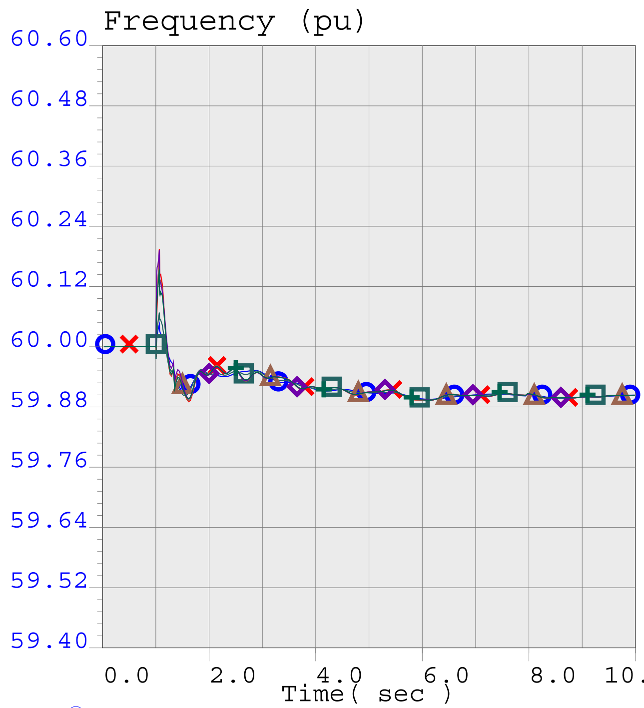

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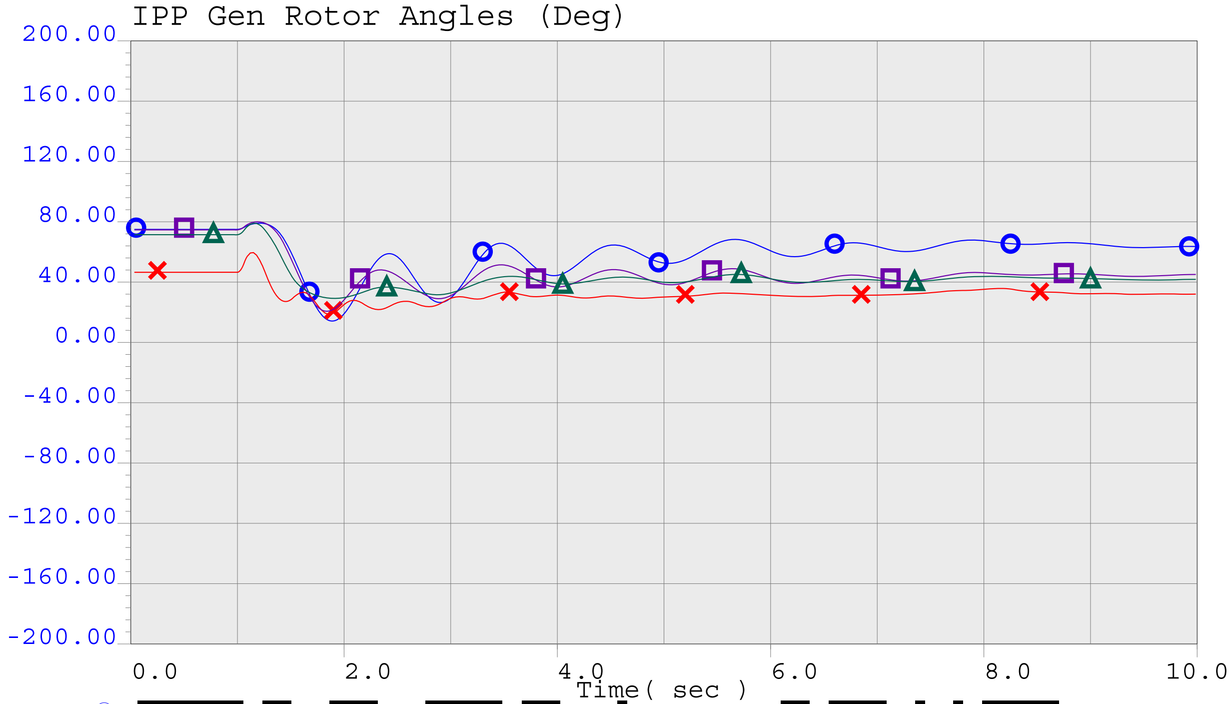
Fri Aug 26 08:39:54 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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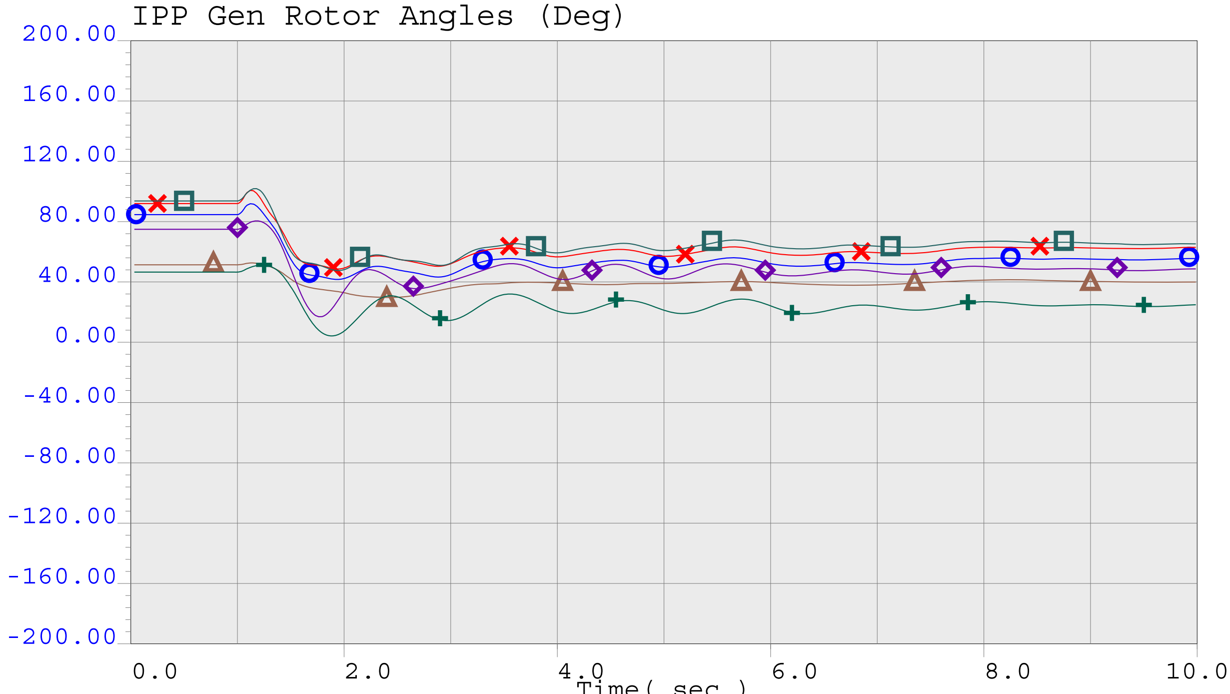
IPP Gen Rotor Angles (Deg)



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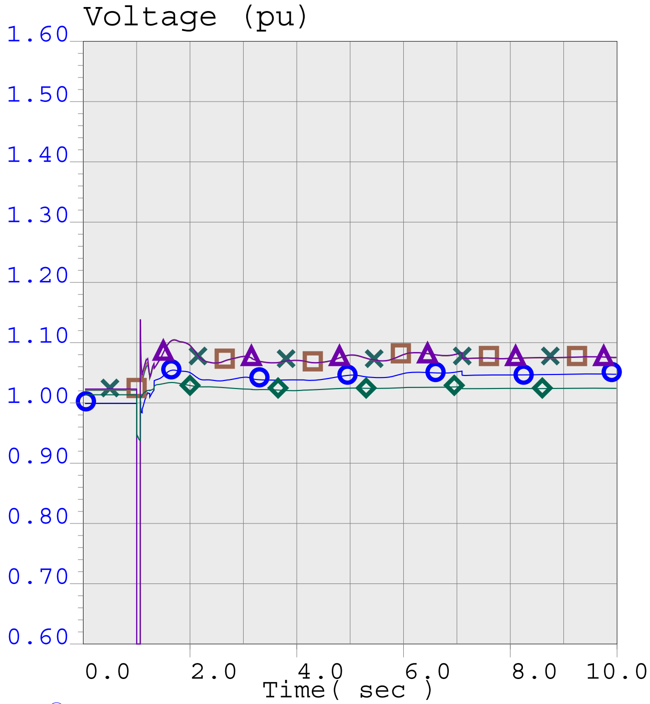
SYSTEM IMPACT STUDY (Voltage)



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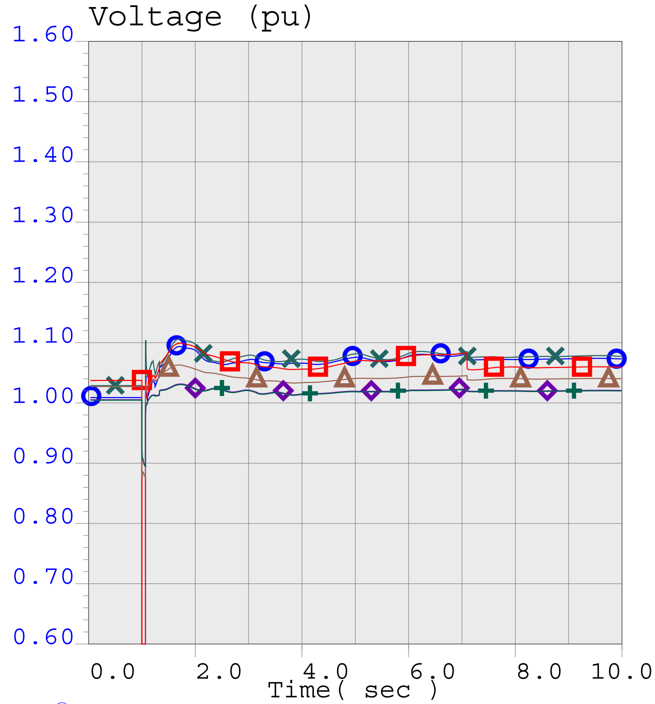

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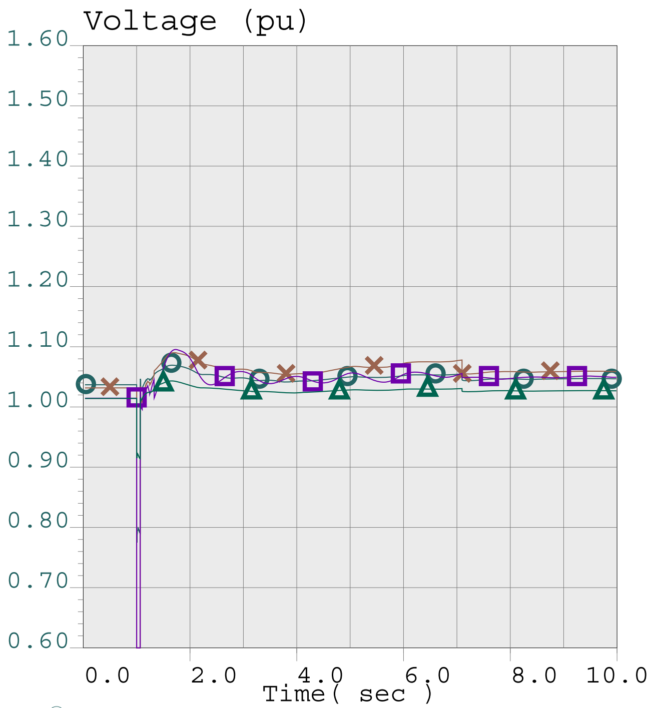

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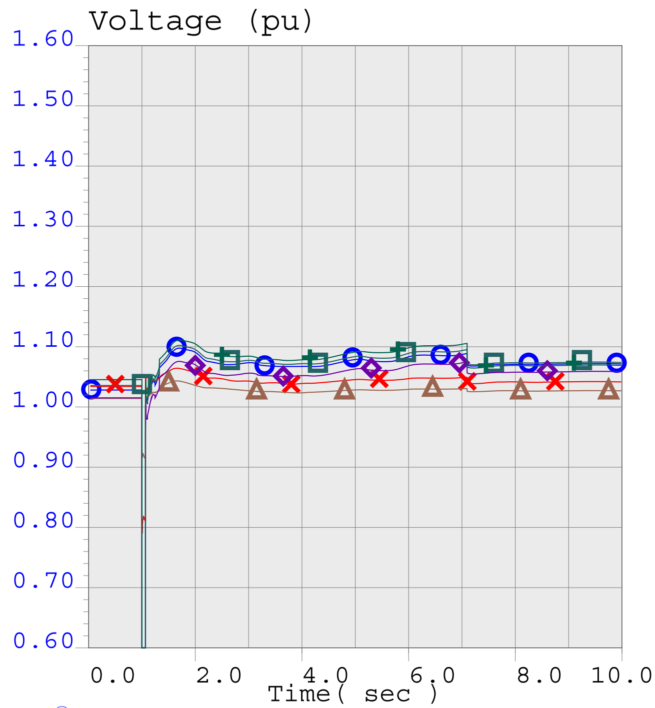

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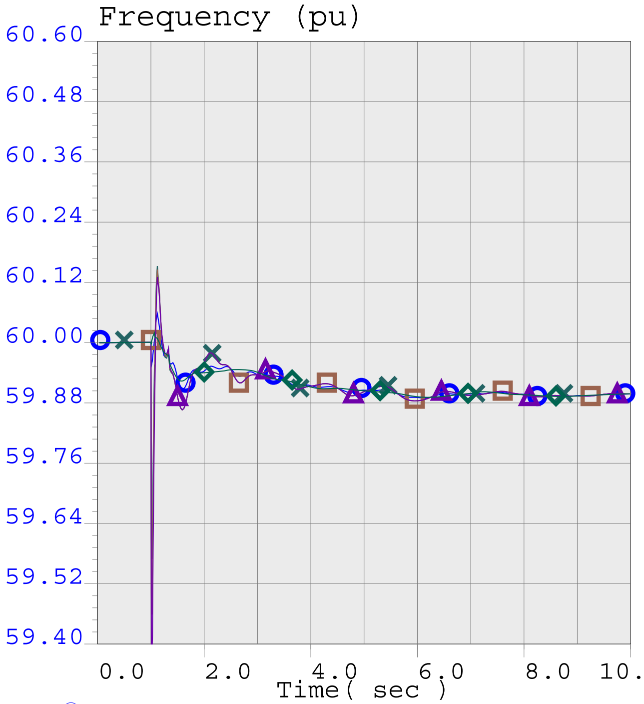

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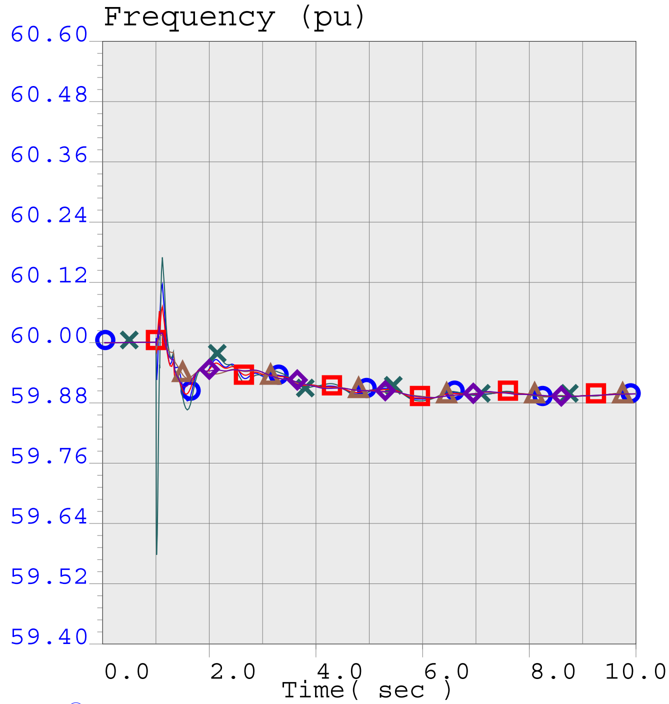

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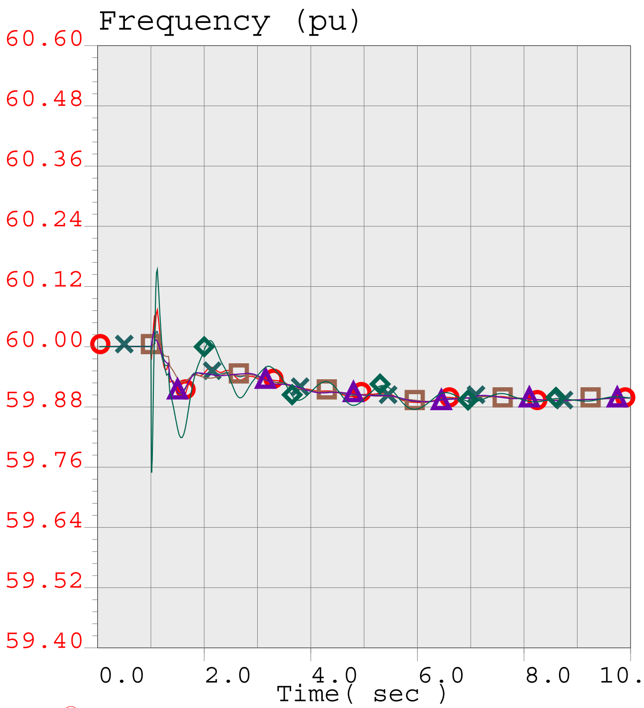

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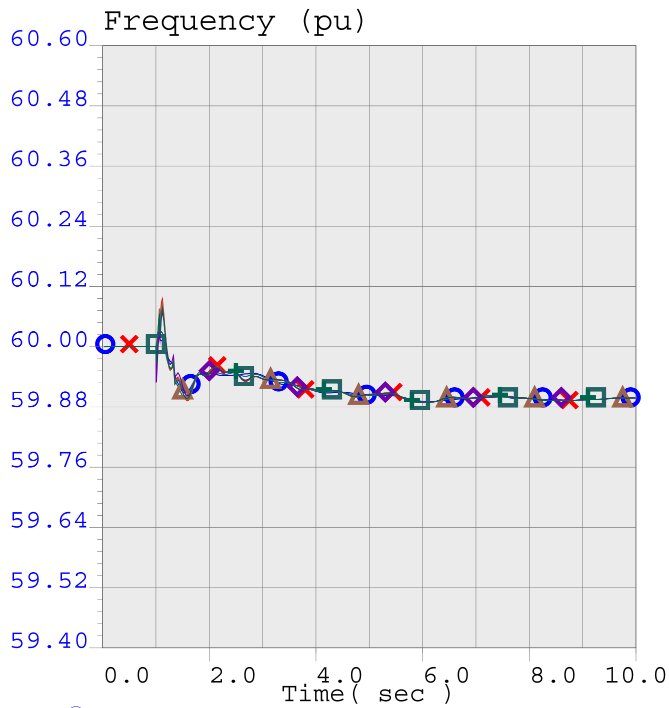

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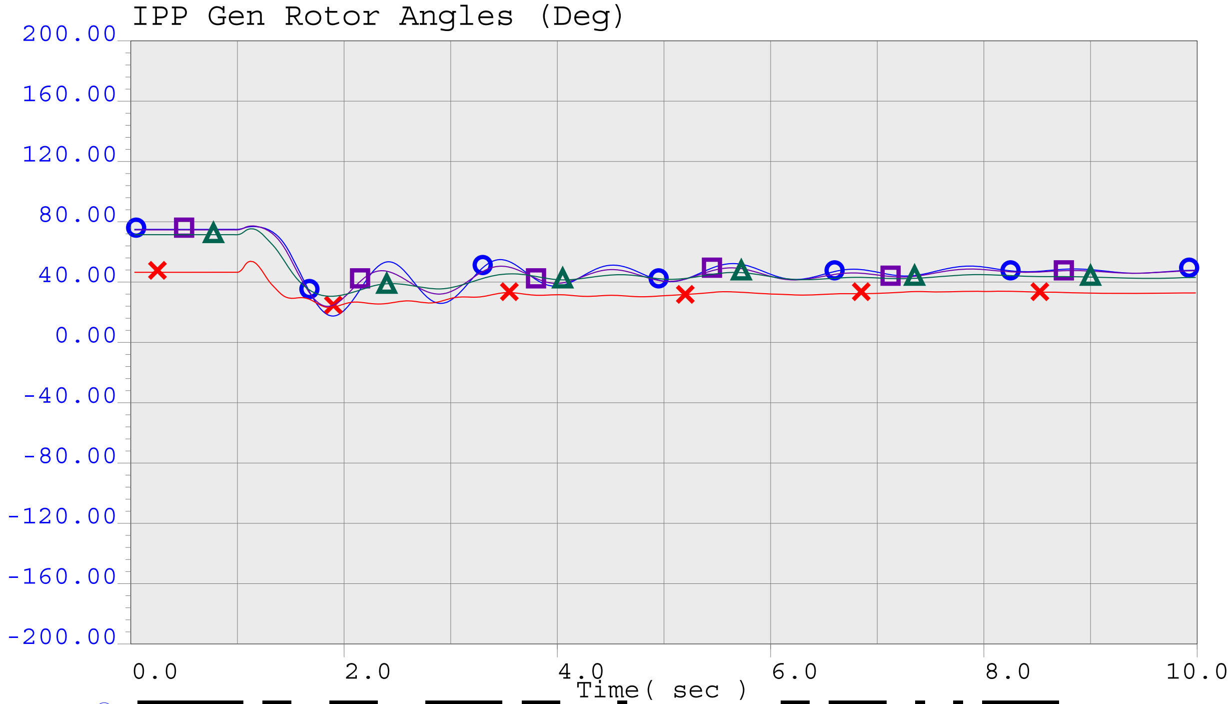
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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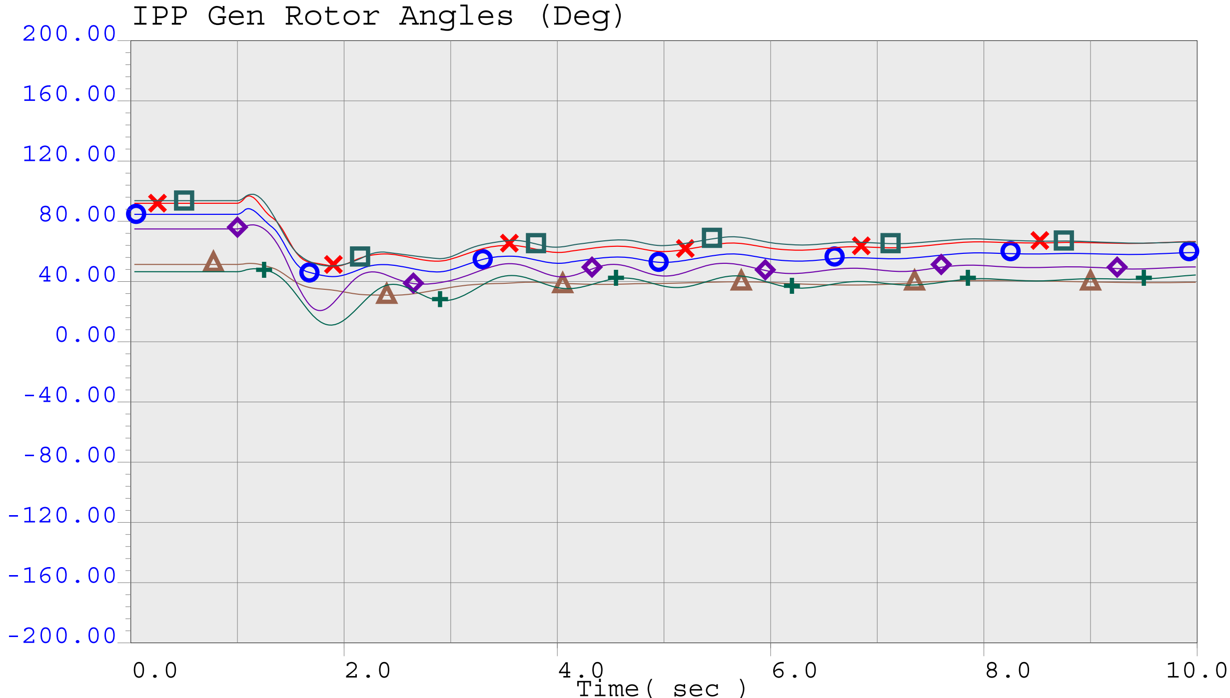
IPP Gen Rotor Angles (Deg)



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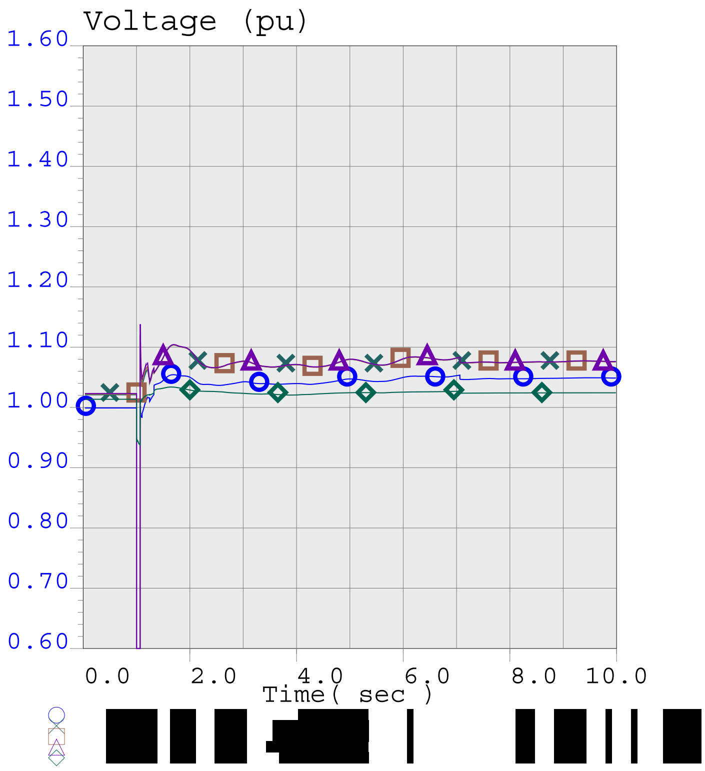

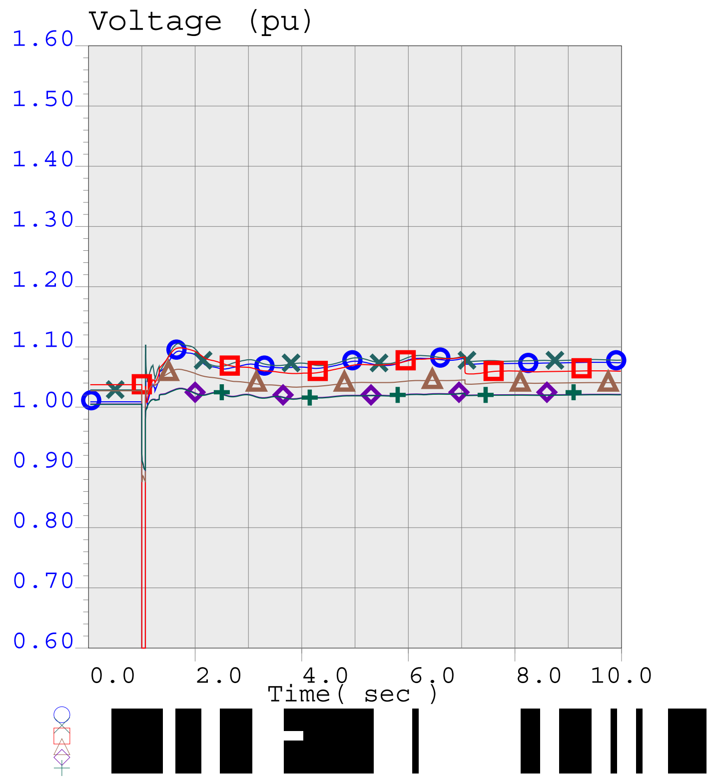

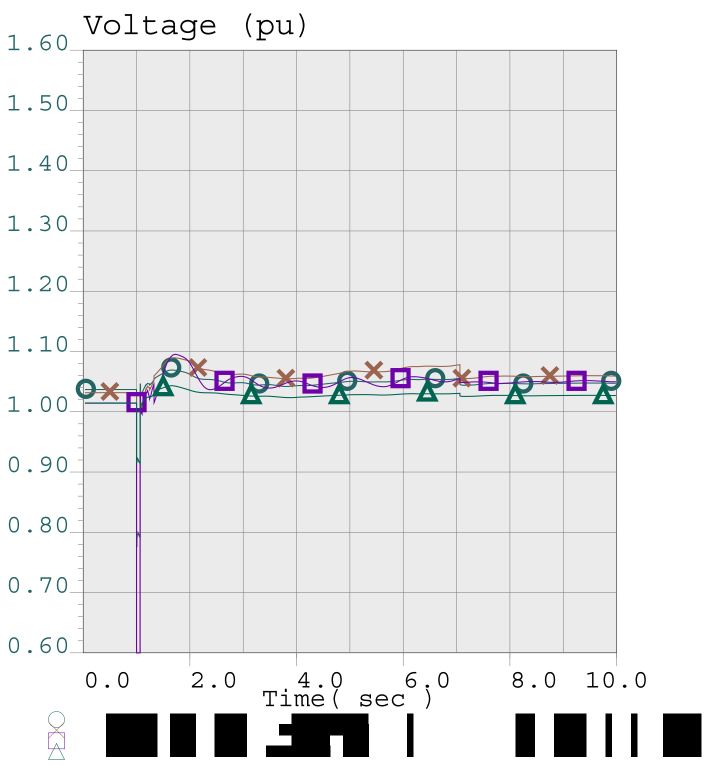

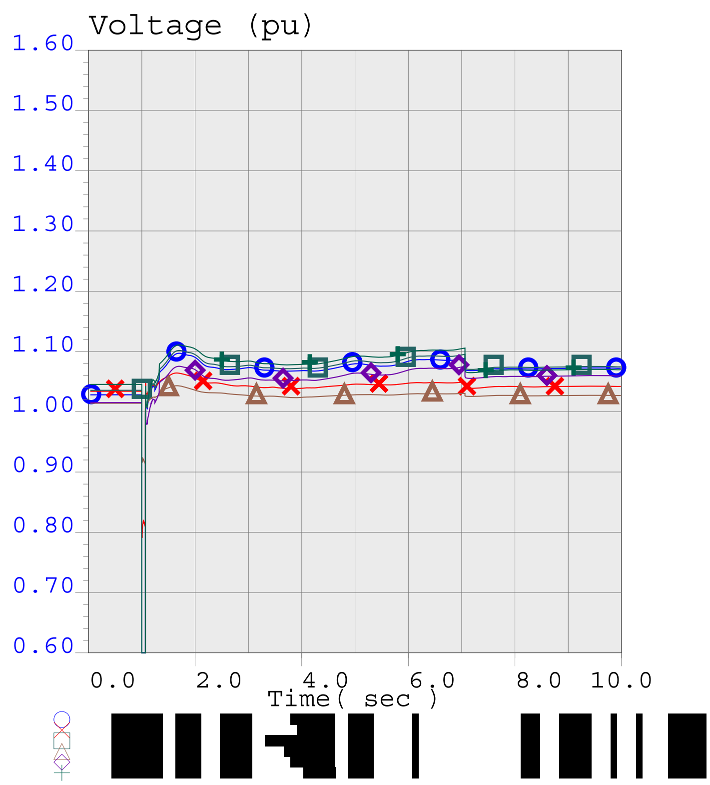

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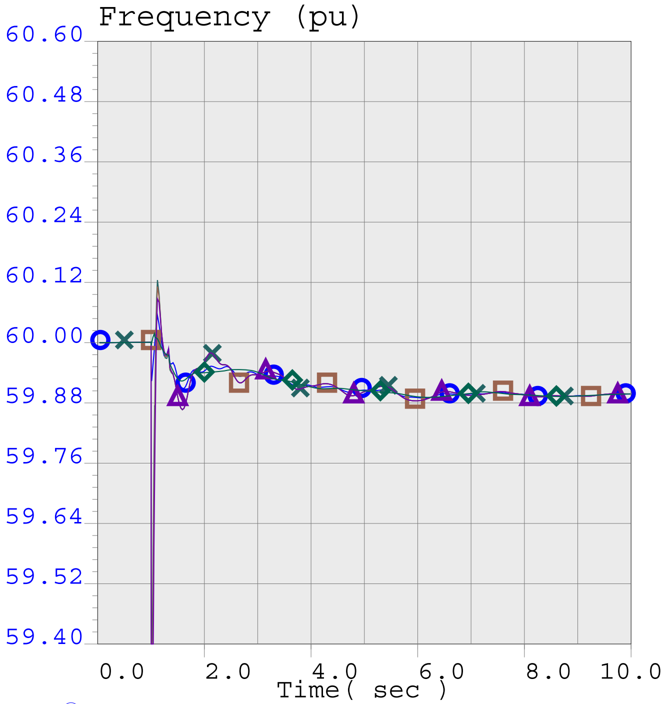

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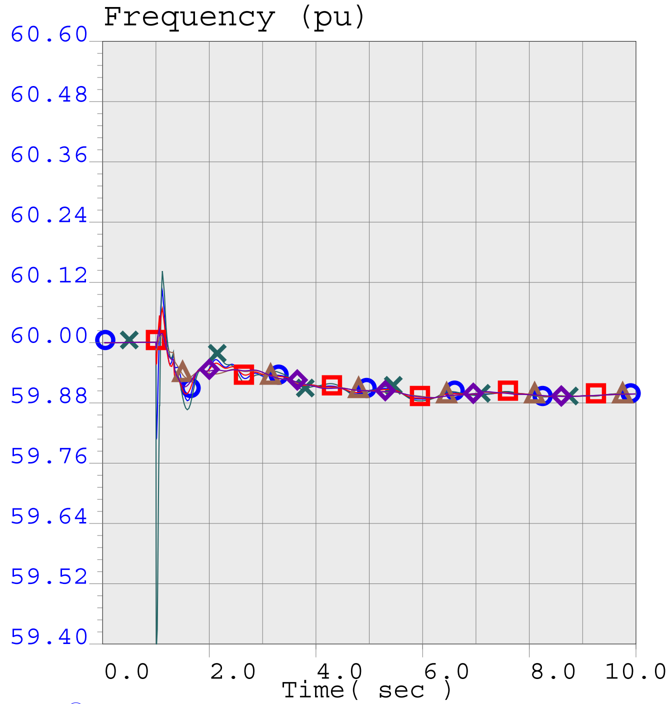

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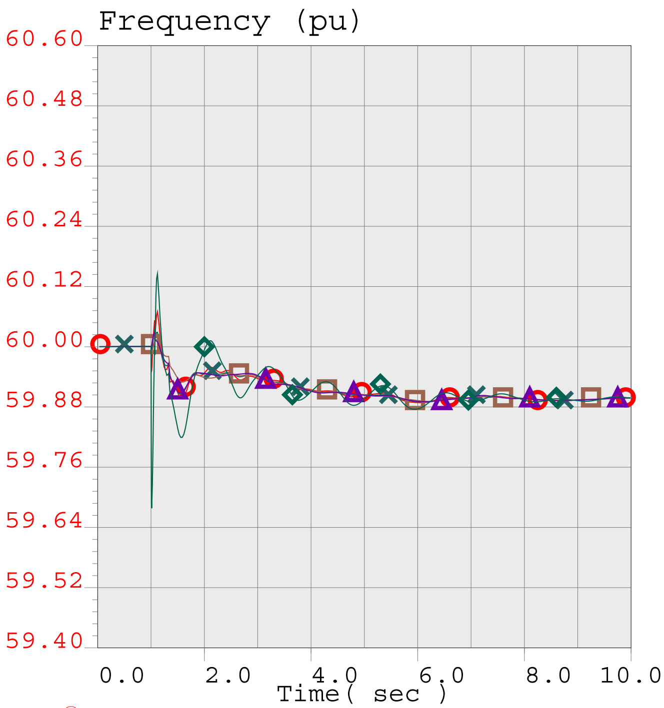

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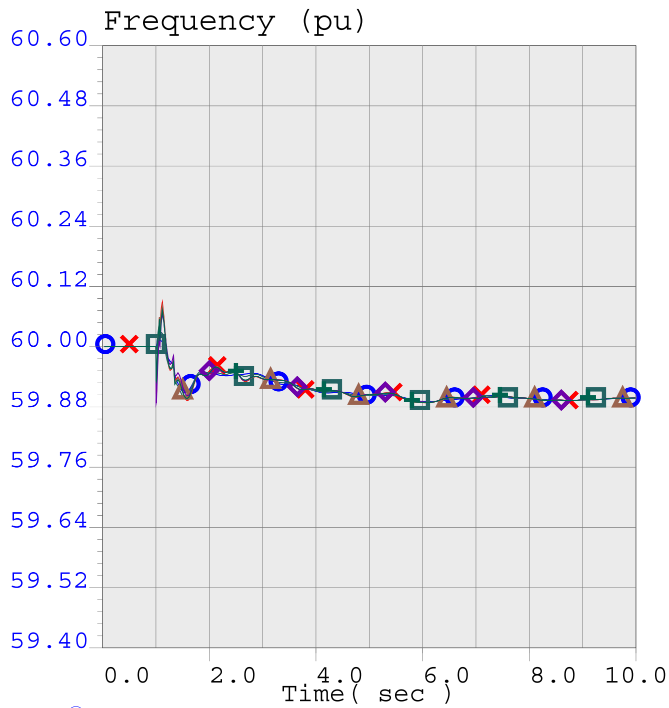

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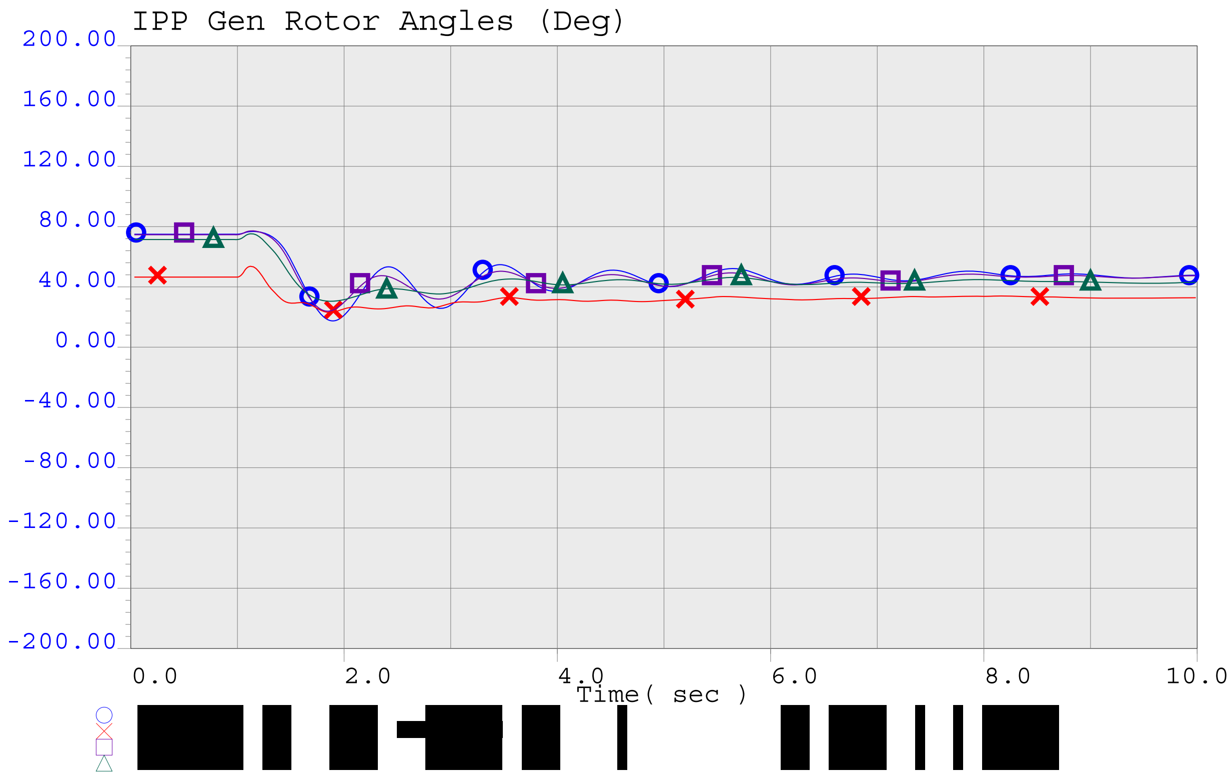
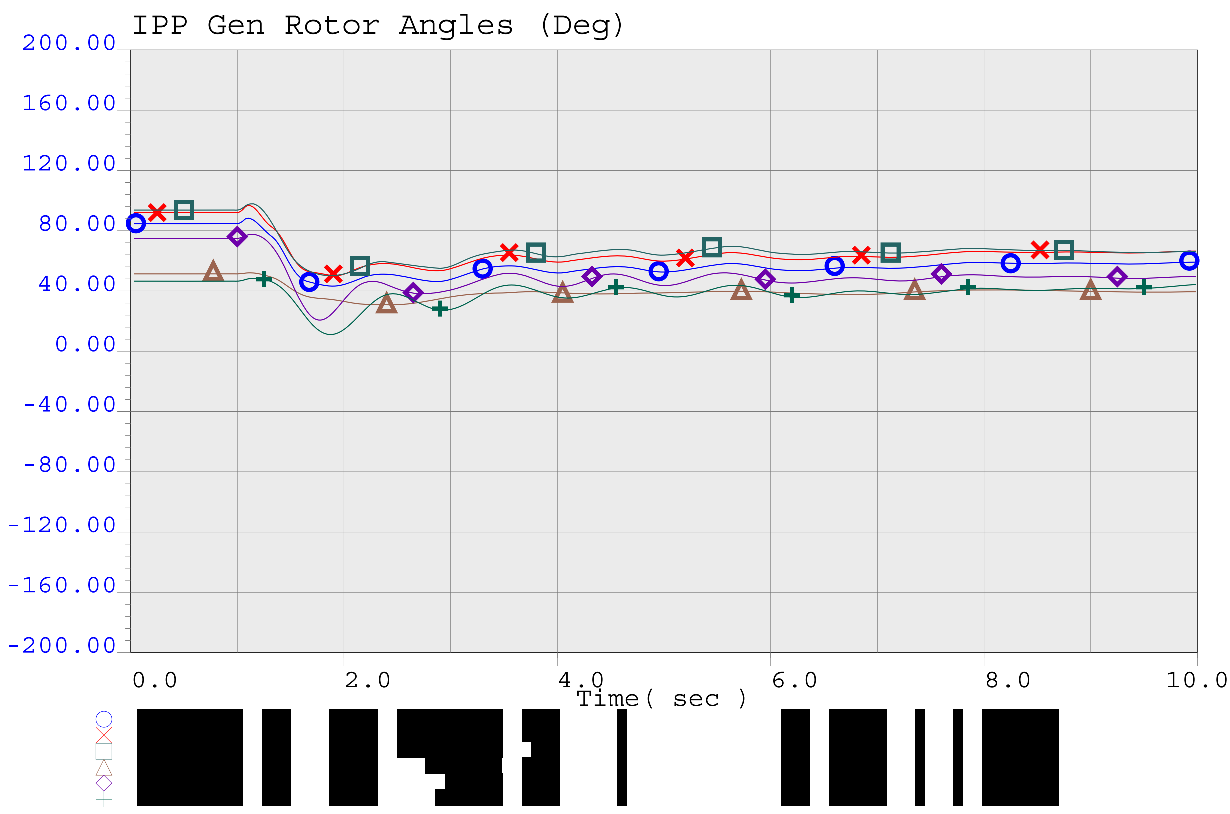
SYSTEM IMPACT STUDY (Rotor Angles)





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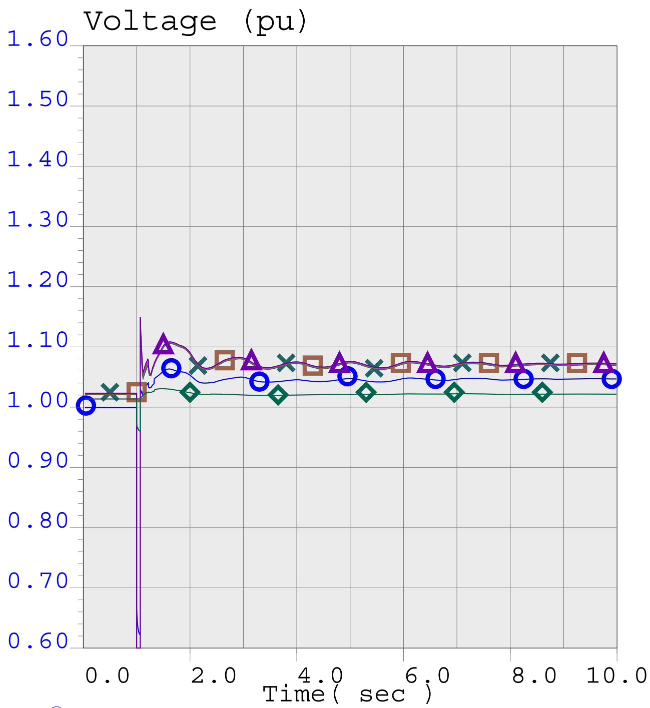

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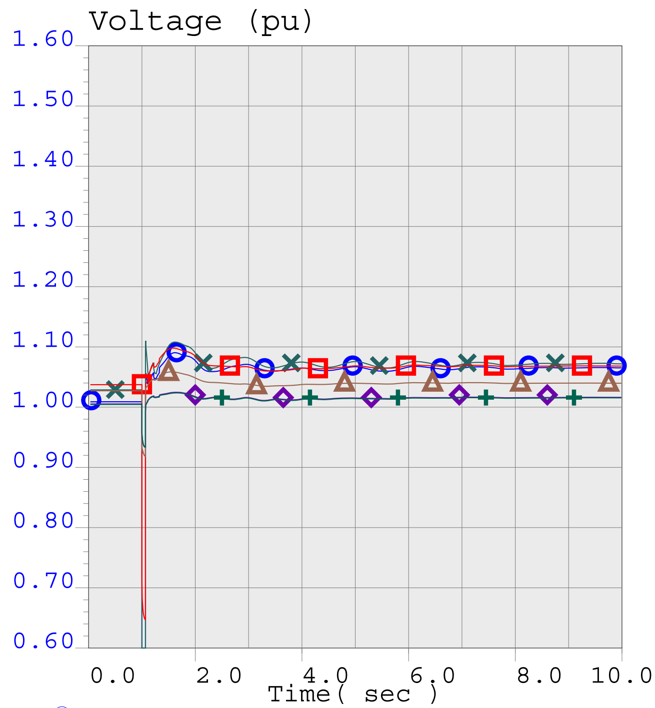

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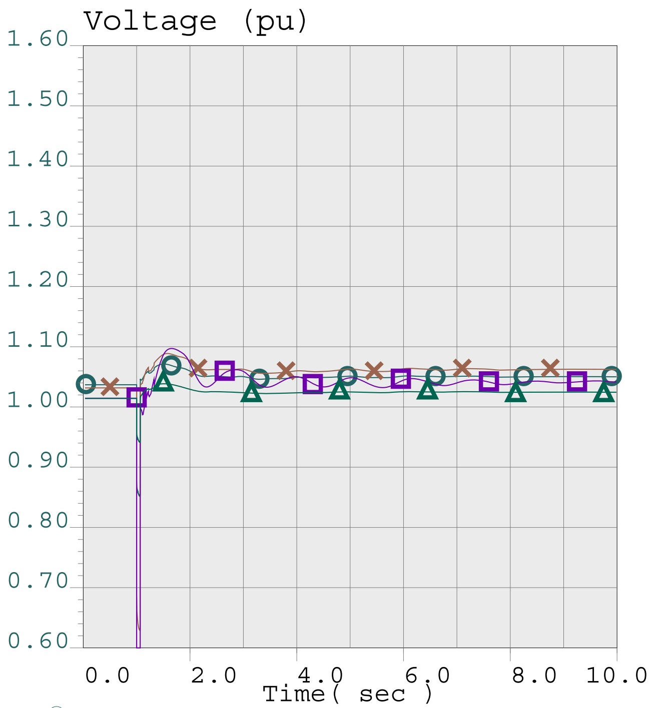

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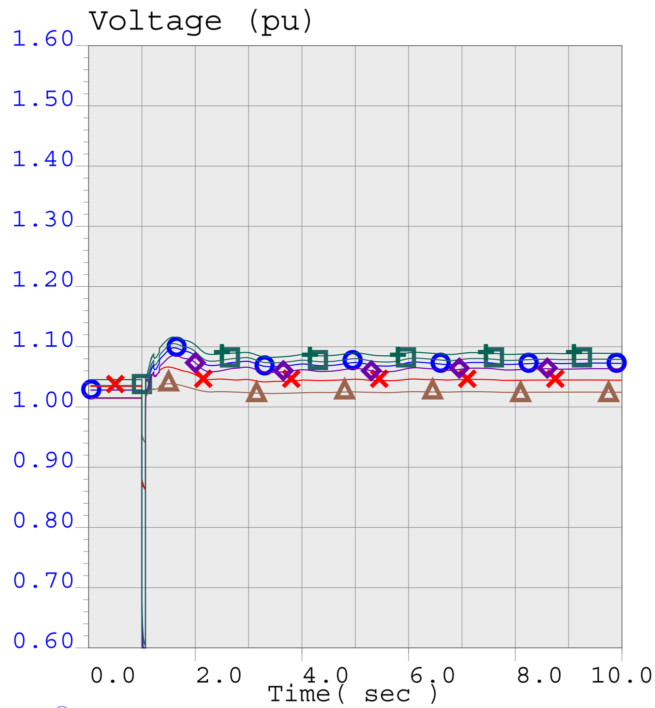

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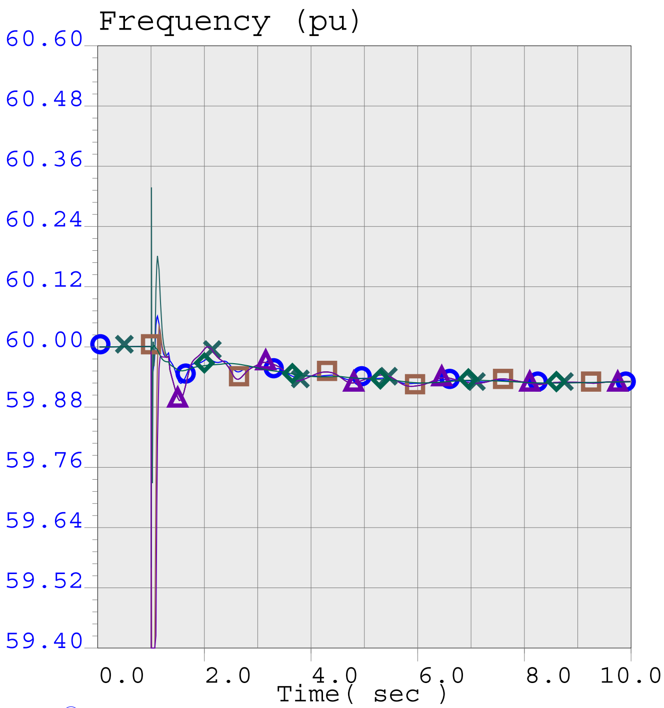
SYSTEM IMPACT STUDY (Frequency)



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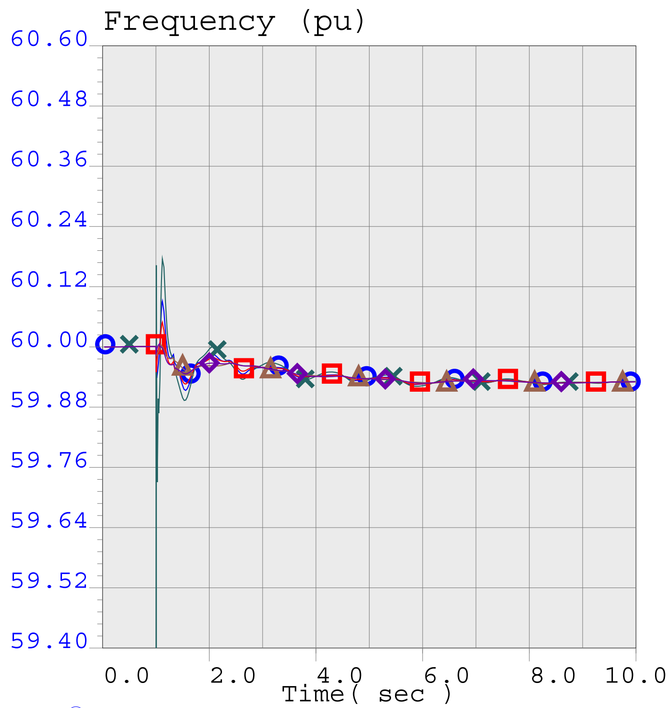

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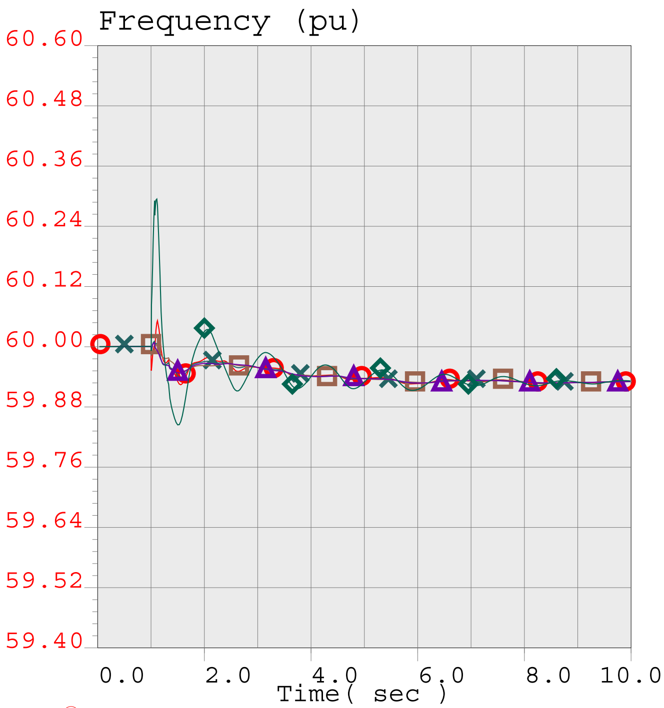

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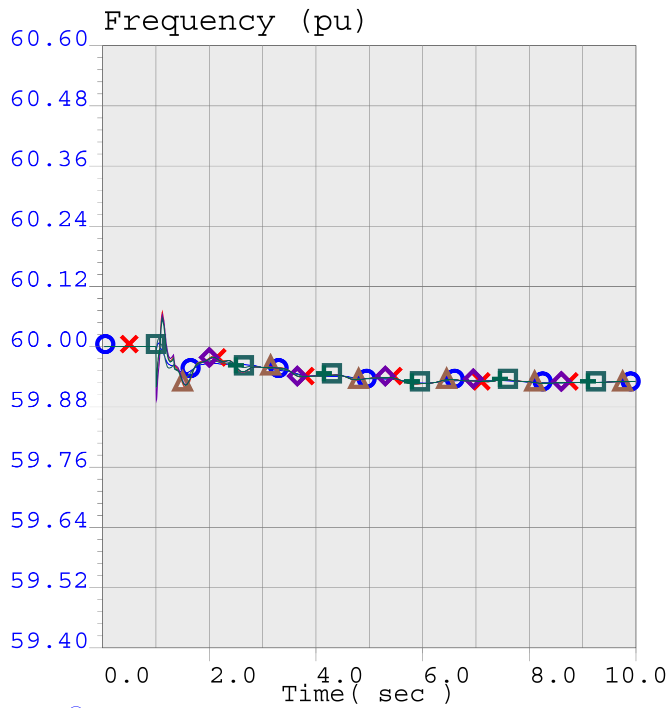

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Fri Aug 26 08:40:01 2022

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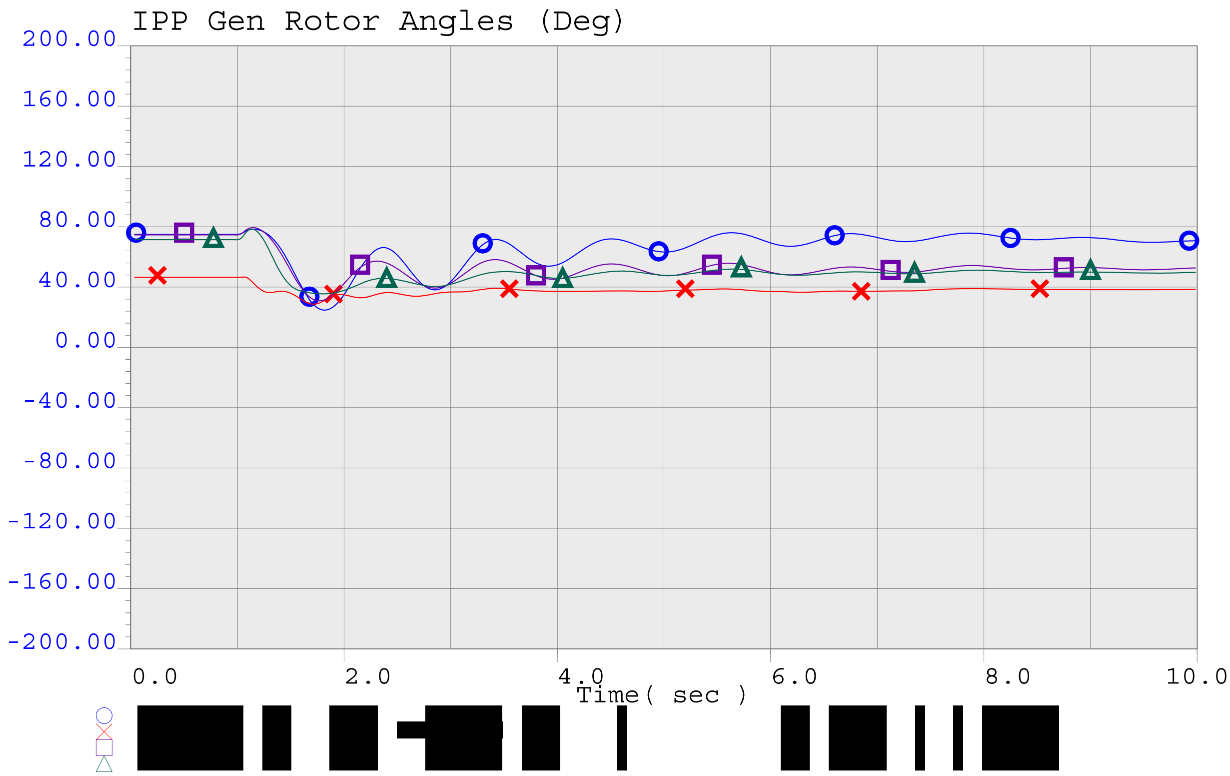

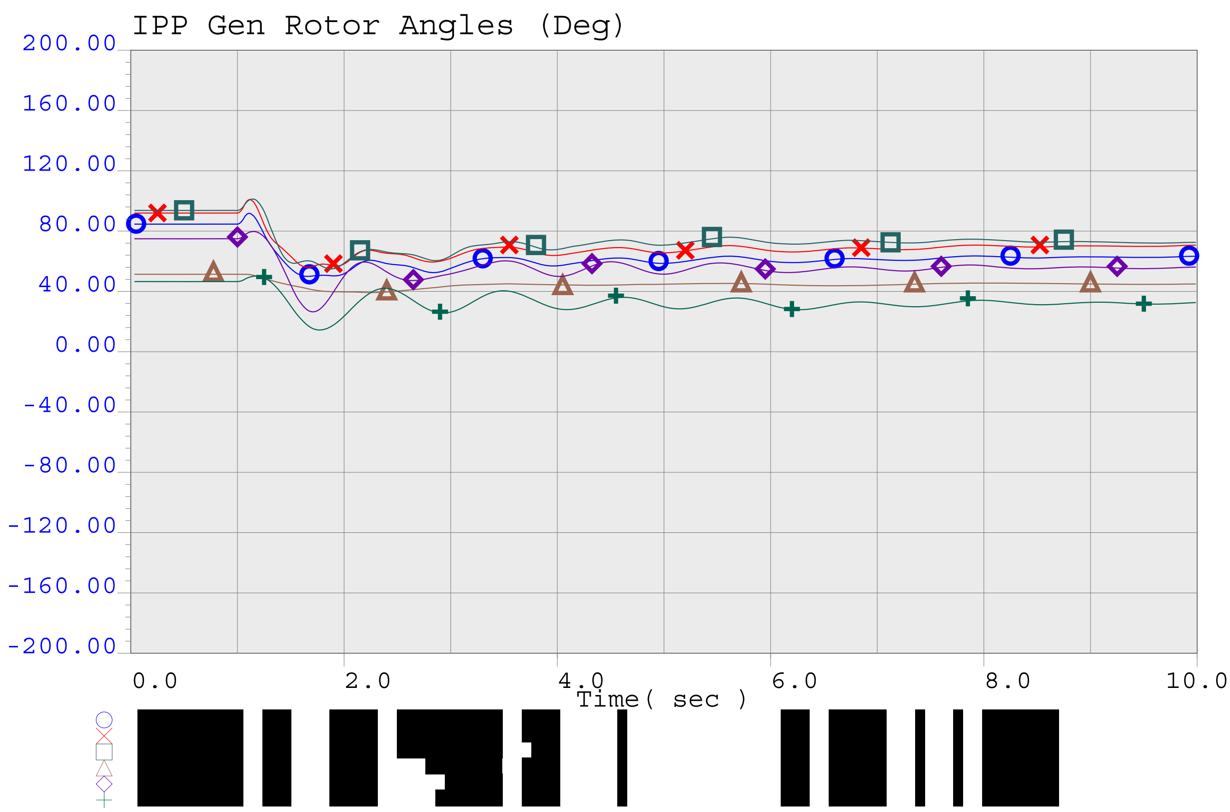

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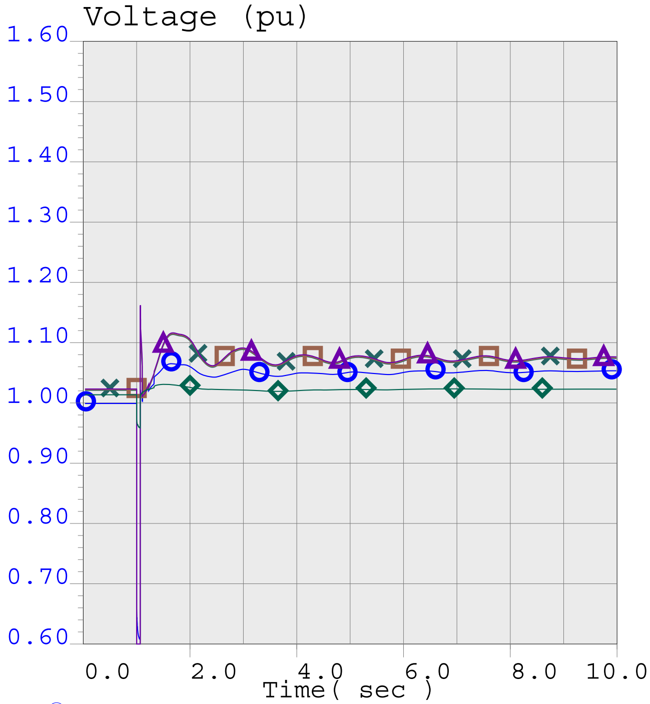

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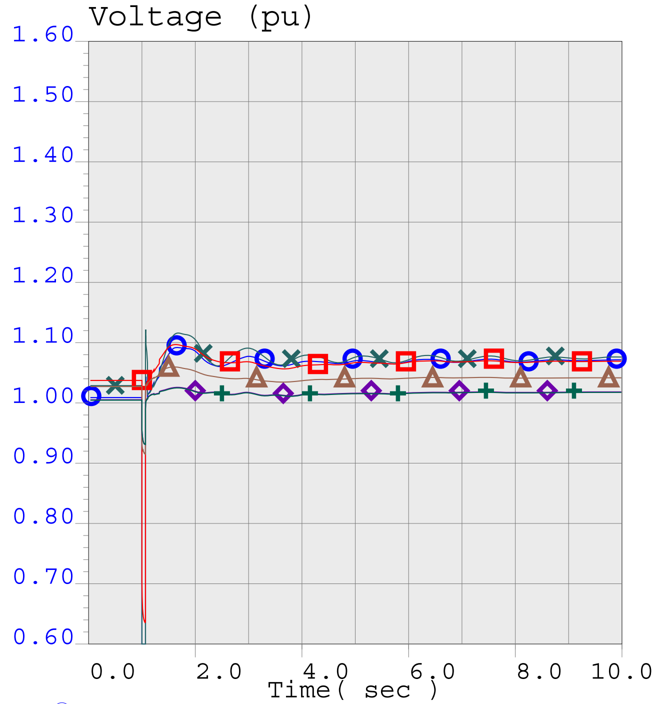

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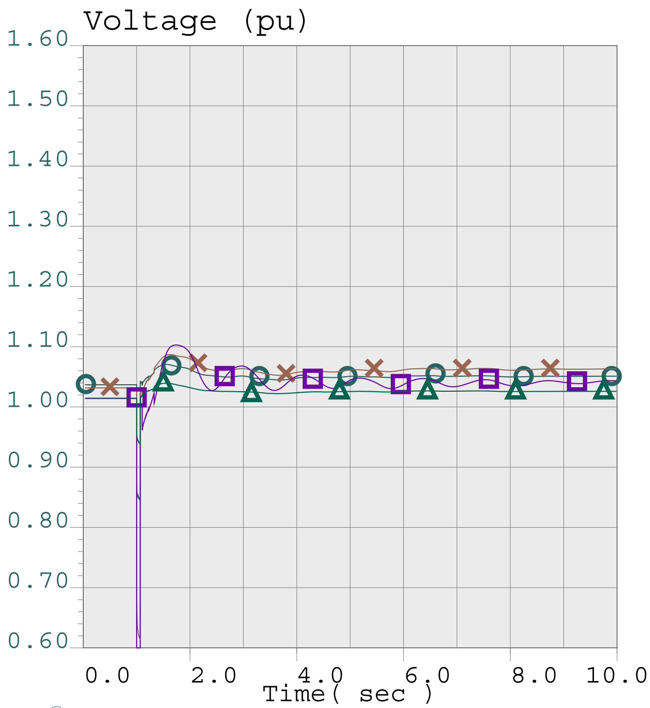

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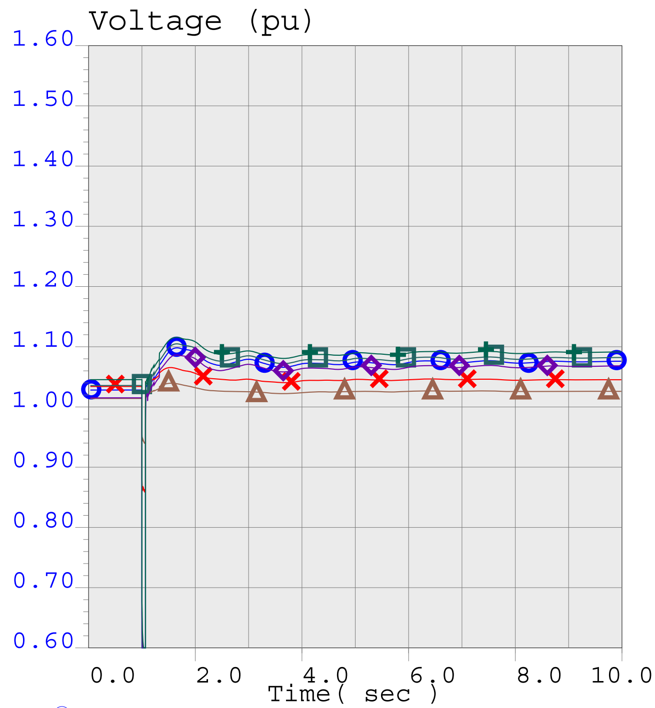

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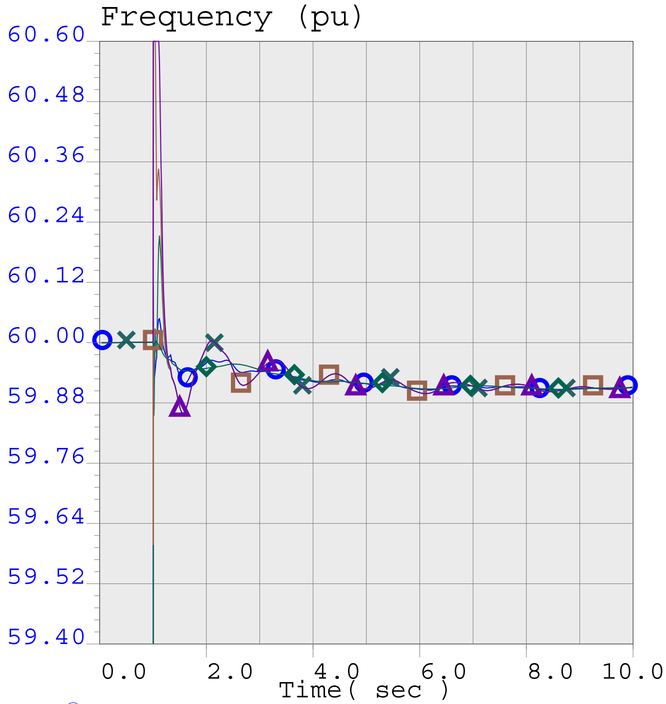

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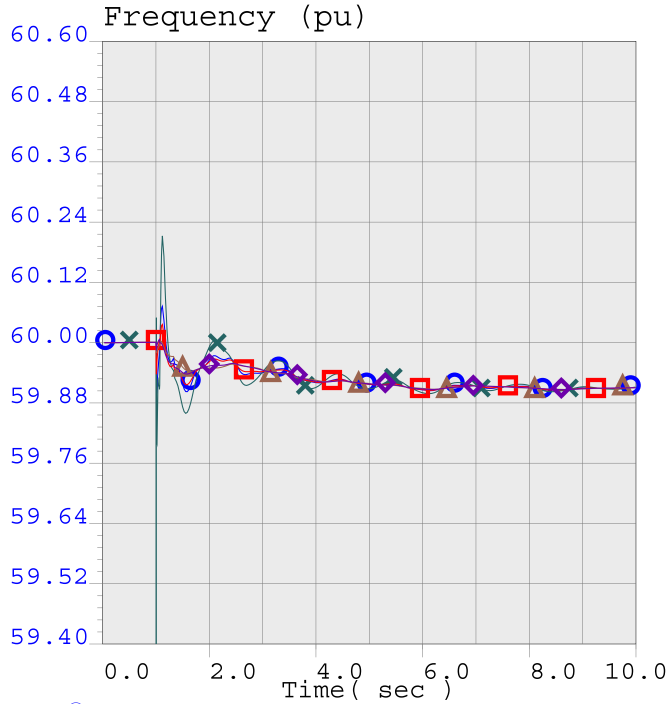

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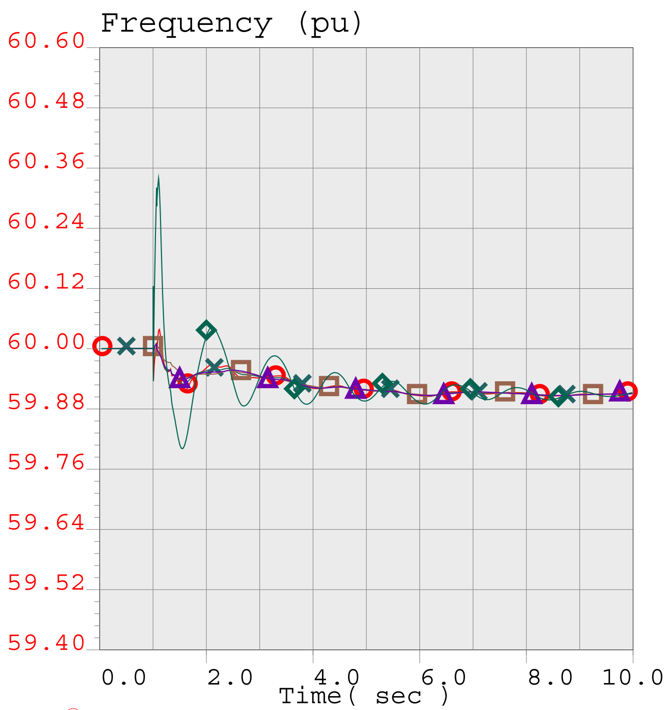

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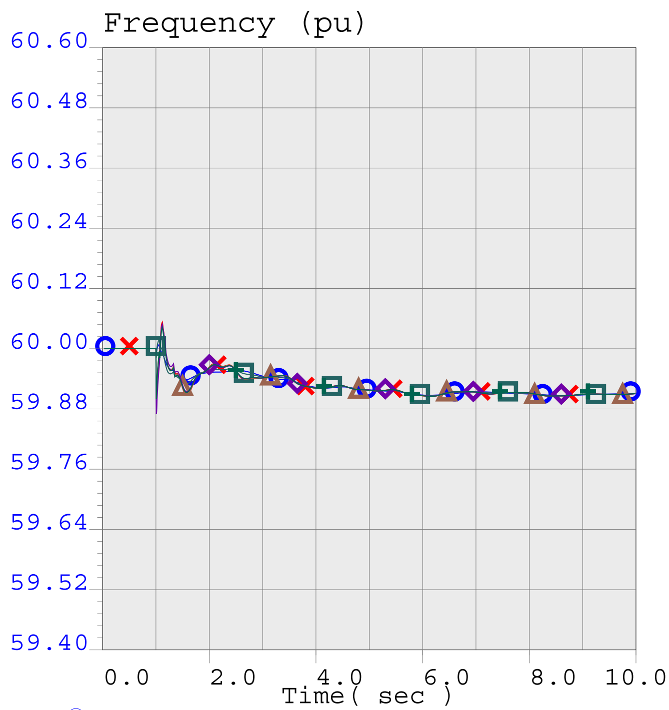

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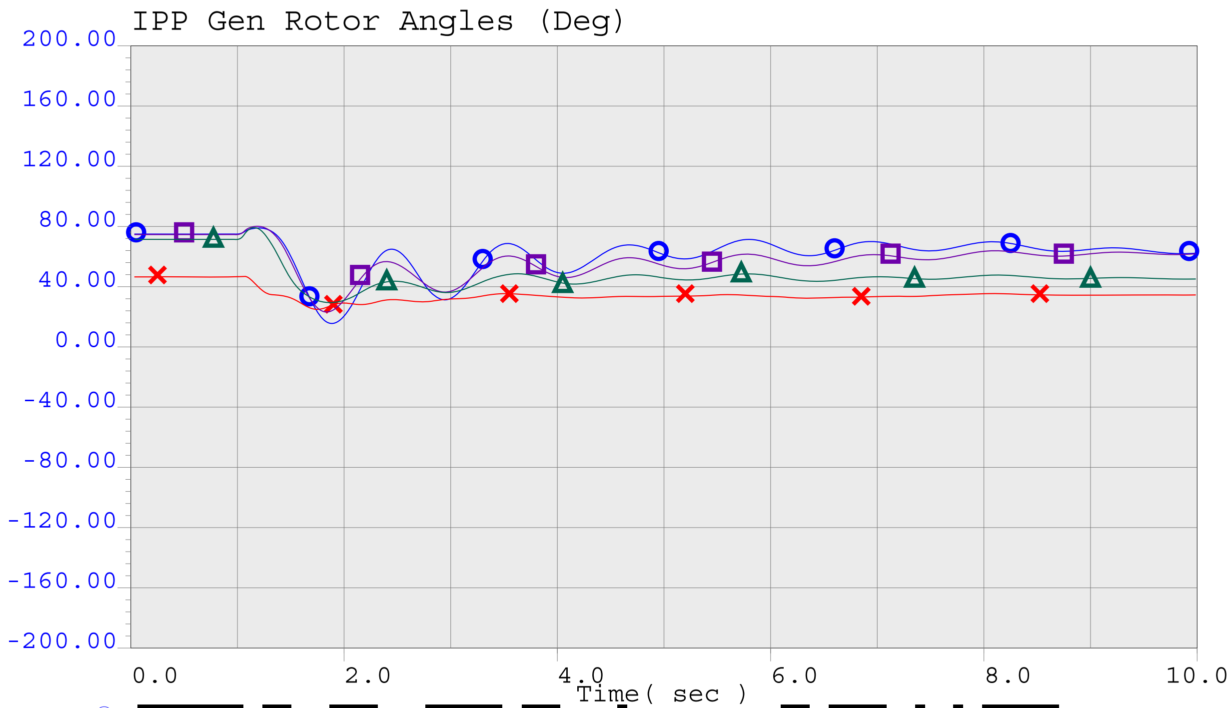

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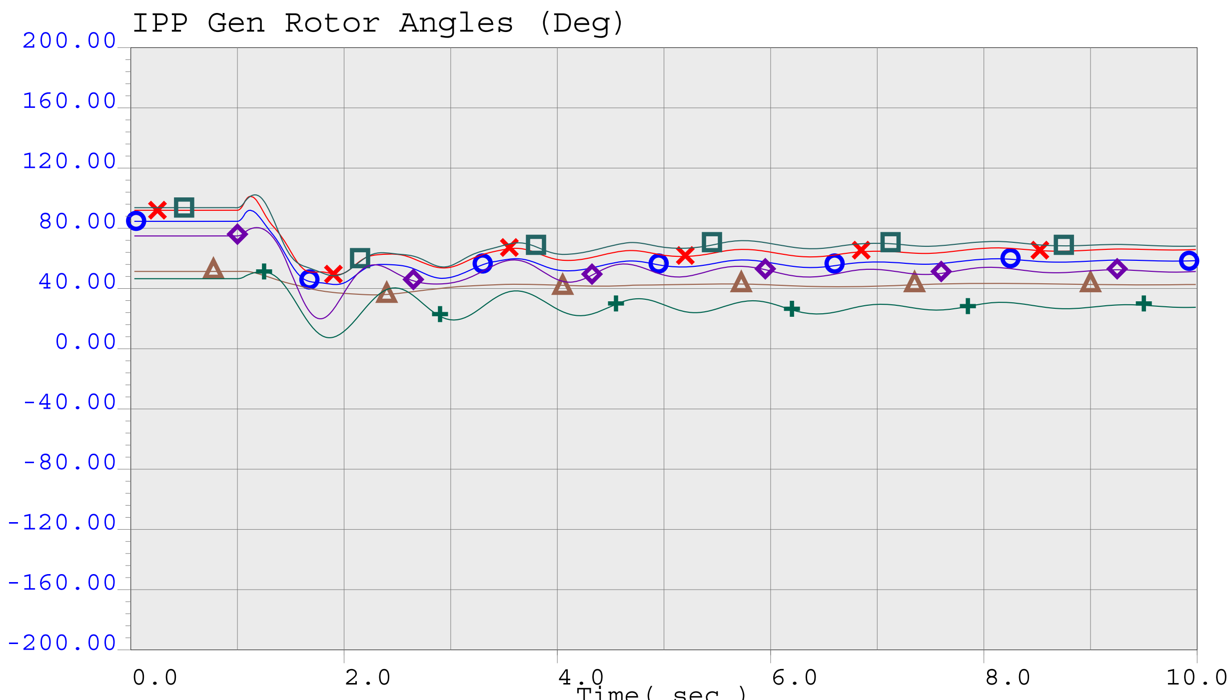

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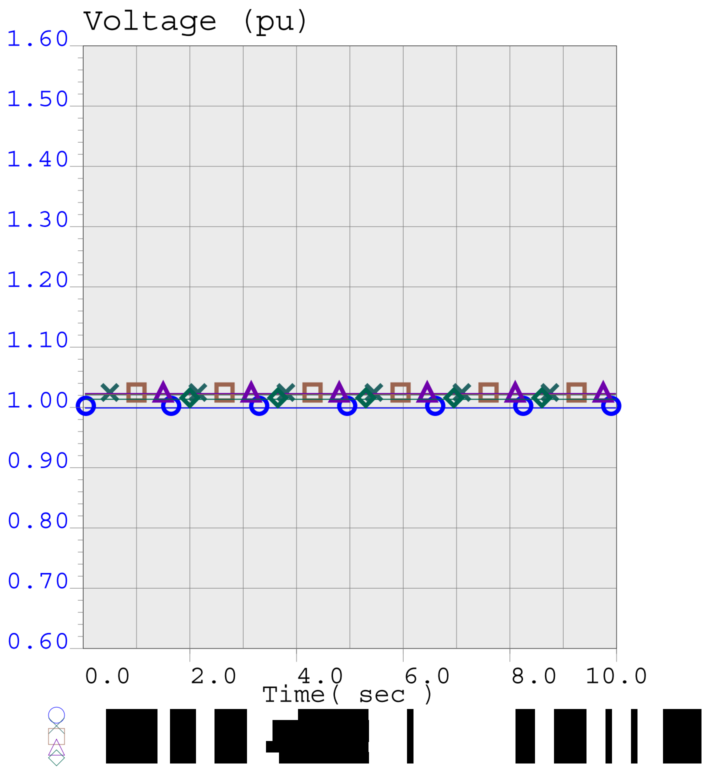

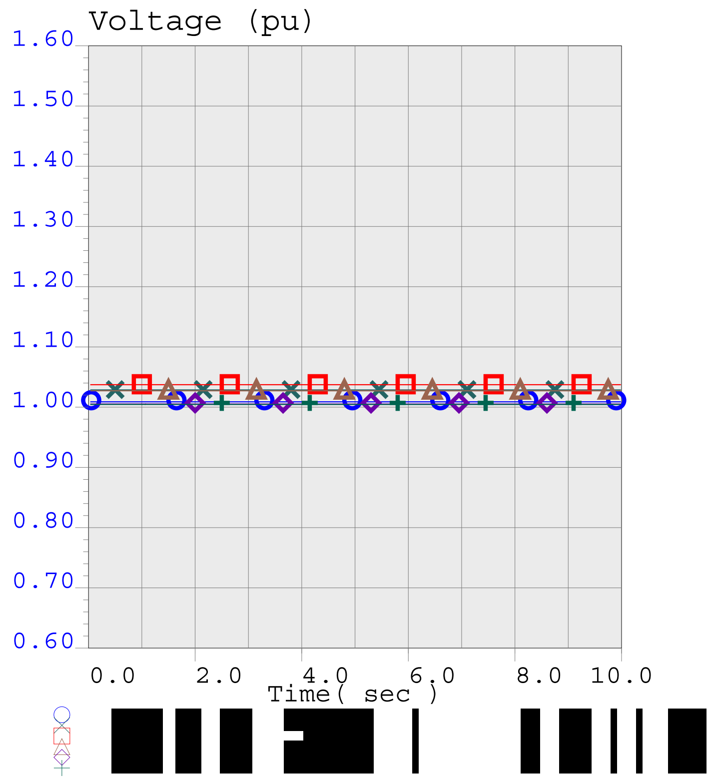

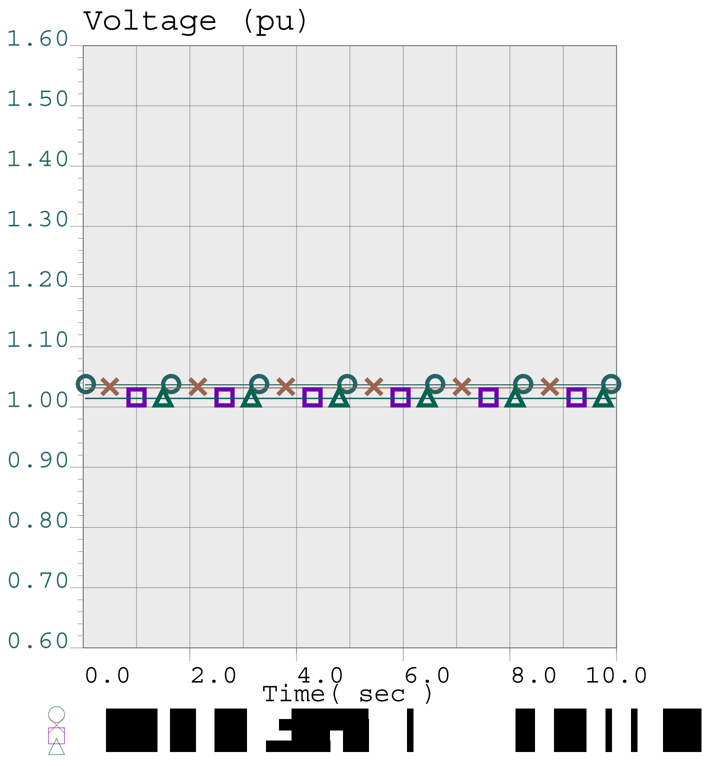

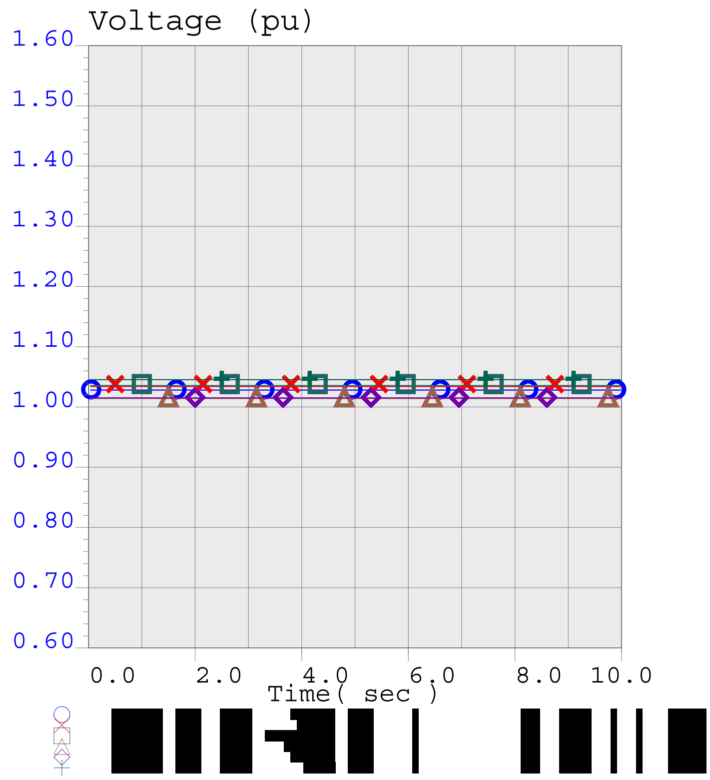

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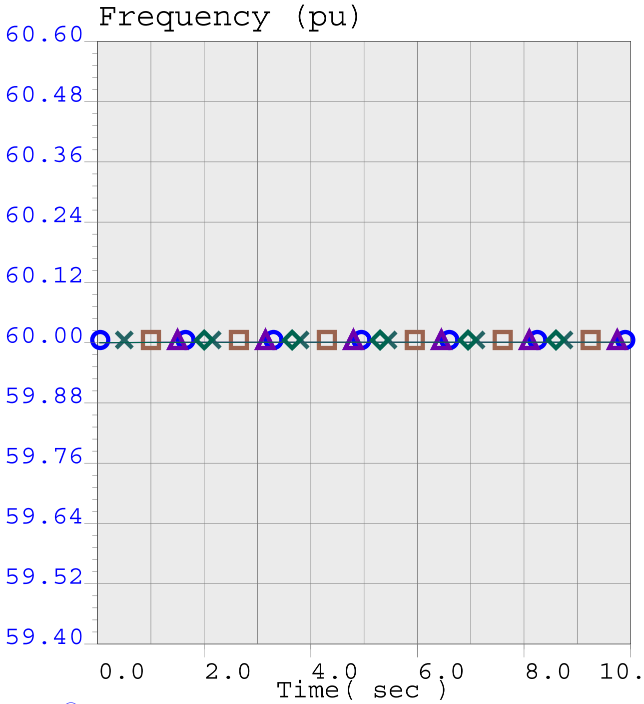

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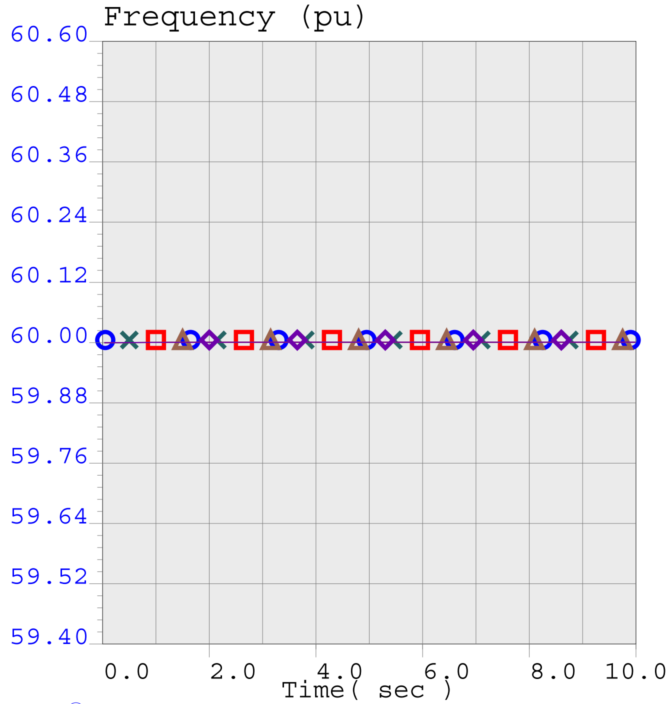

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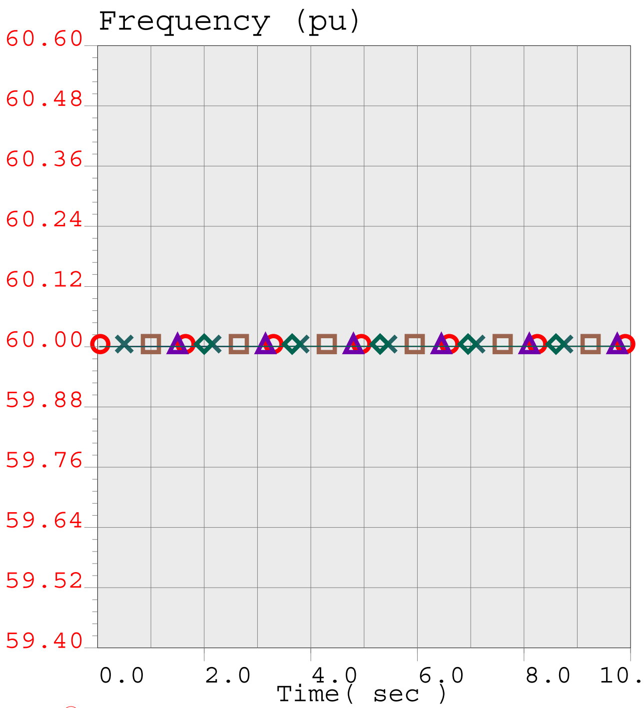

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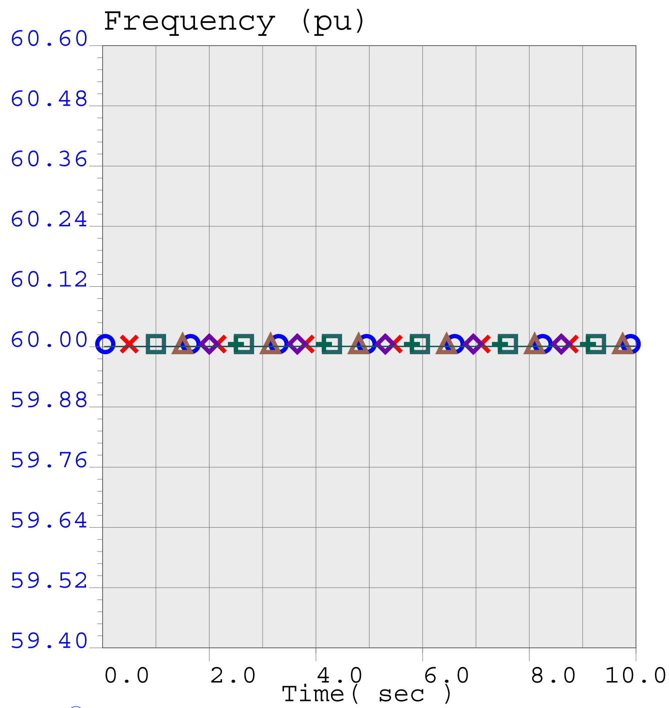

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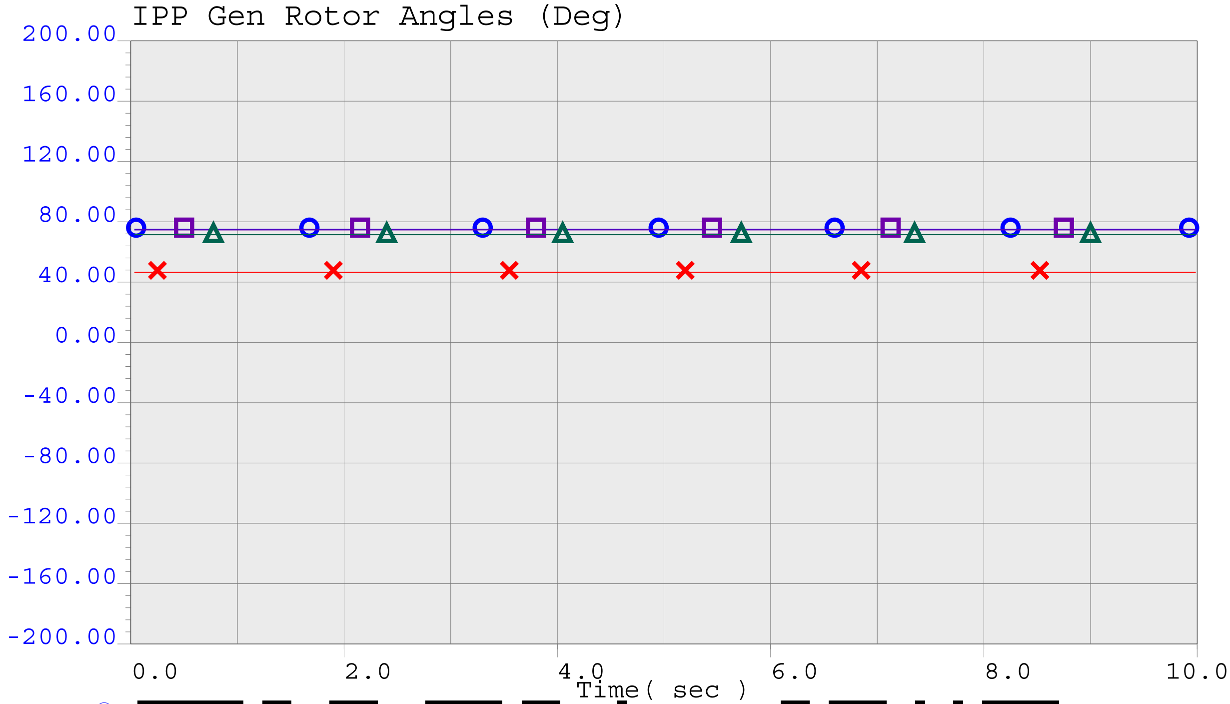
Fri Aug 26 08:40:05 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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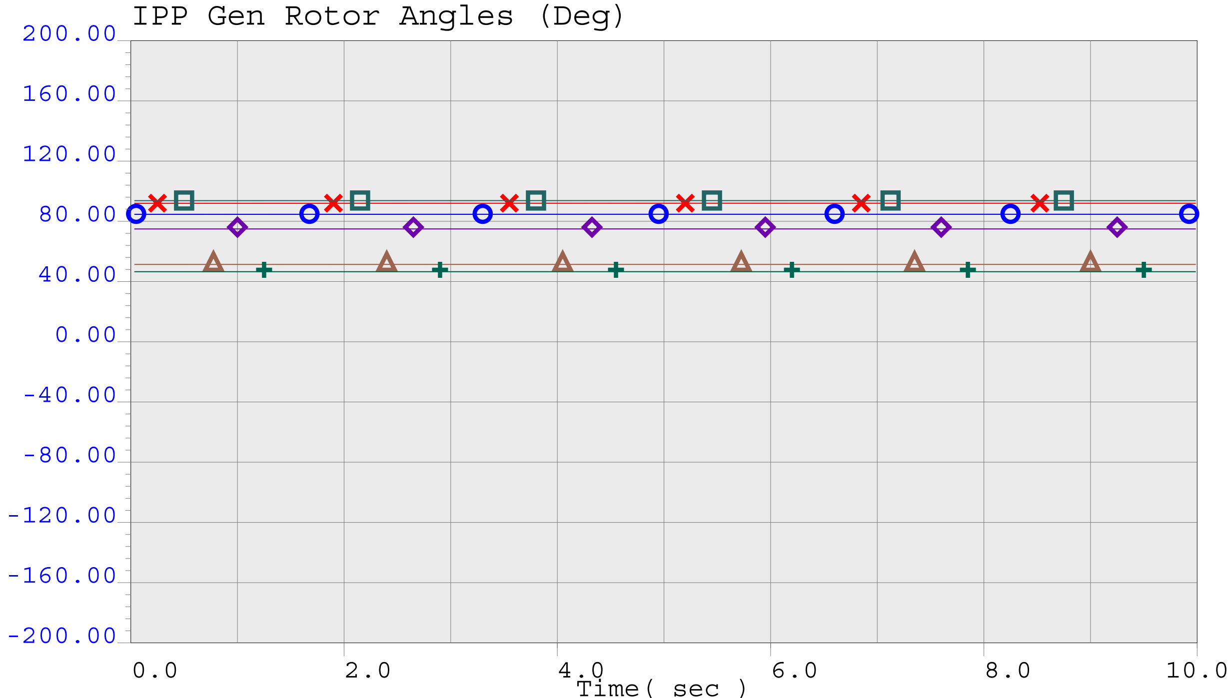
IPP Gen Rotor Angles (Deg)



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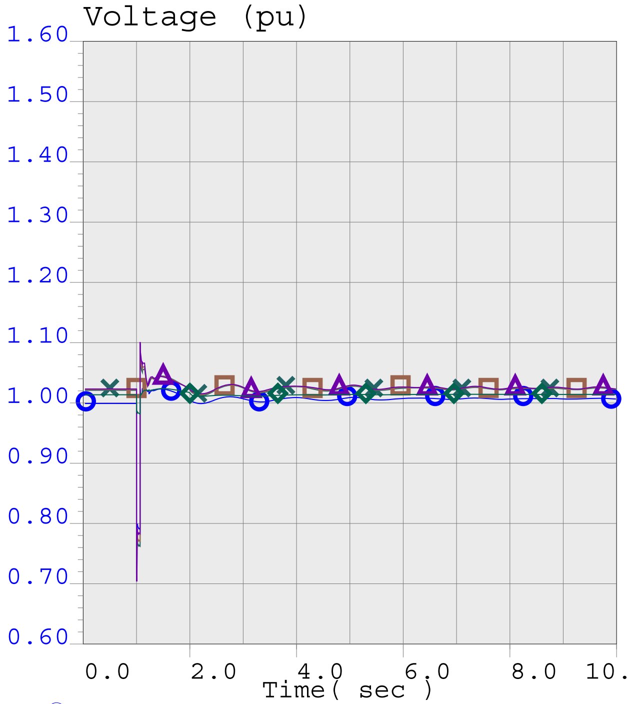

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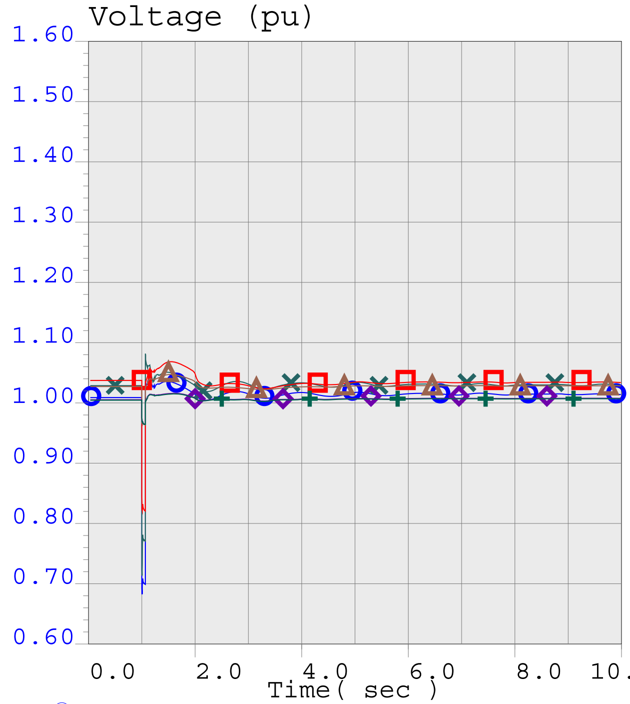

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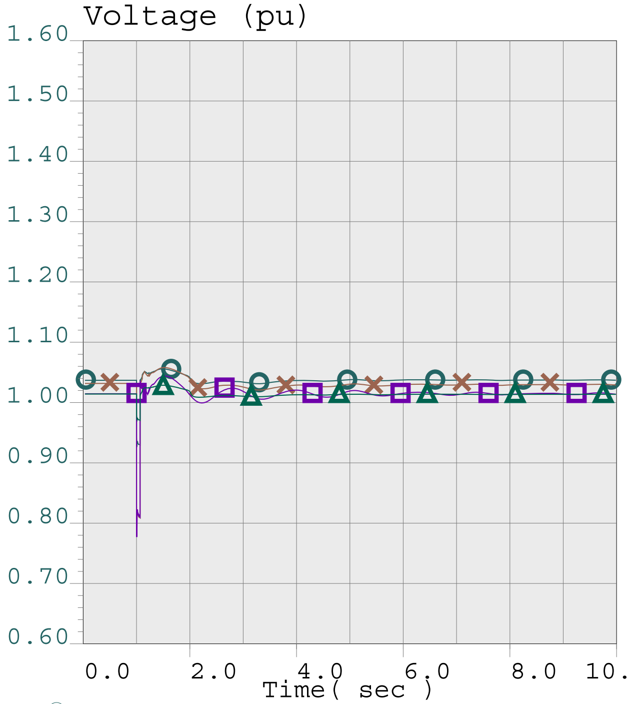

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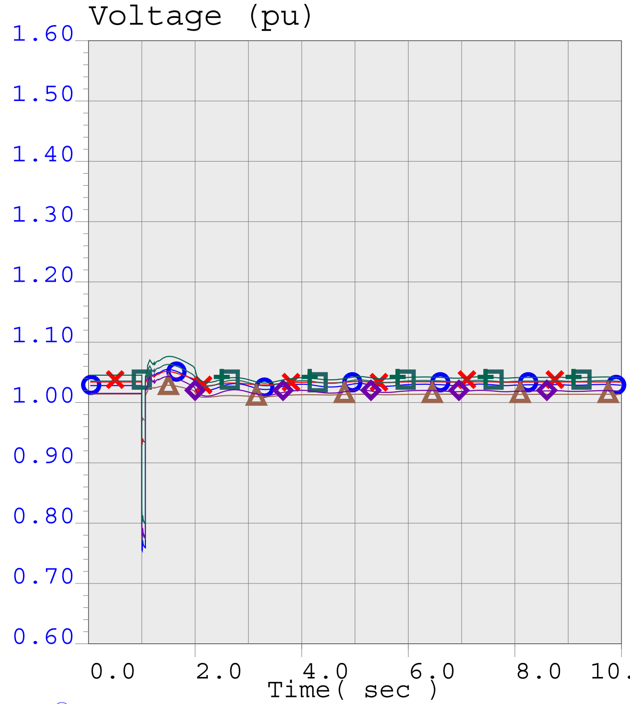

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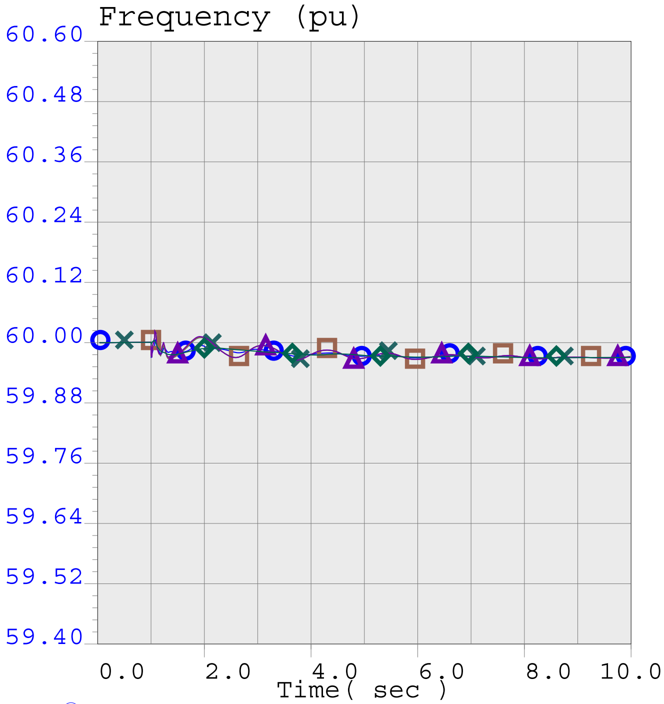
SYSTEM IMPACT STUDY (Frequency)



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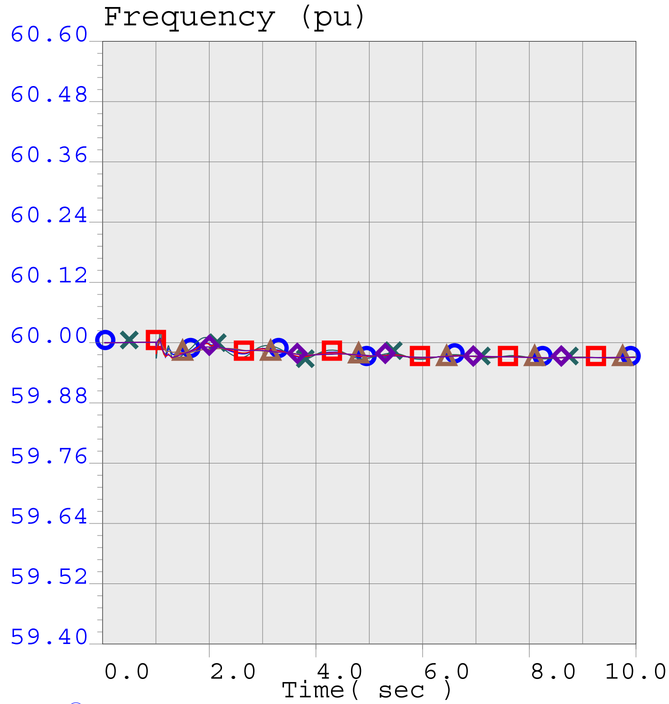

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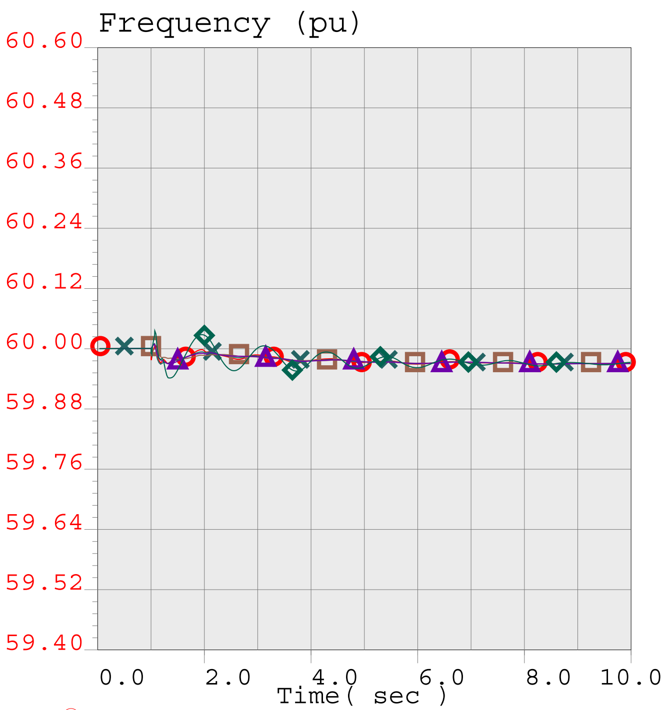

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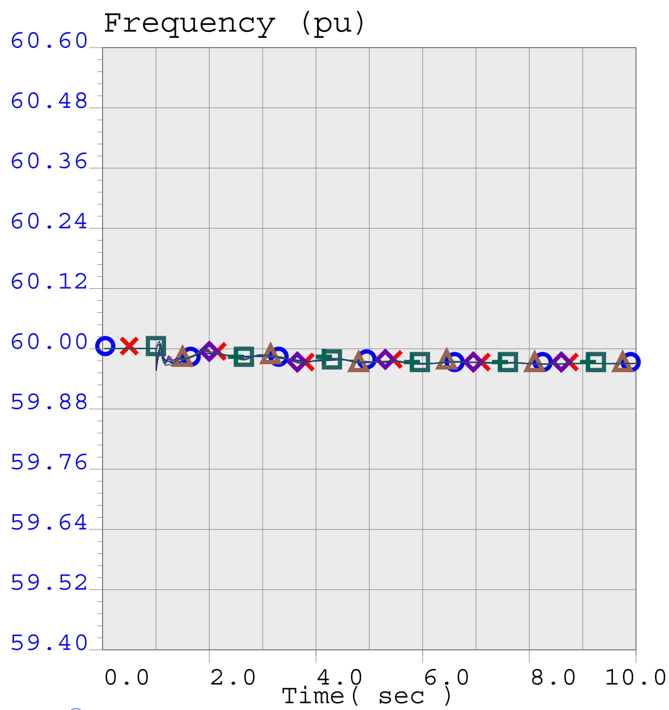

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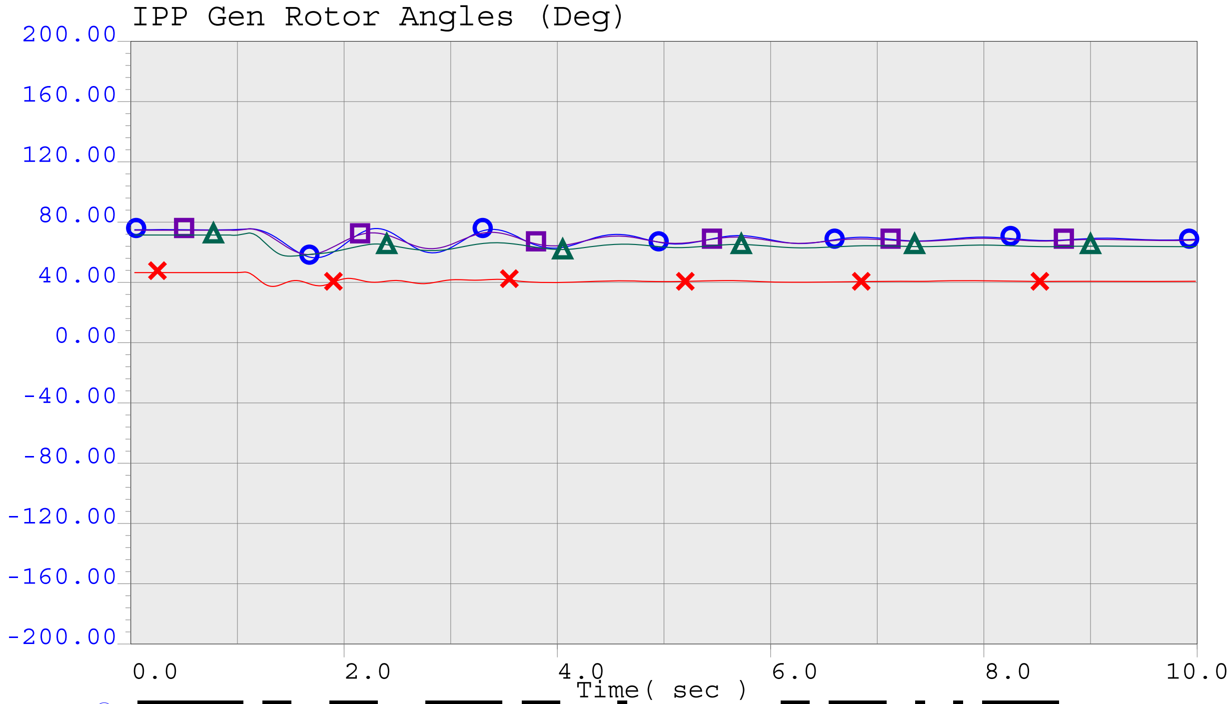
SYSTEM IMPACT STUDY (Rotor Angles)



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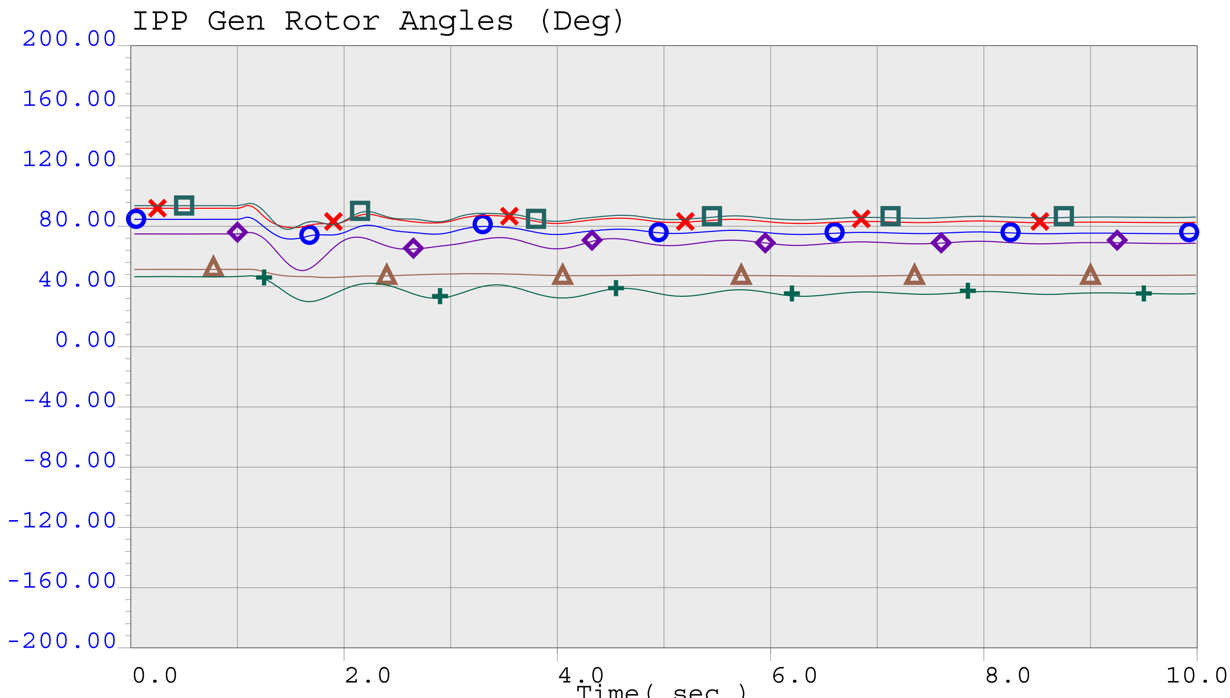

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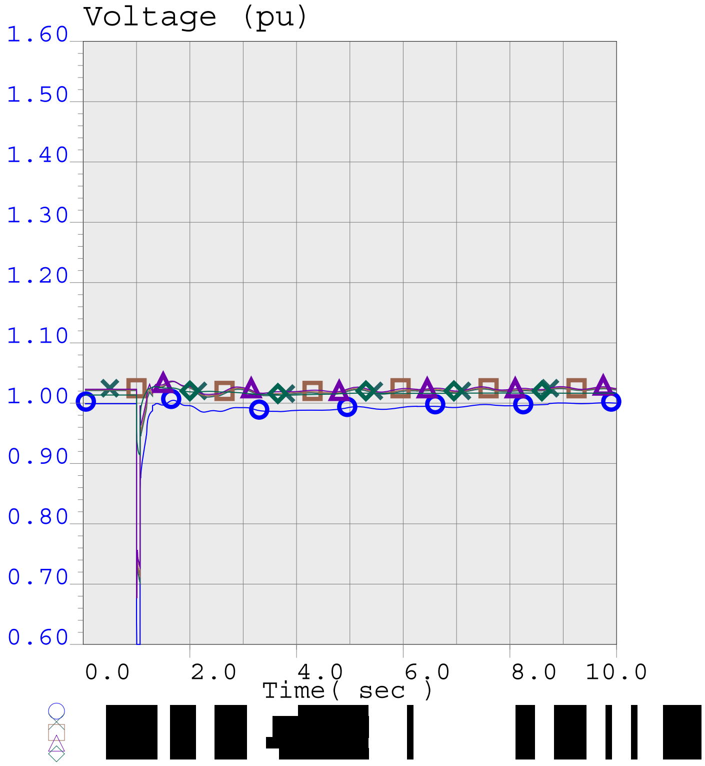
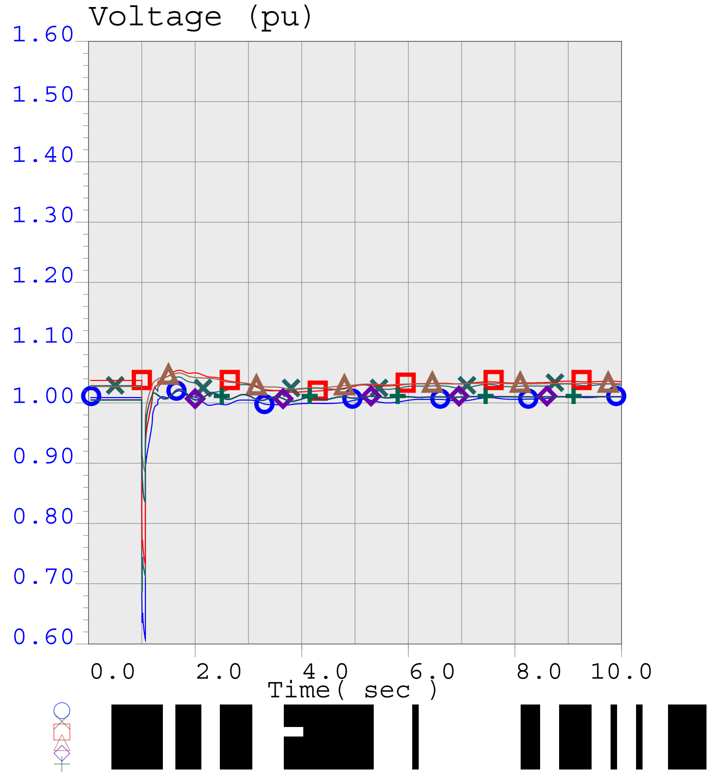
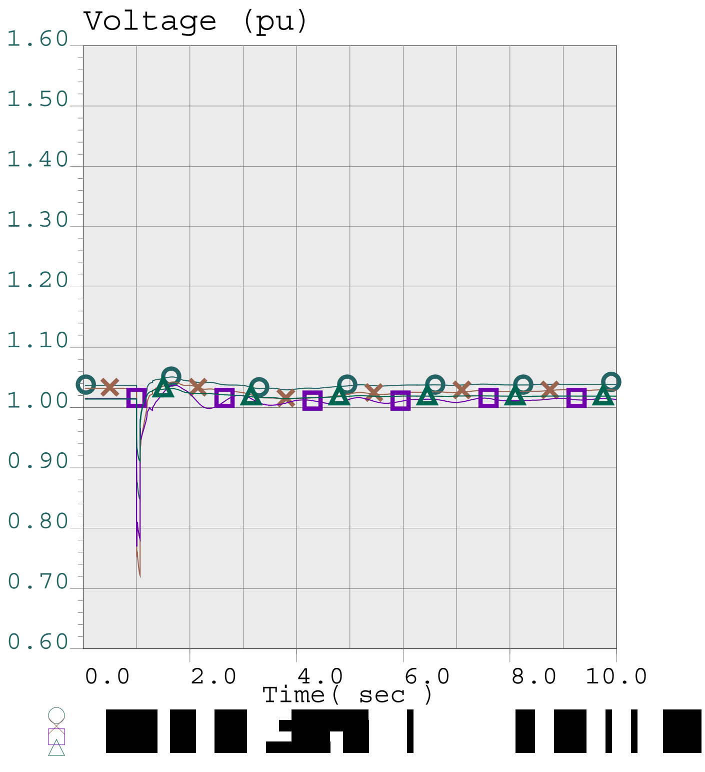
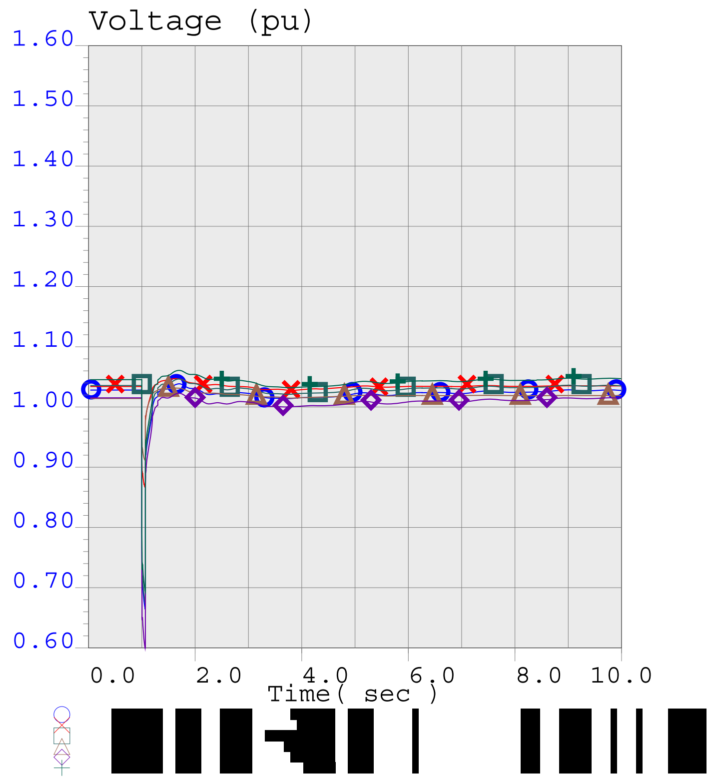
Fri Aug 26 08:40:07 2022

SYSTEM IMPACT STUDY (Voltage)









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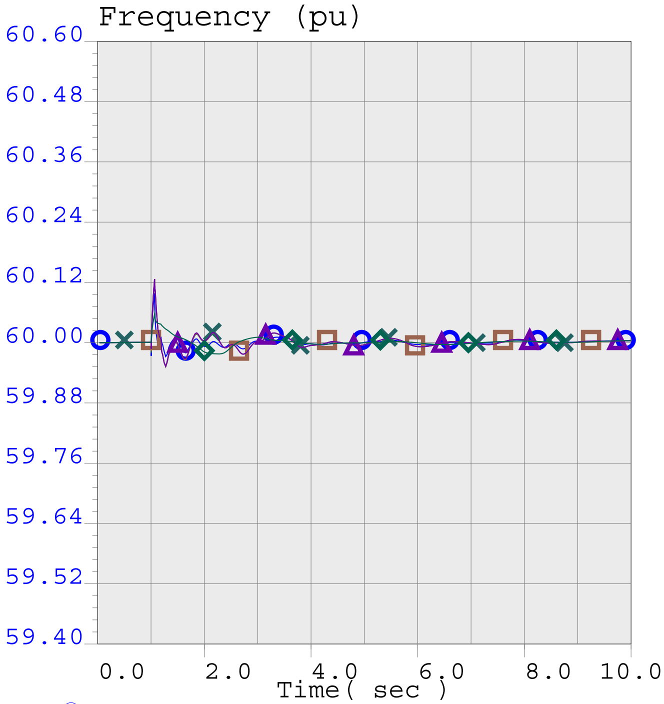
Fri Aug 26 08:40:09 2022

SYSTEM IMPACT STUDY (Frequency)



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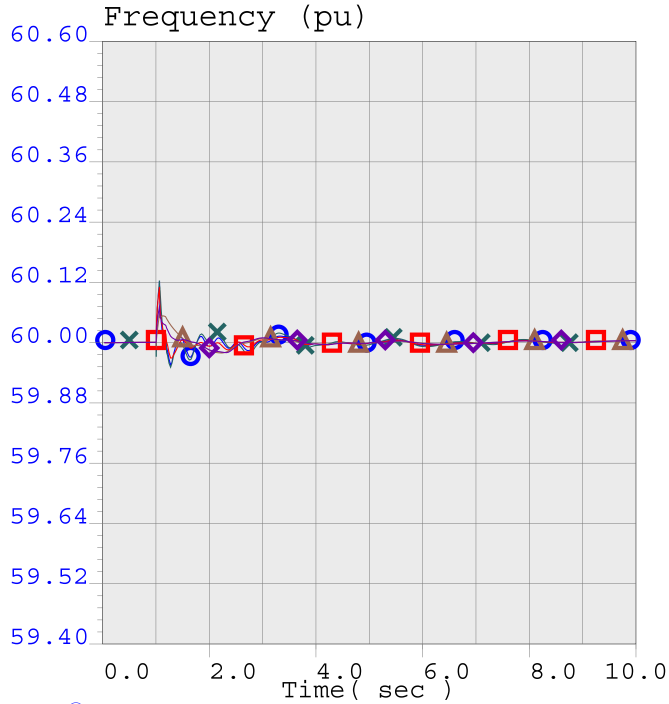

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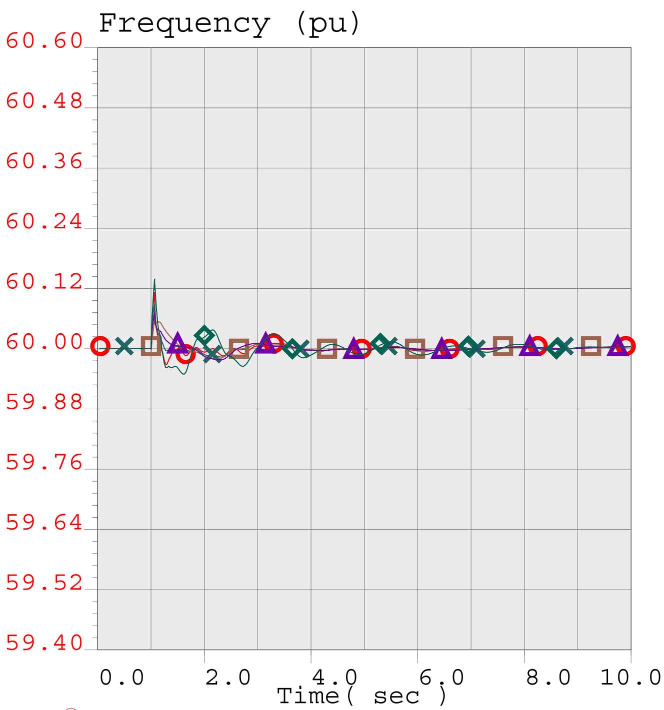

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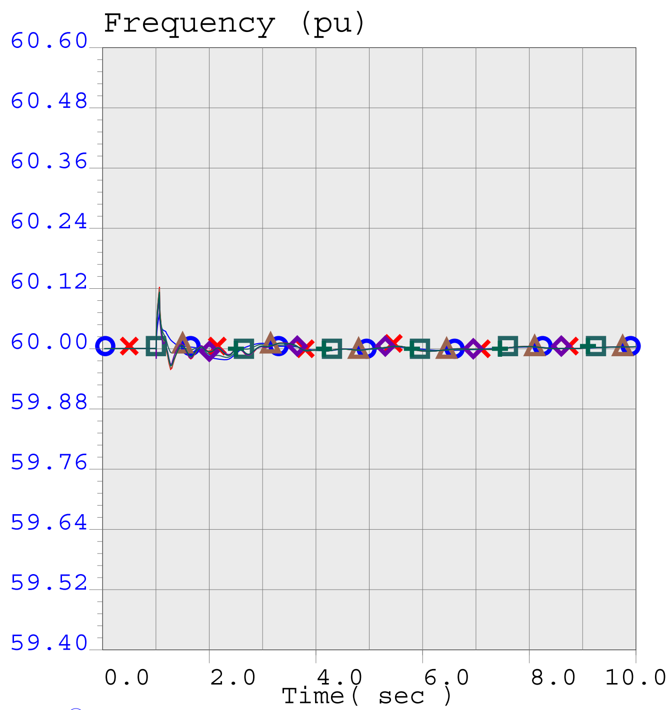

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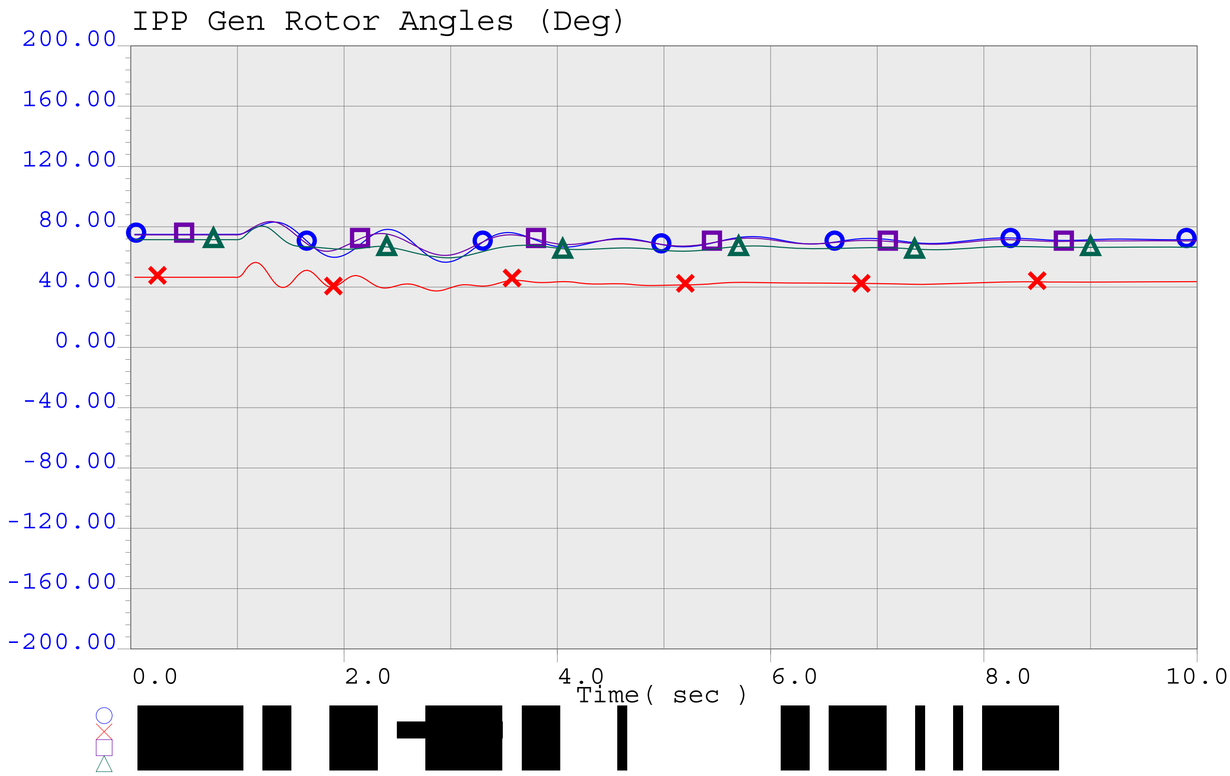
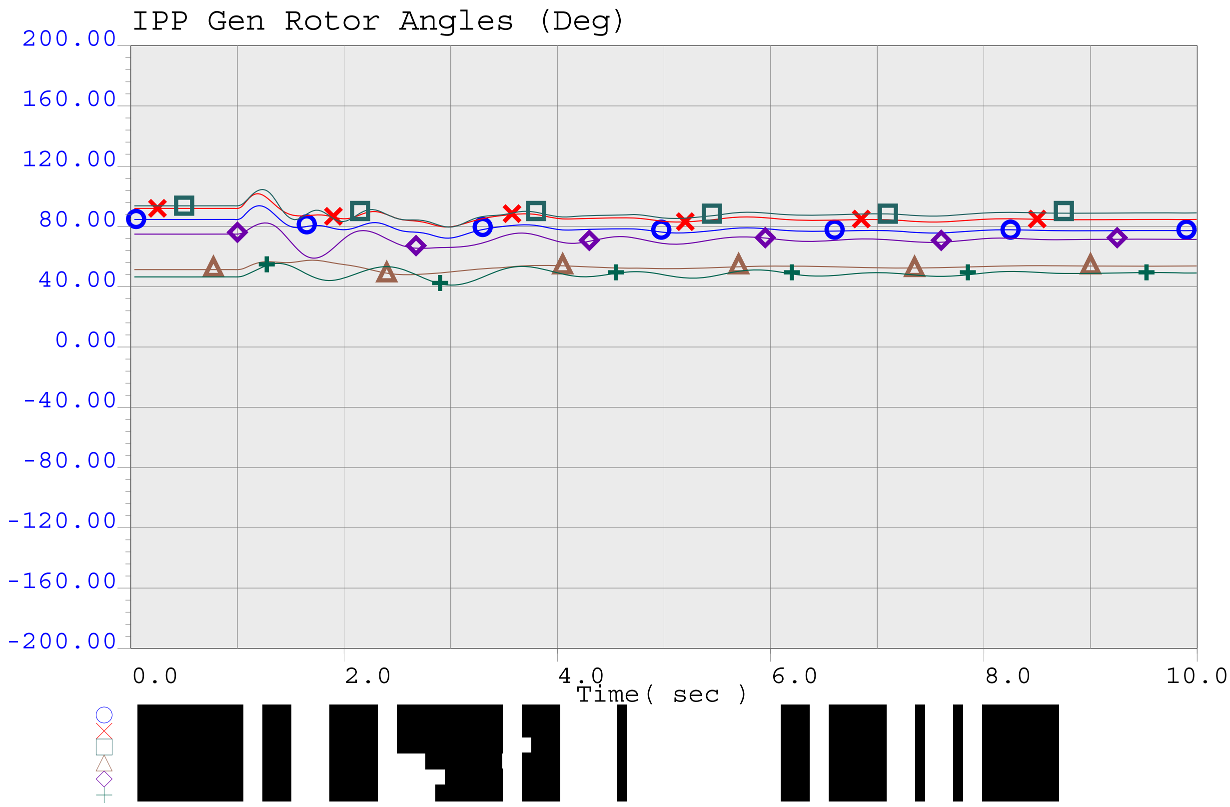
SYSTEM IMPACT STUDY (Rotor Angles)





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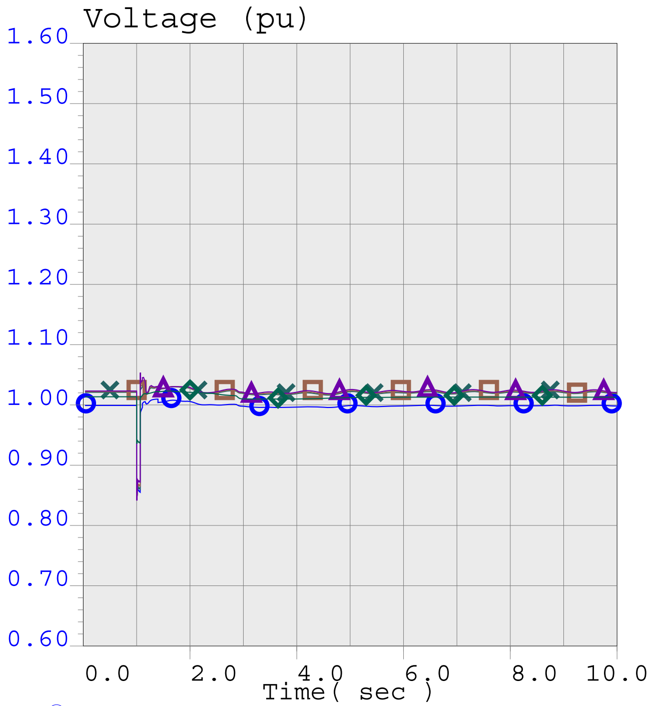

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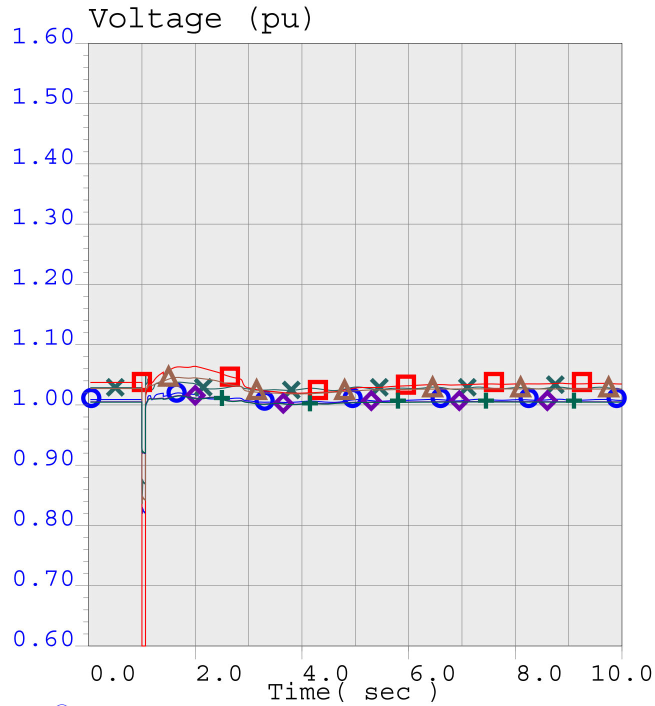

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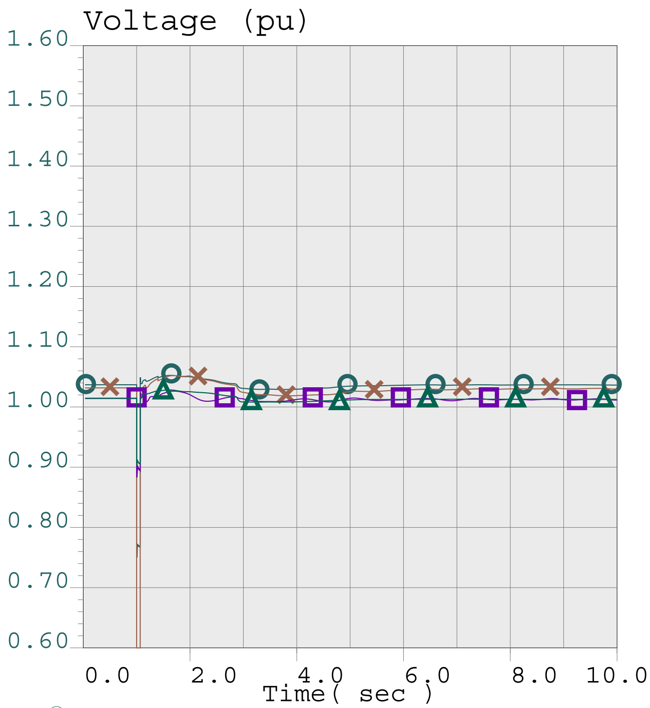

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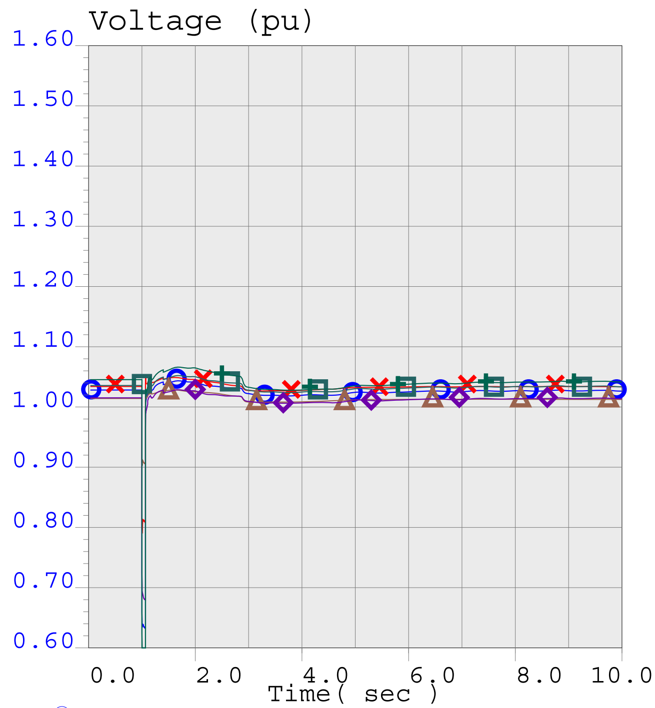

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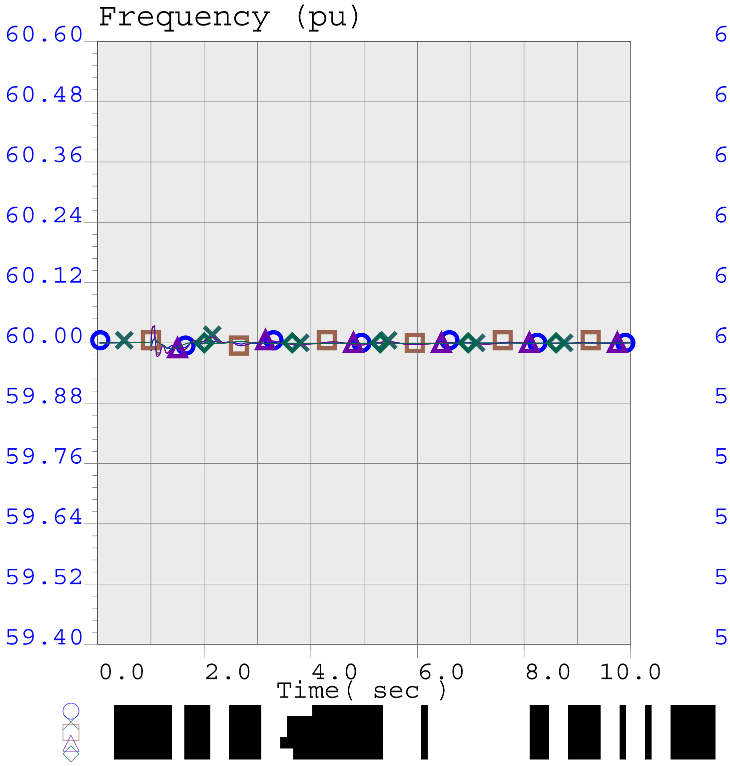

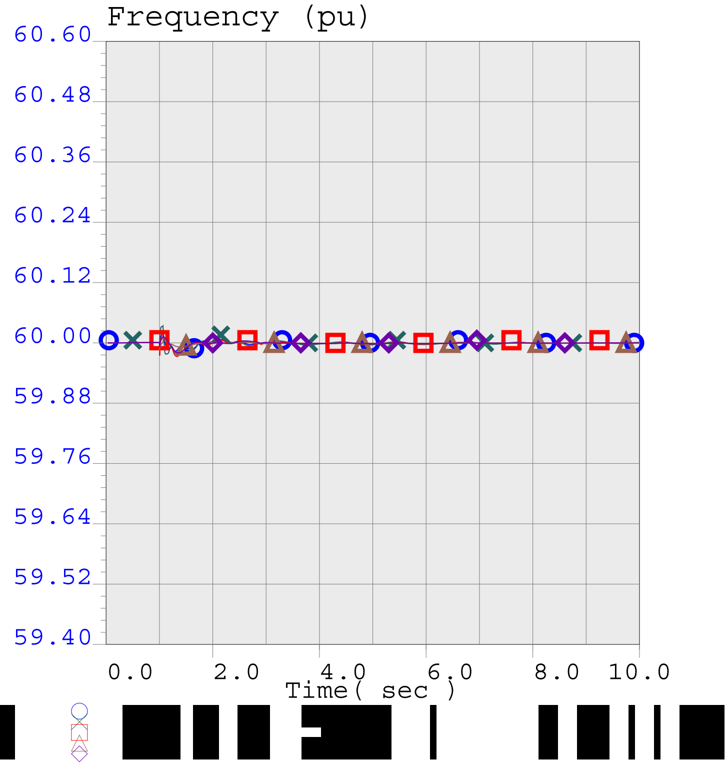

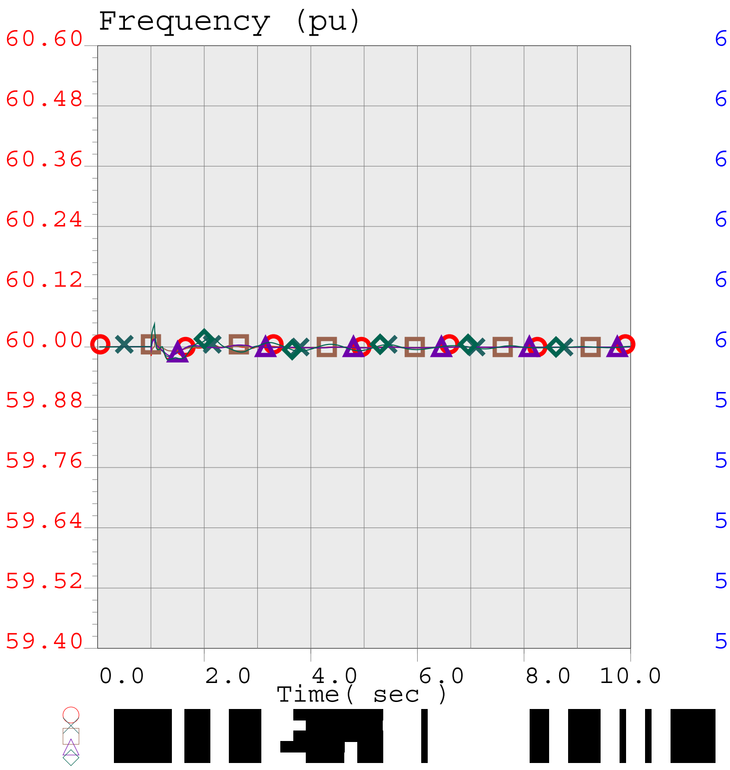

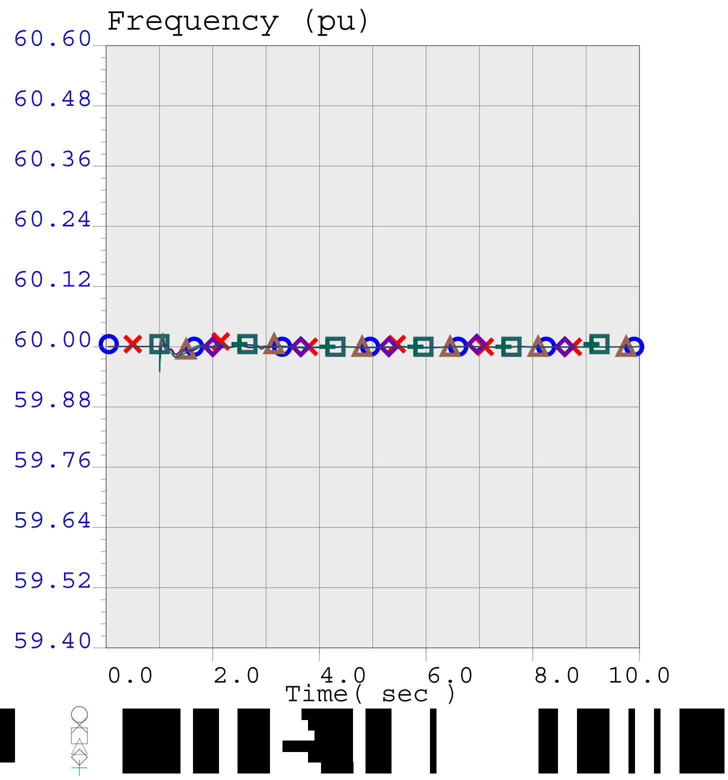

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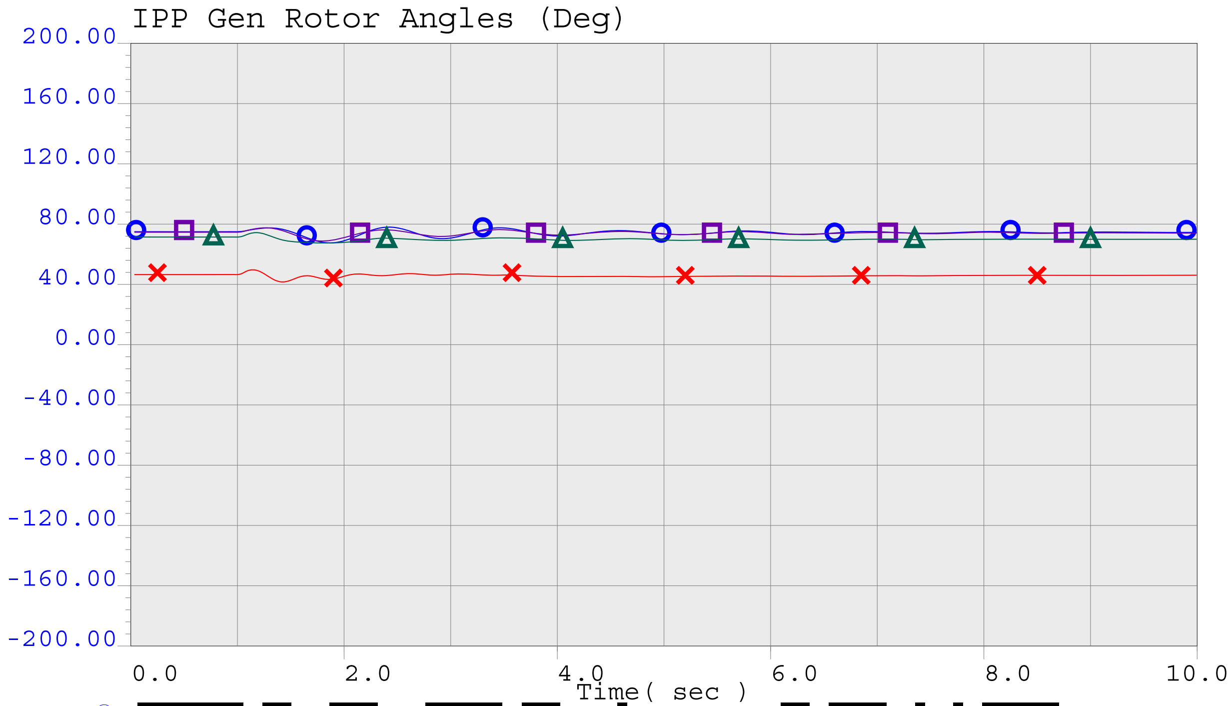

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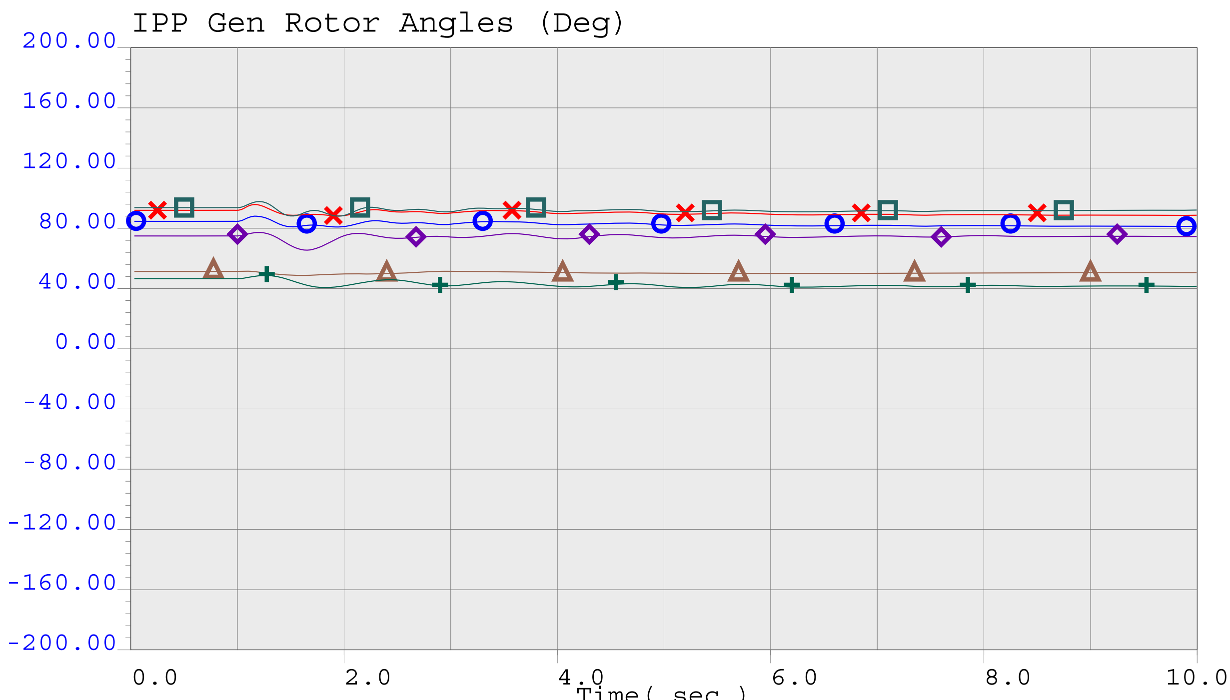

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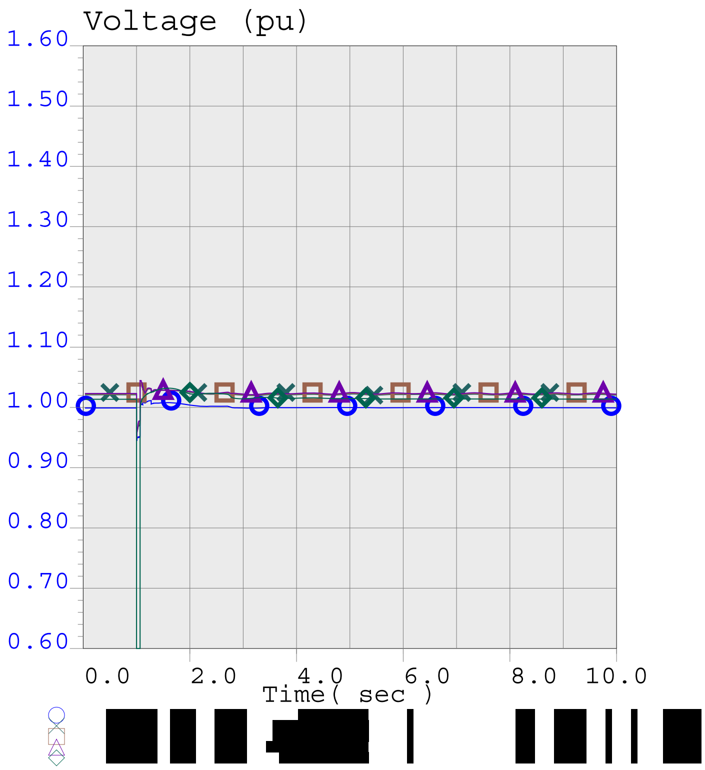

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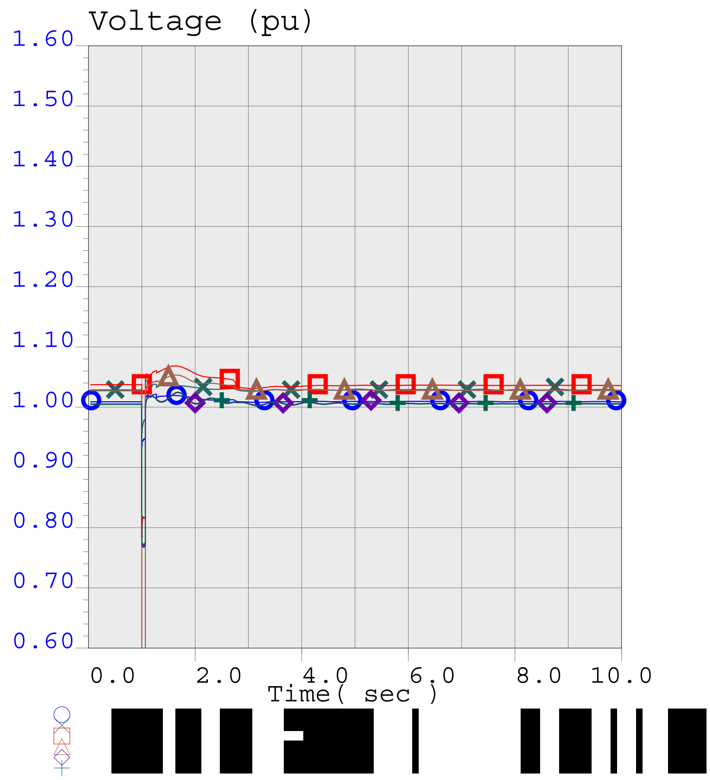

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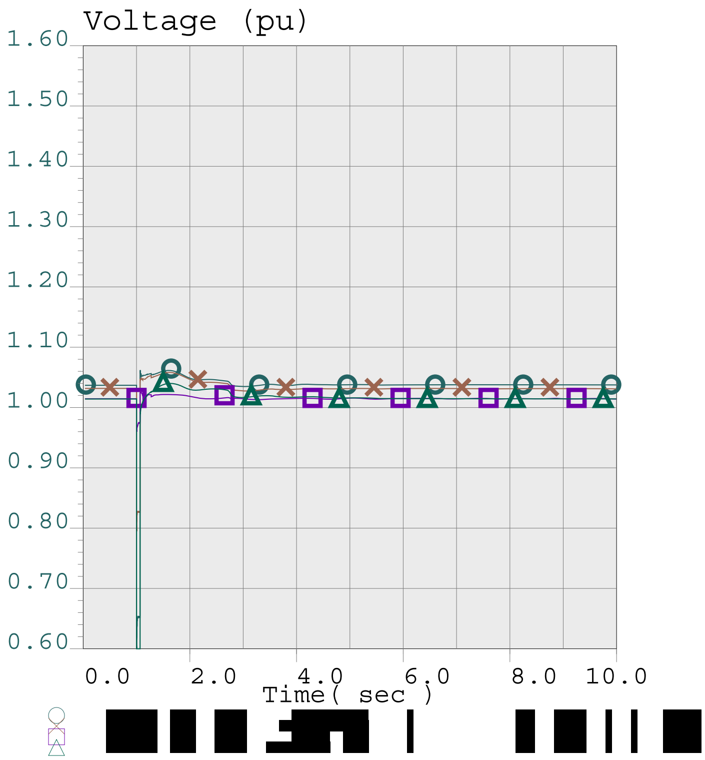

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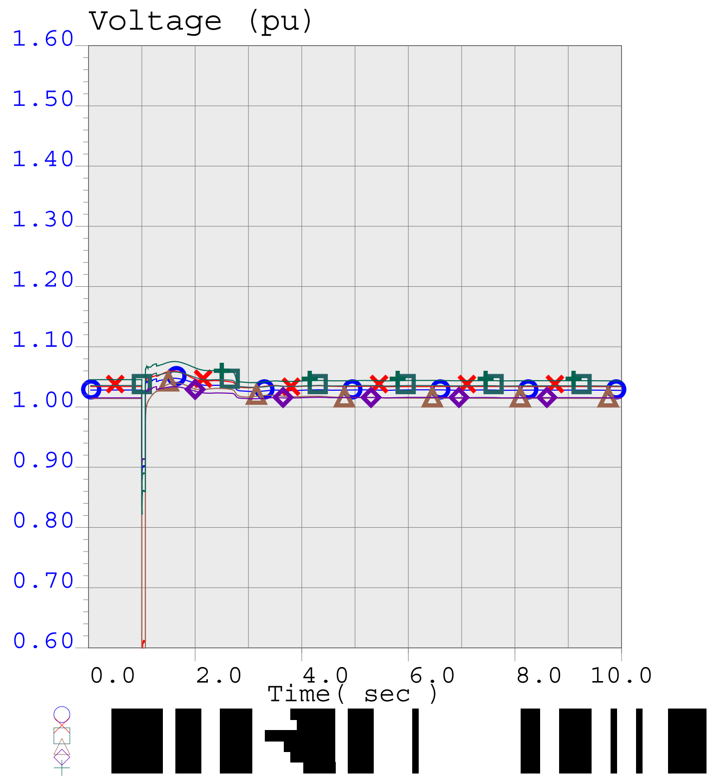

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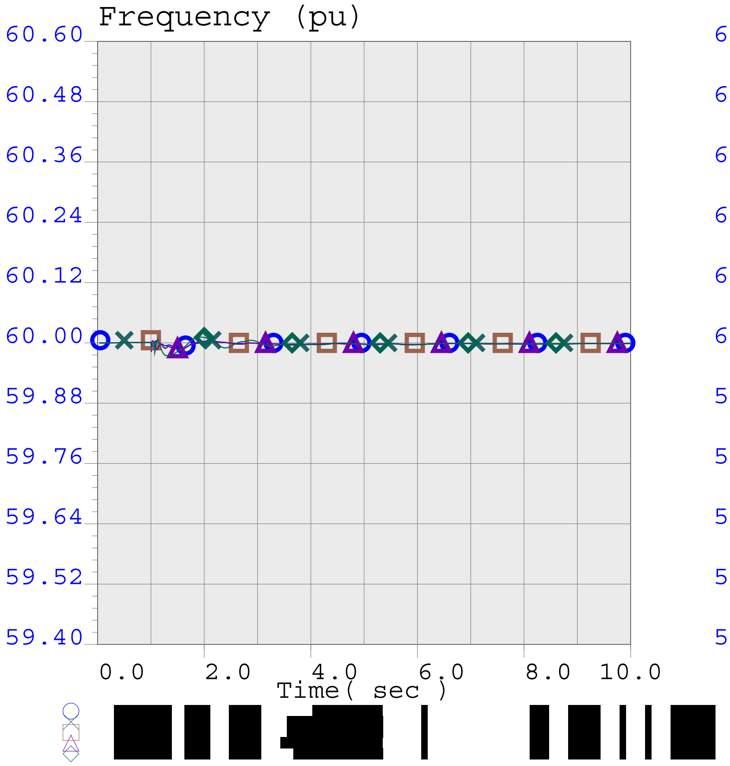

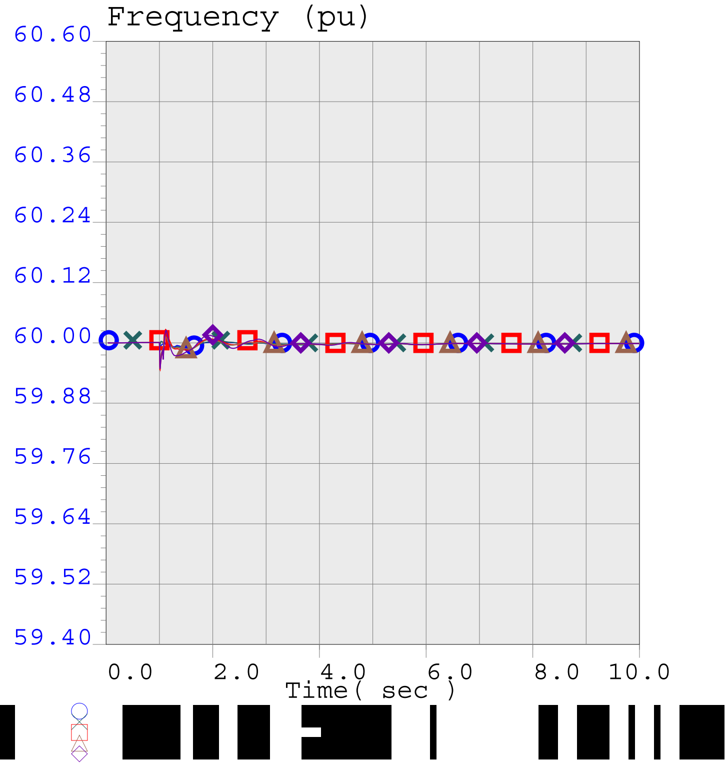

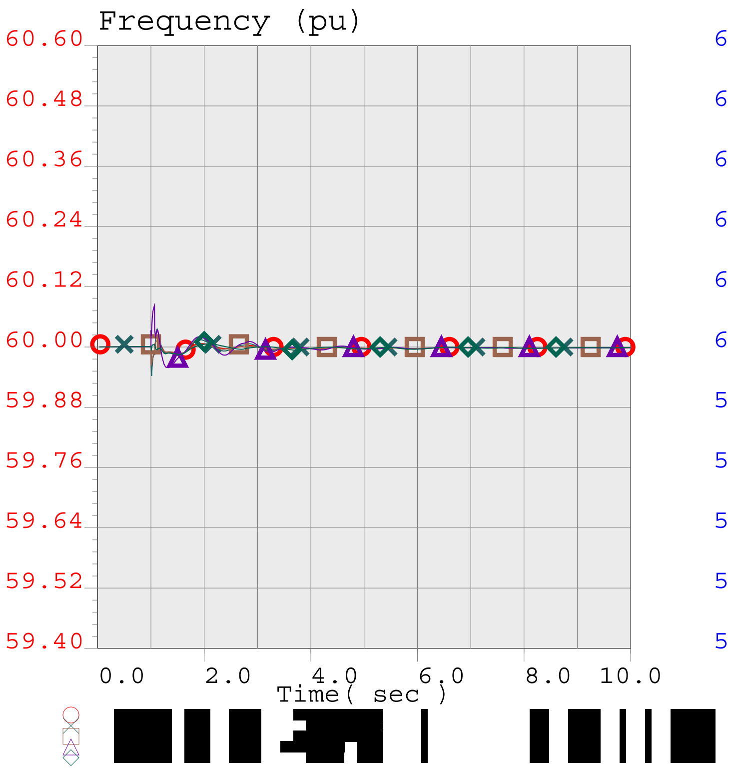

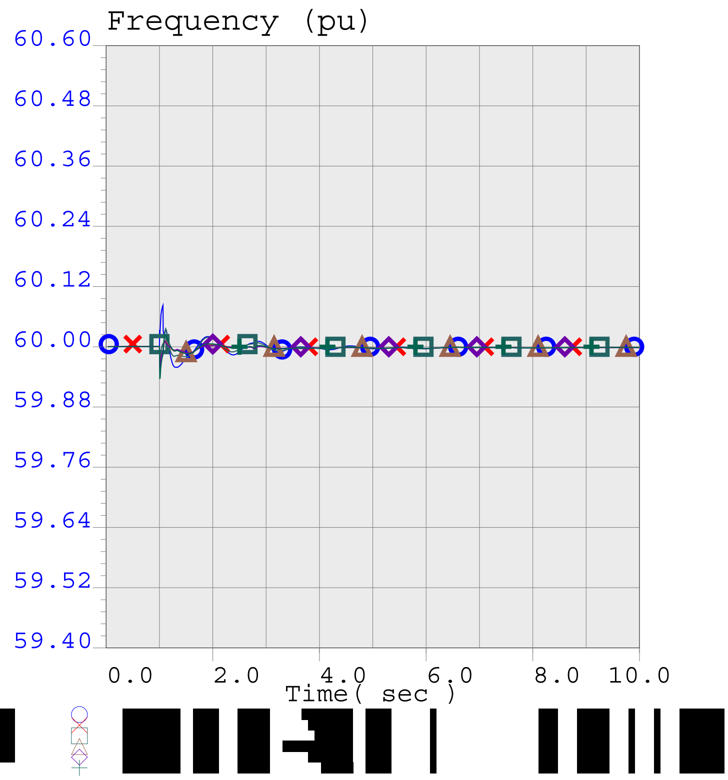

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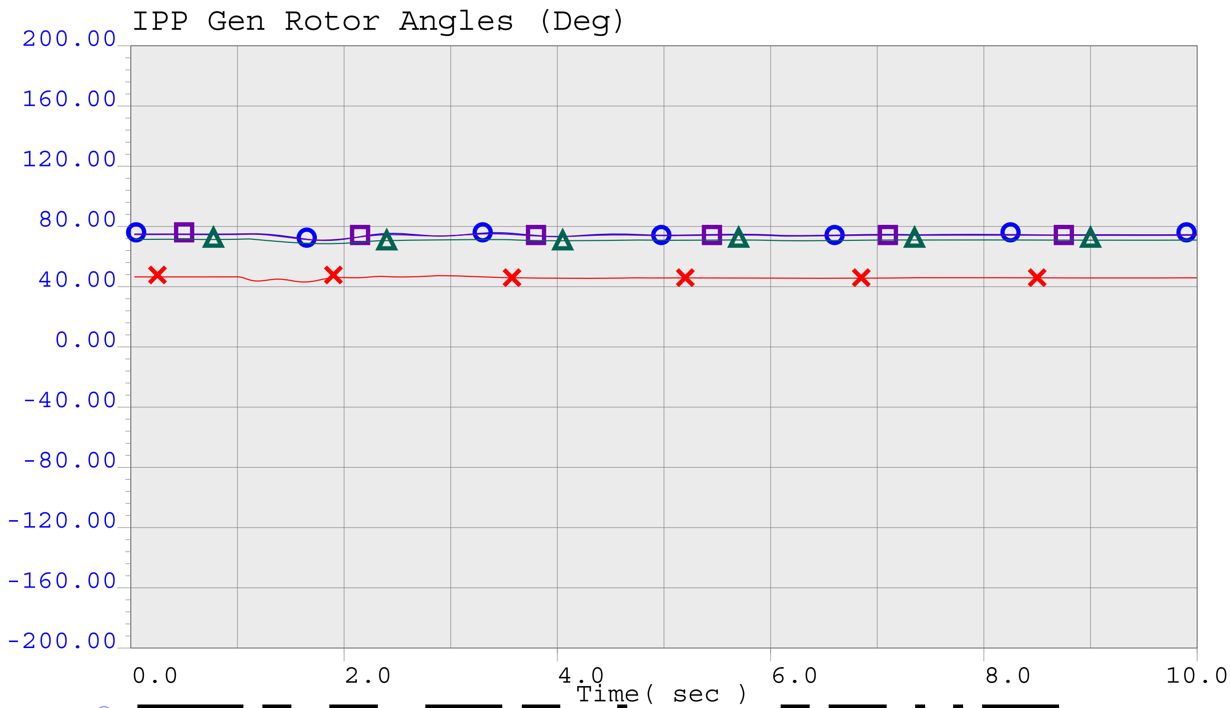

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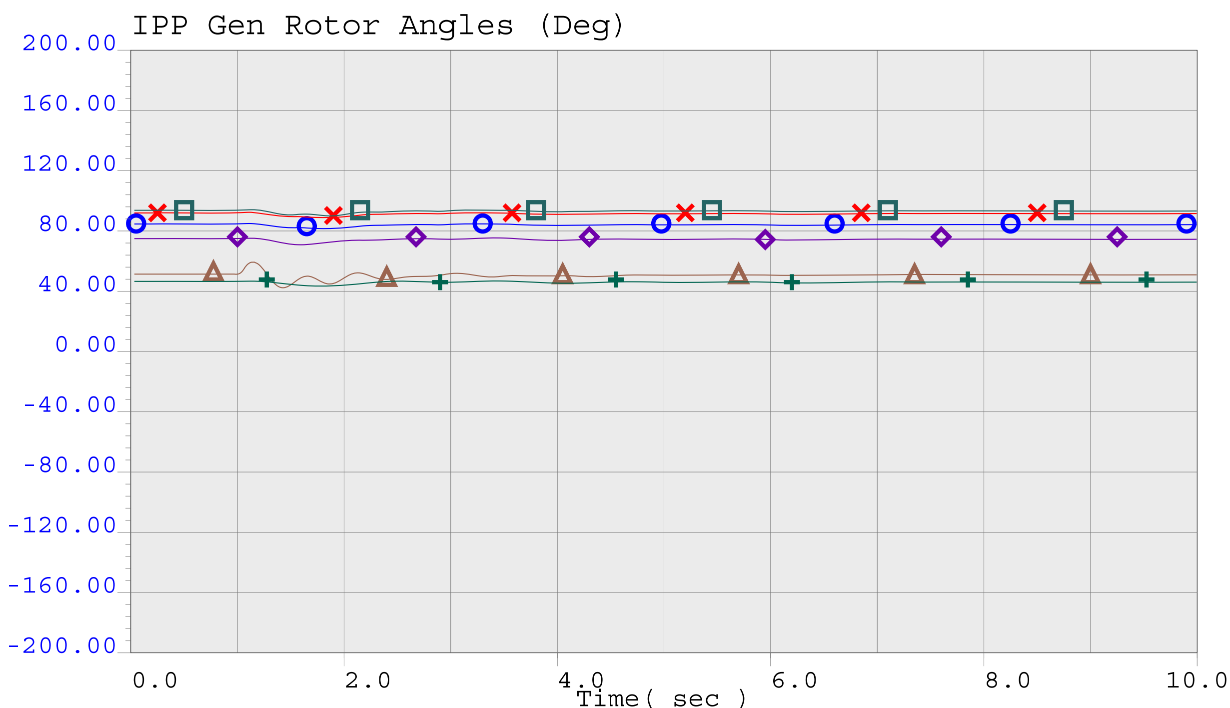

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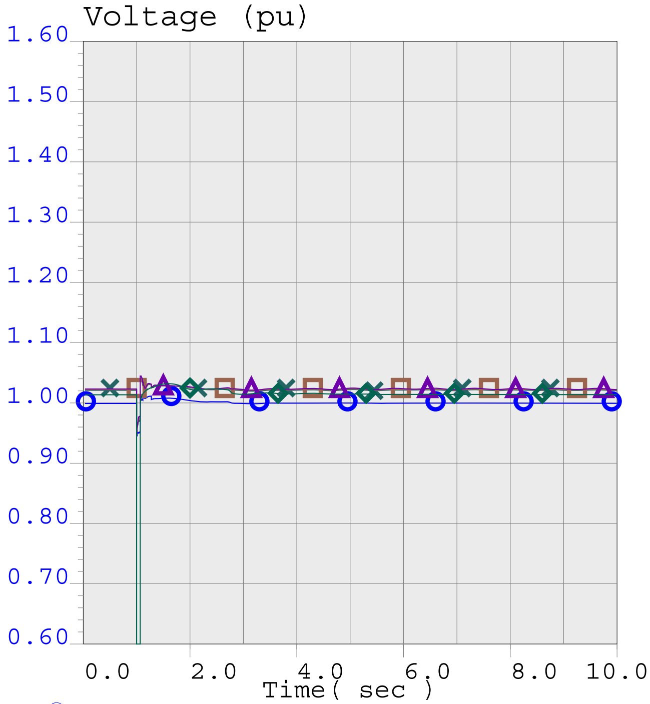

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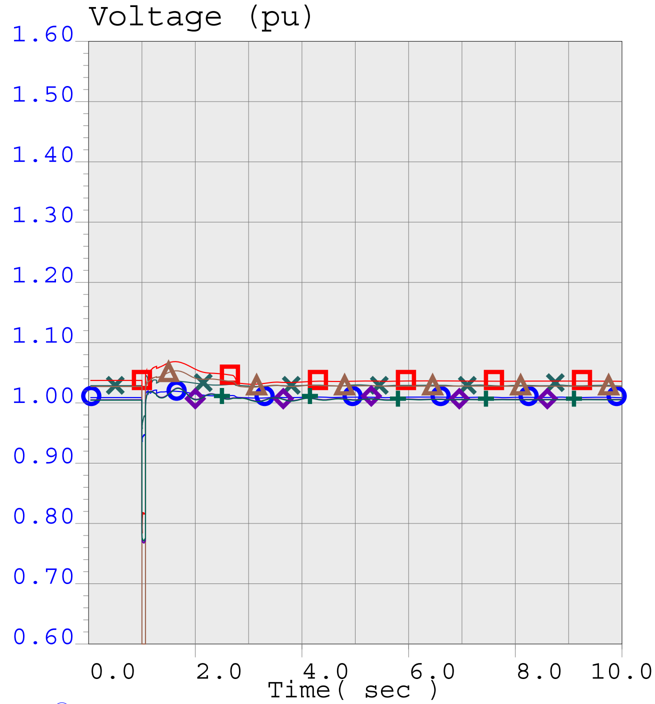

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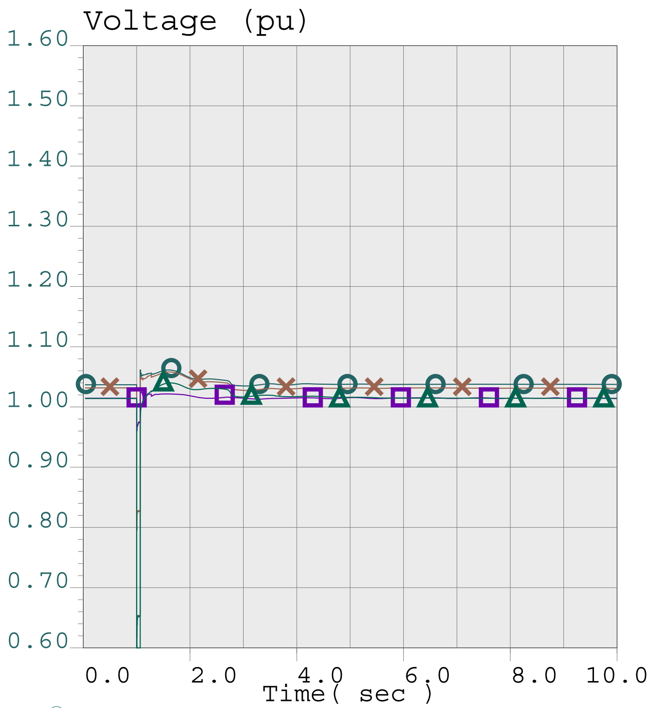

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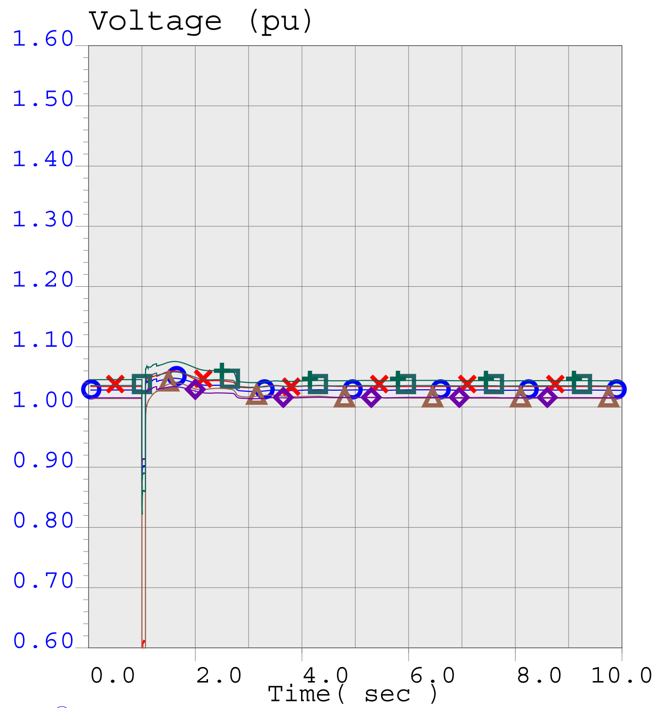

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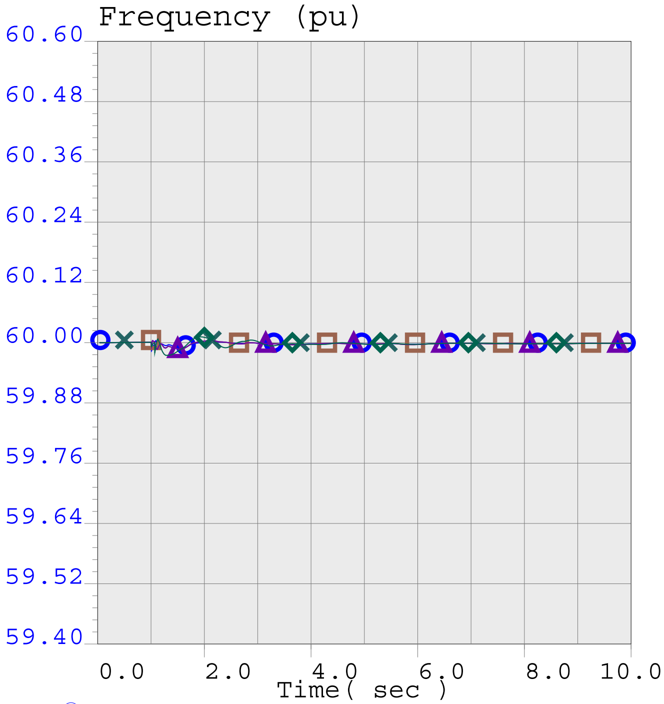

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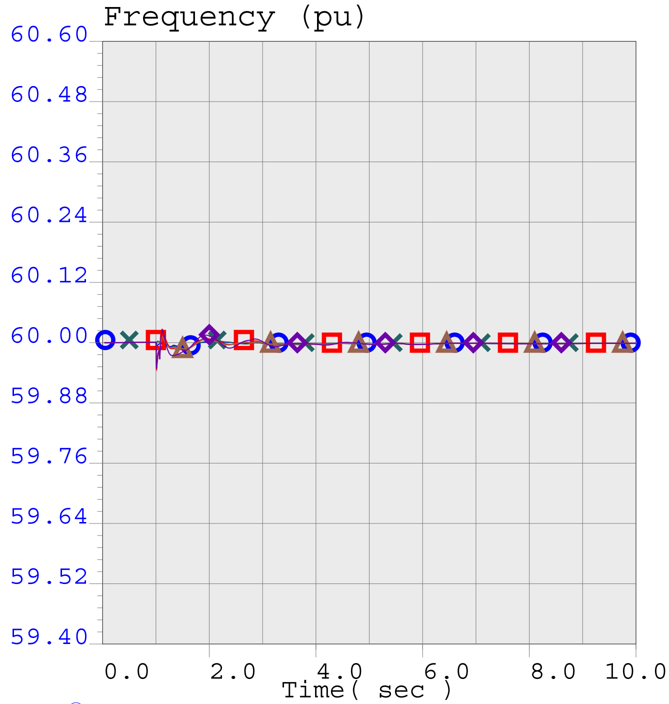

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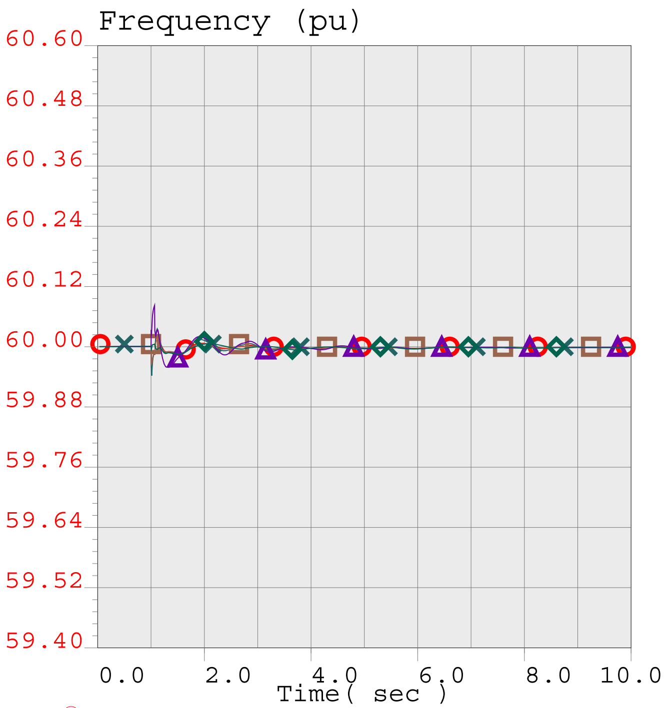

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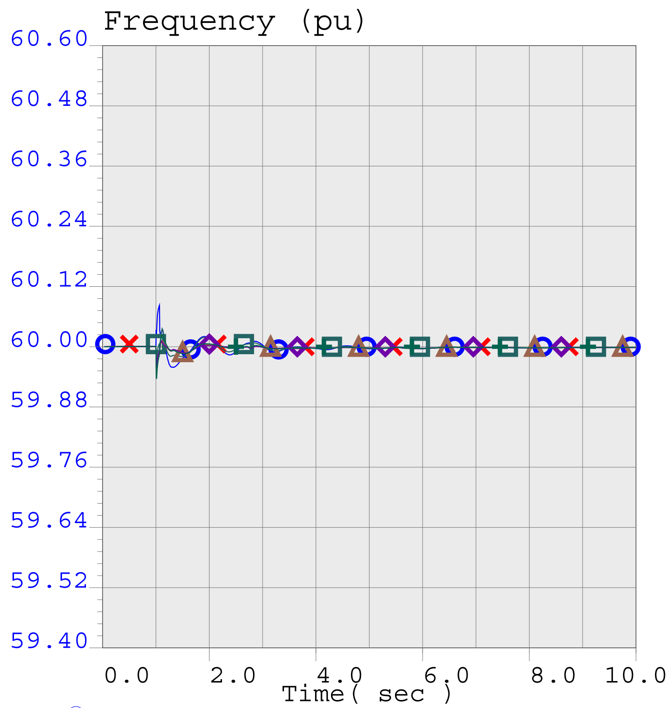

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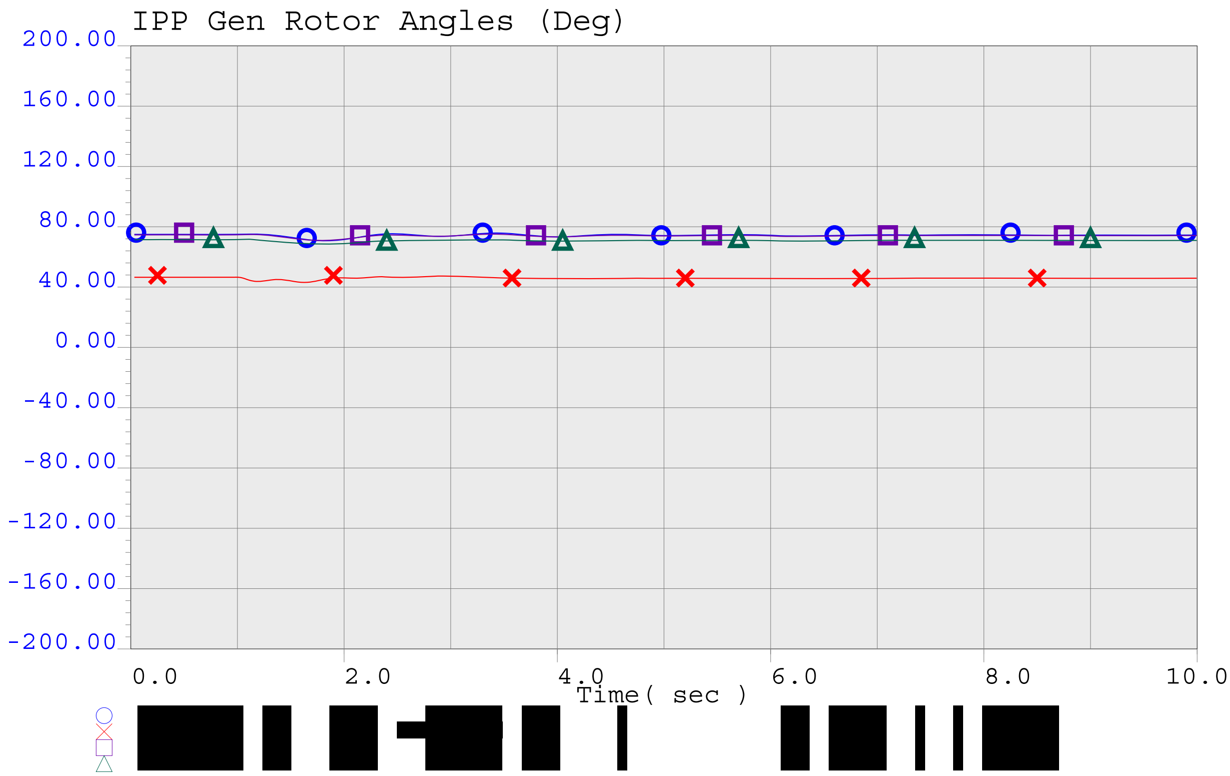

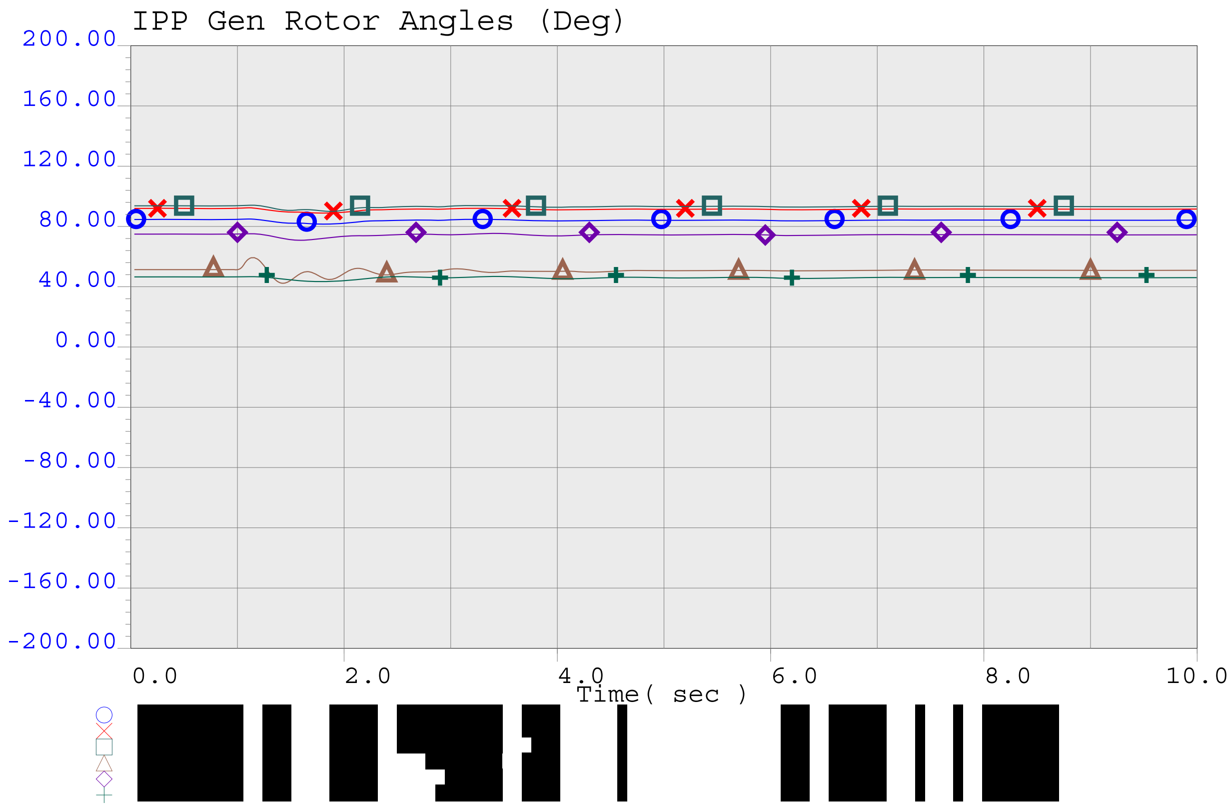

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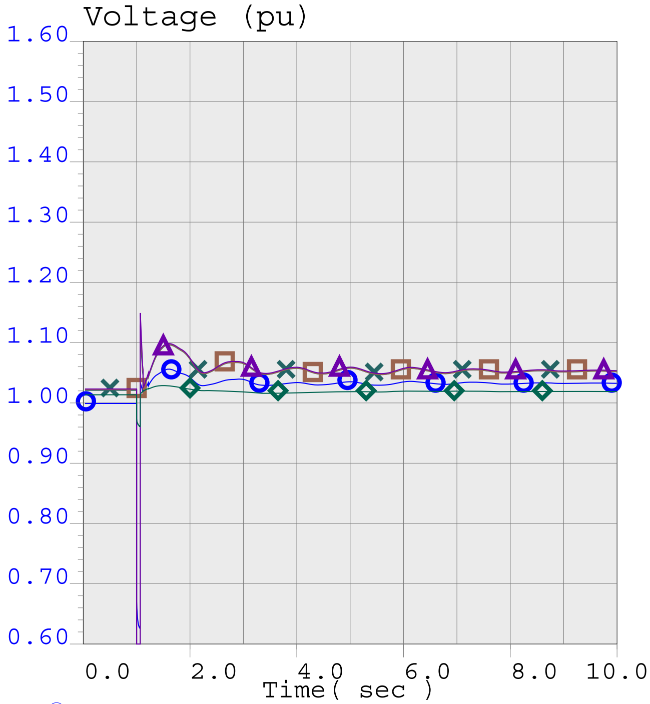

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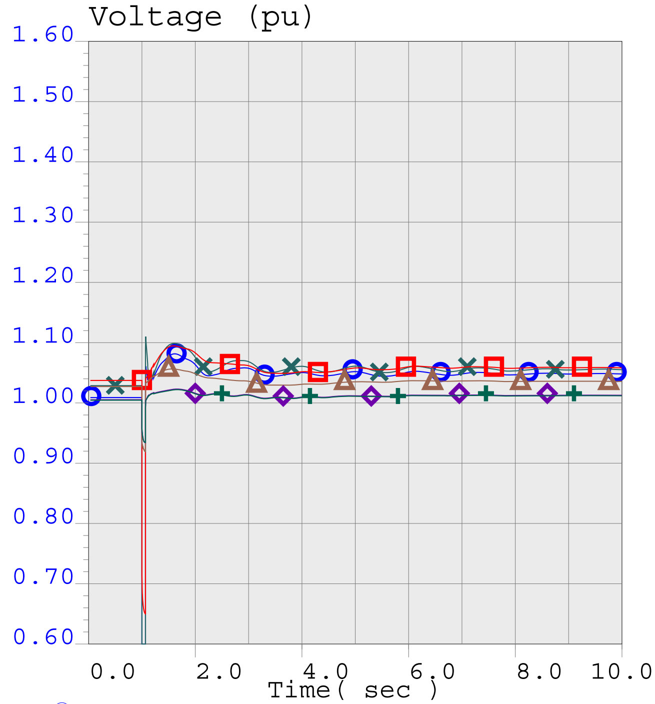

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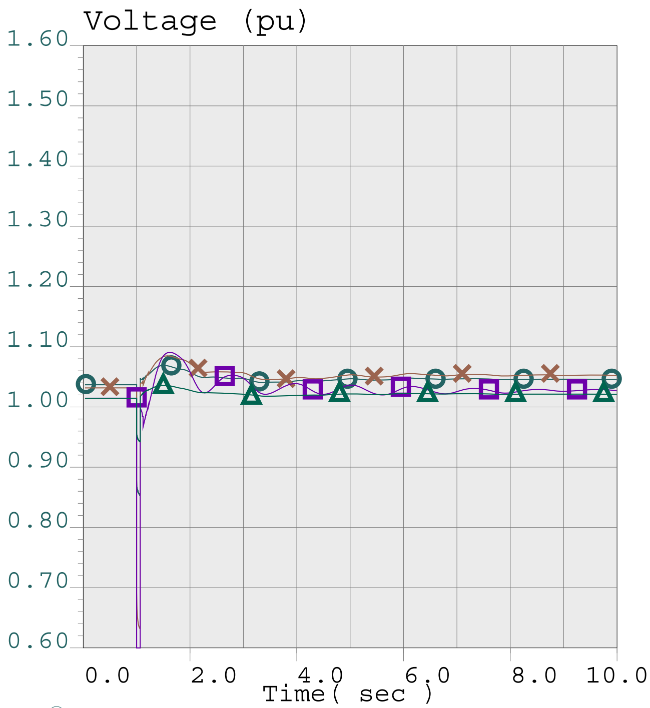

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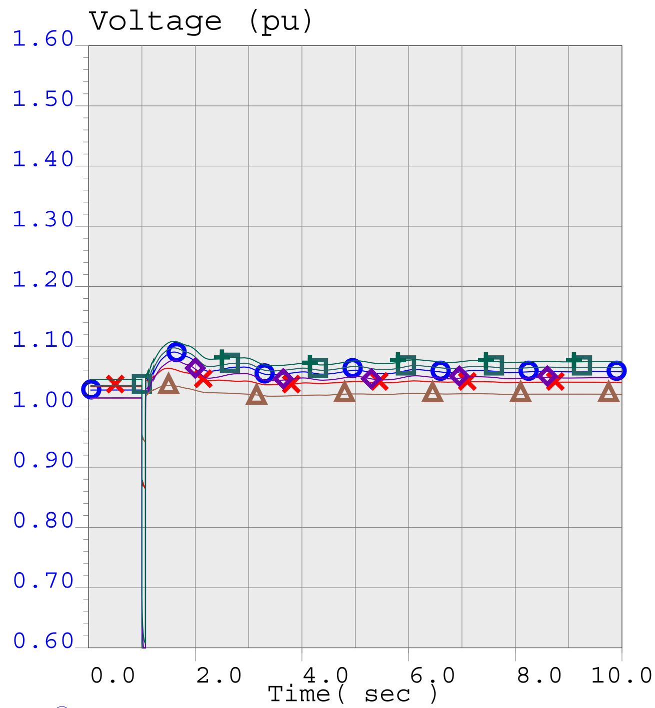

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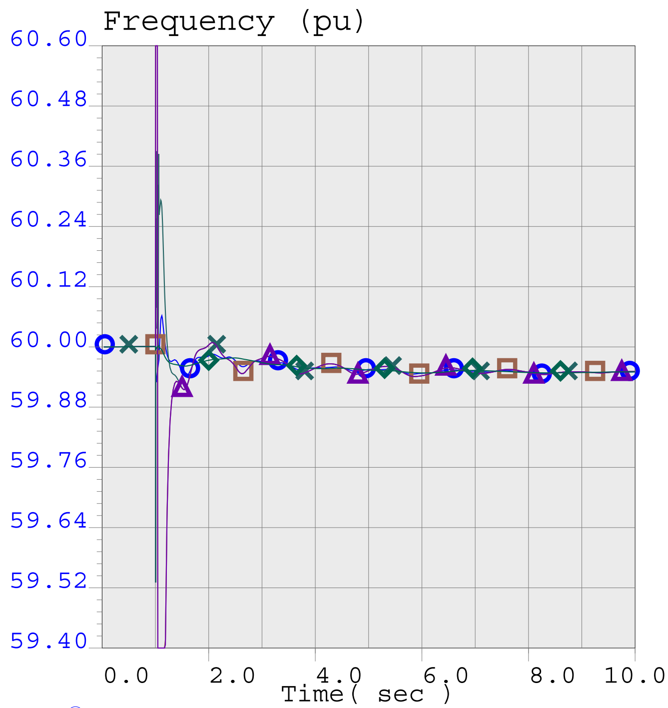

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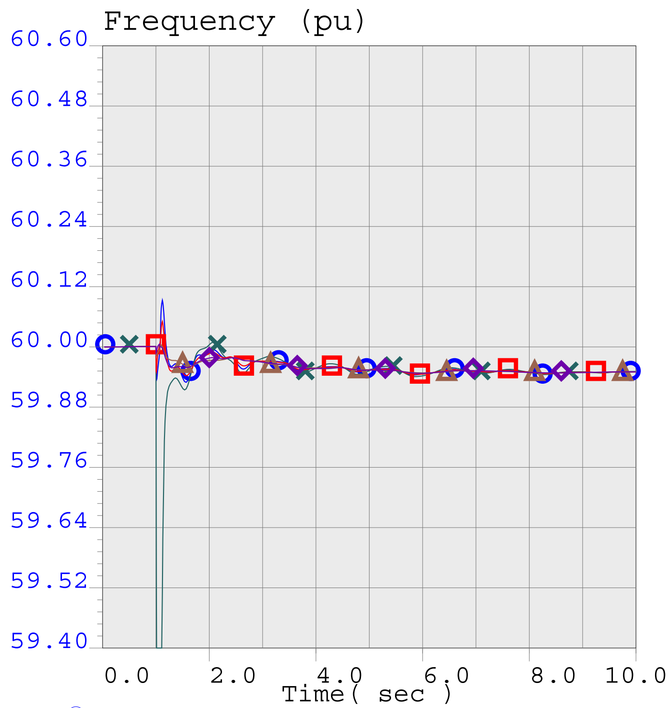

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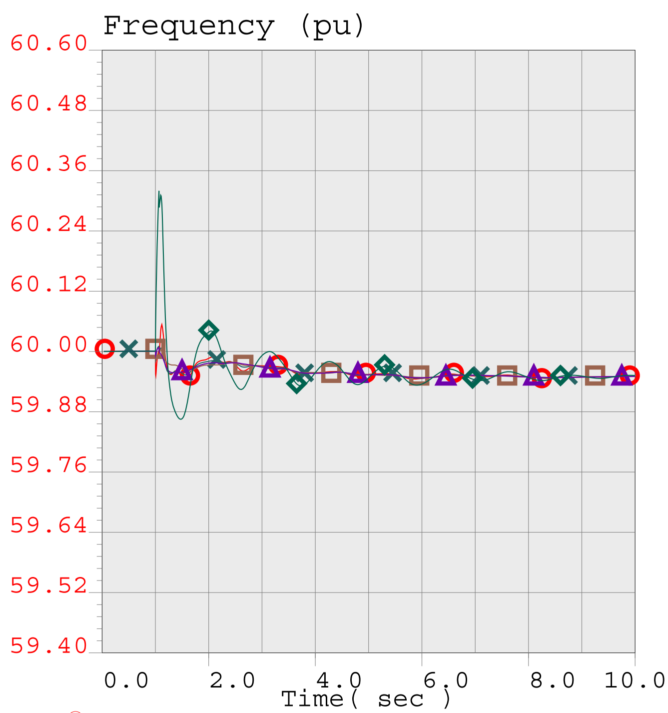

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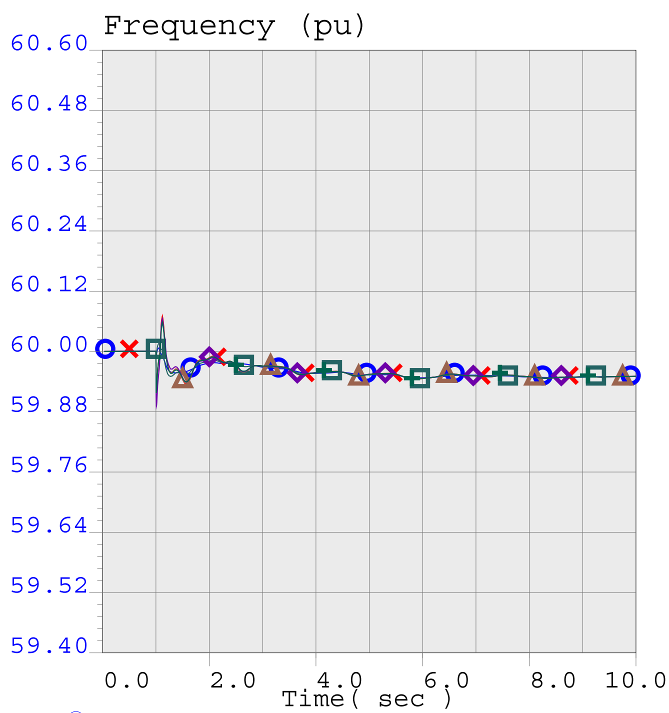

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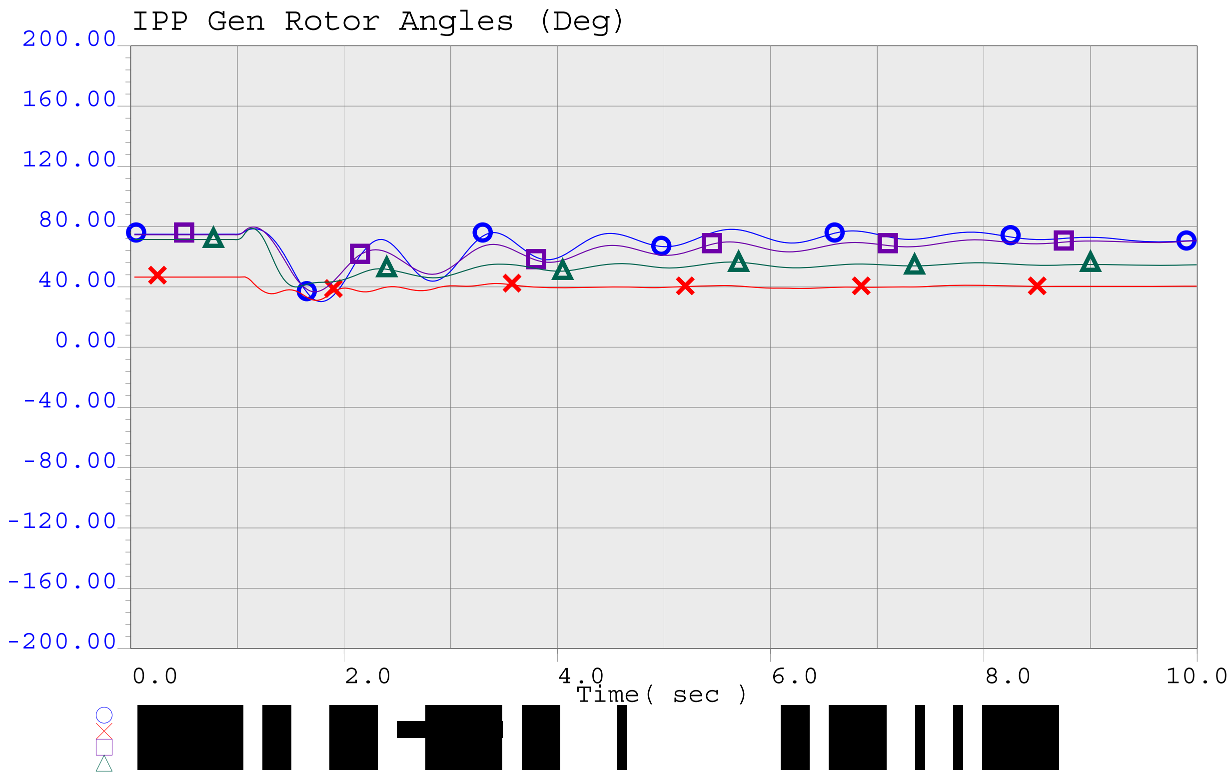
Fri Aug 26 08:40:18 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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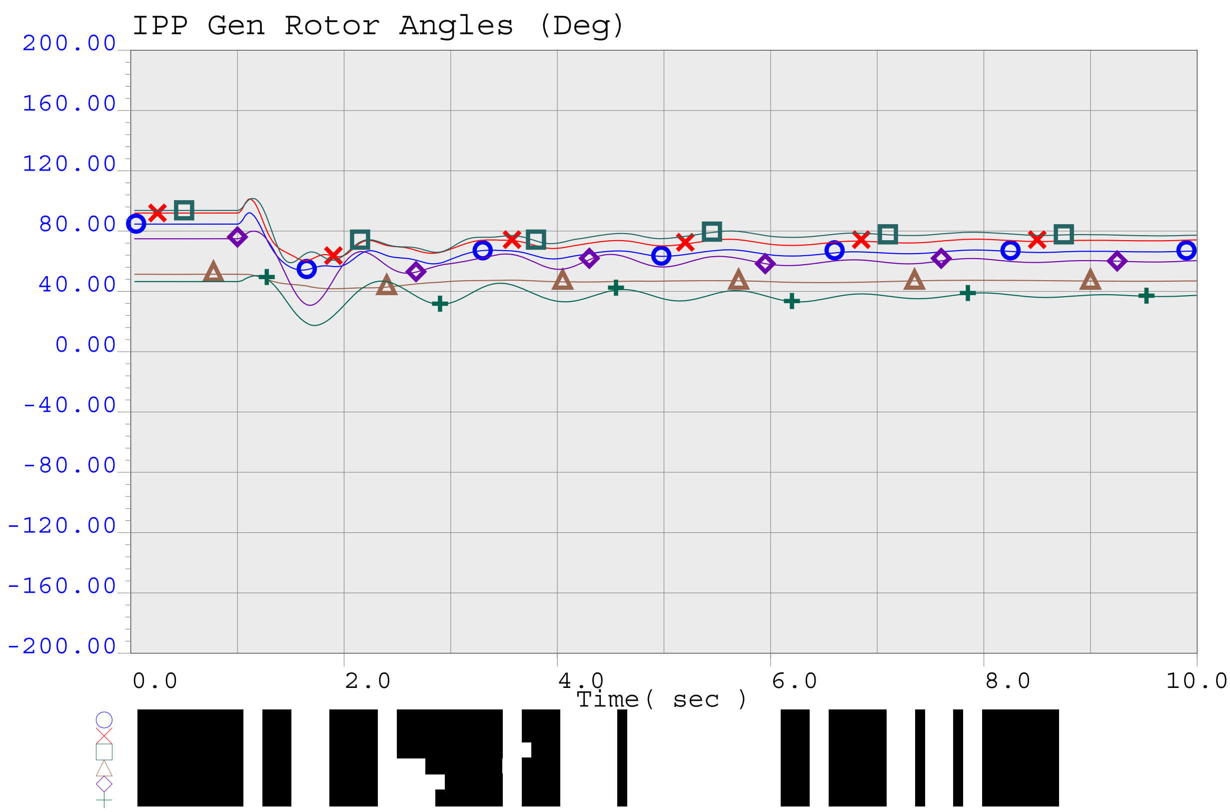

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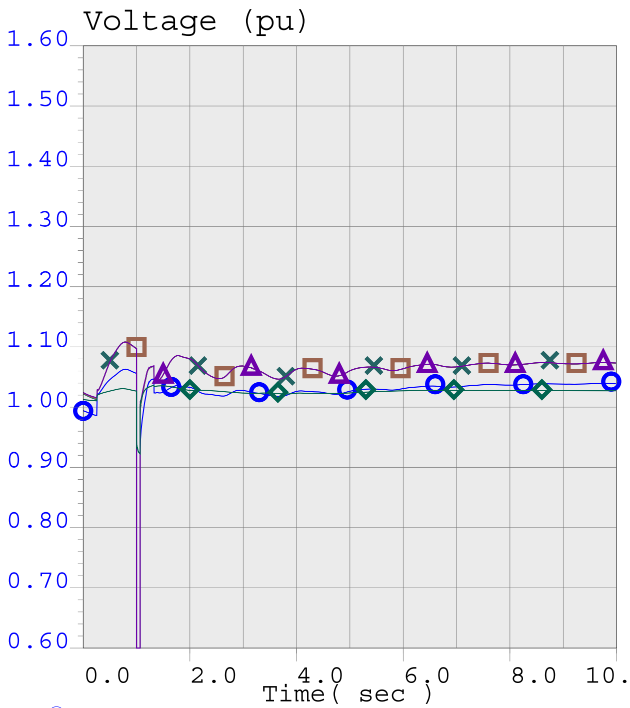

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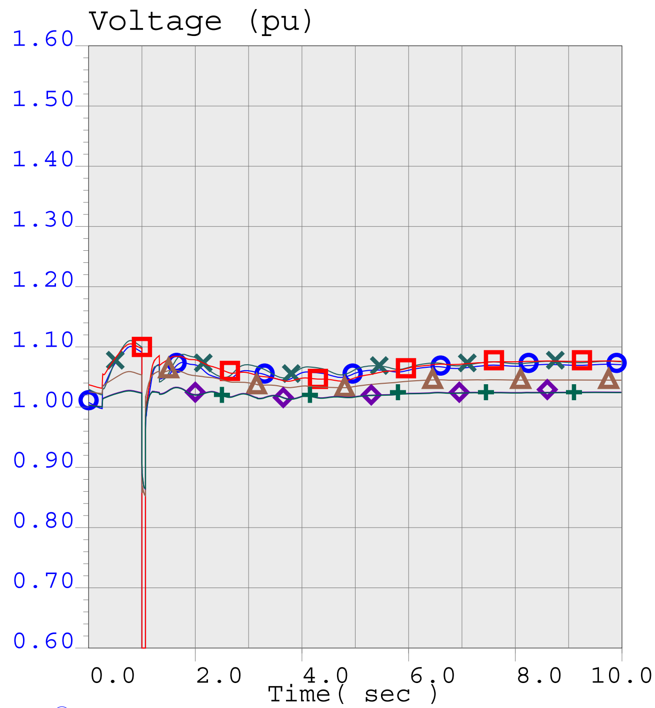

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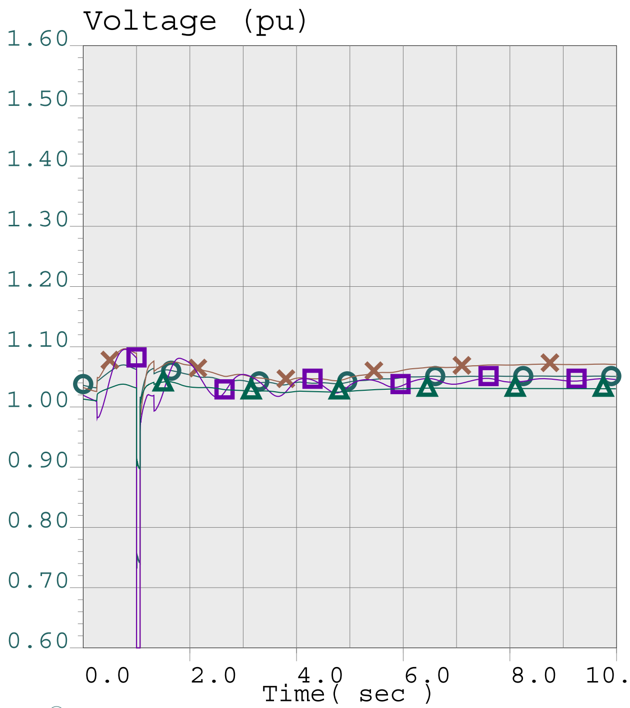

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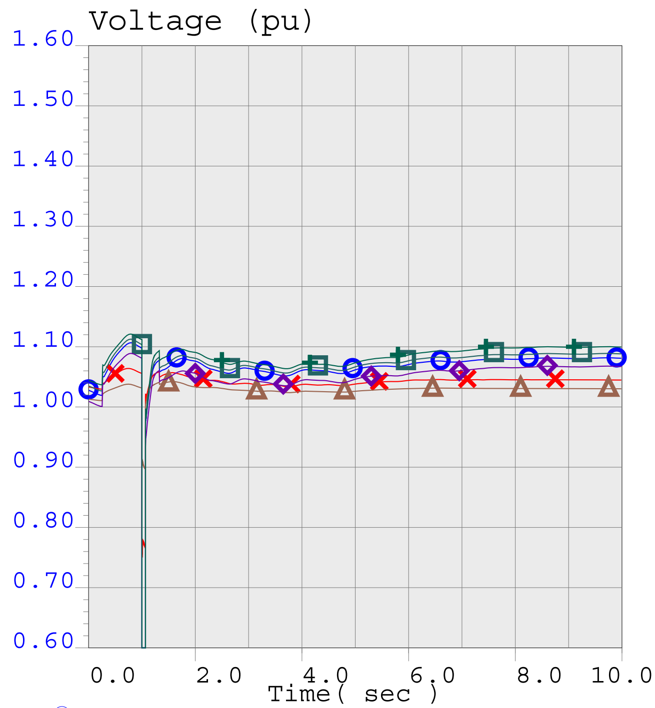

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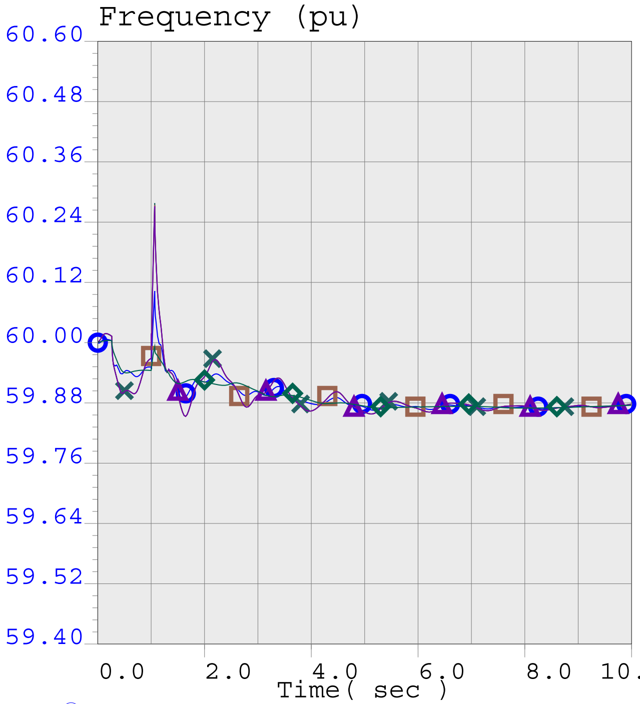

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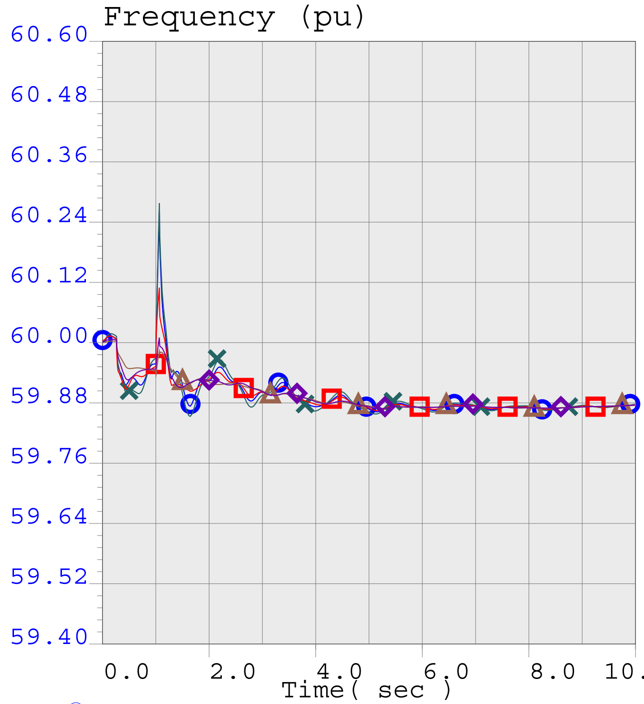

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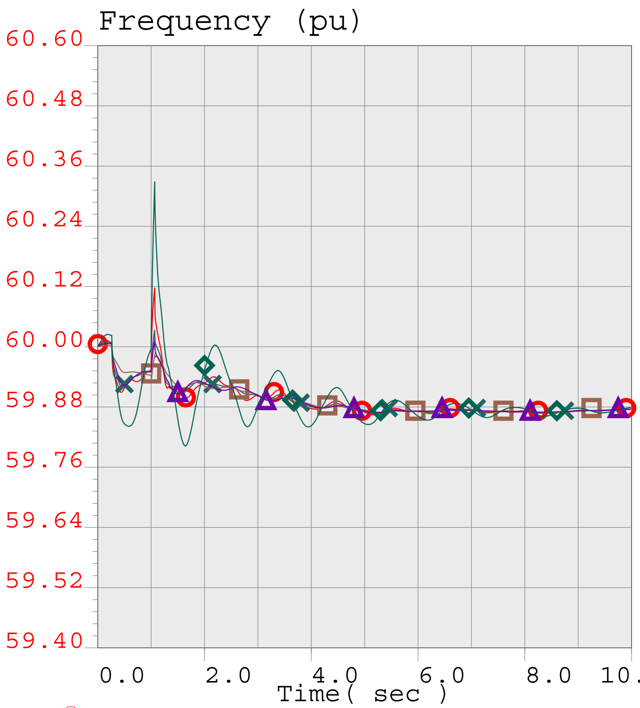

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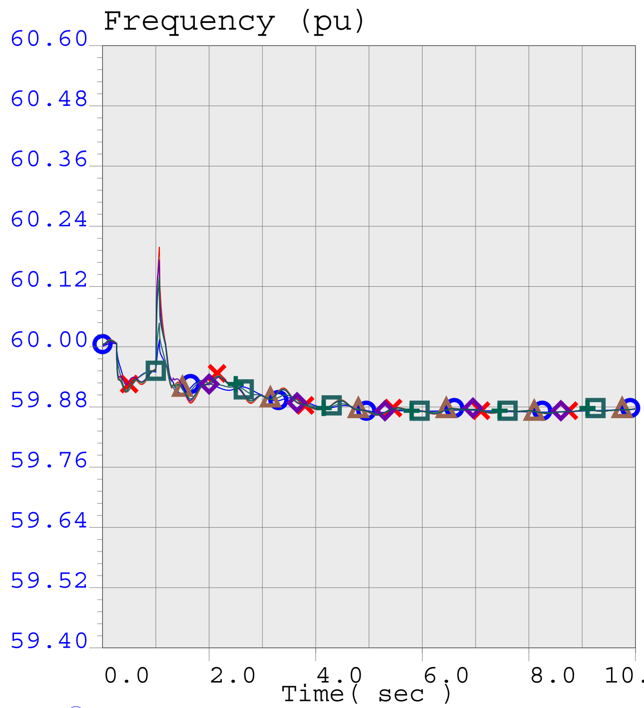

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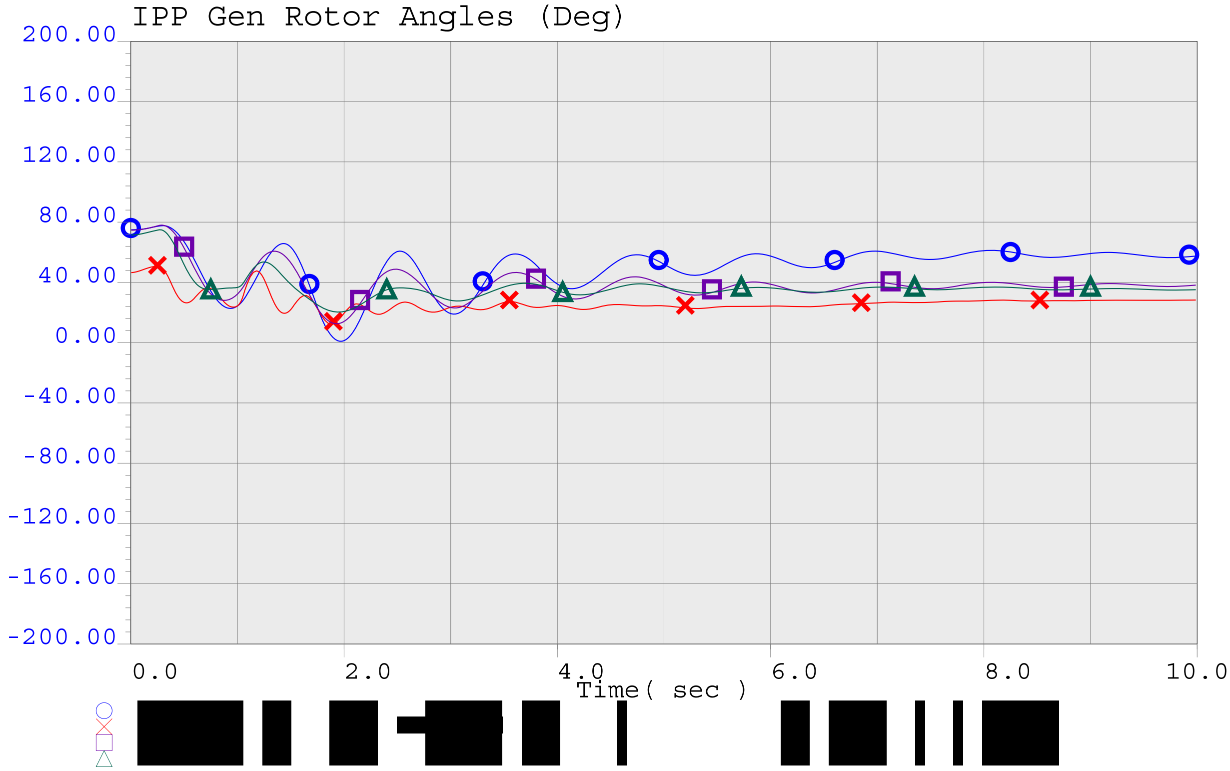

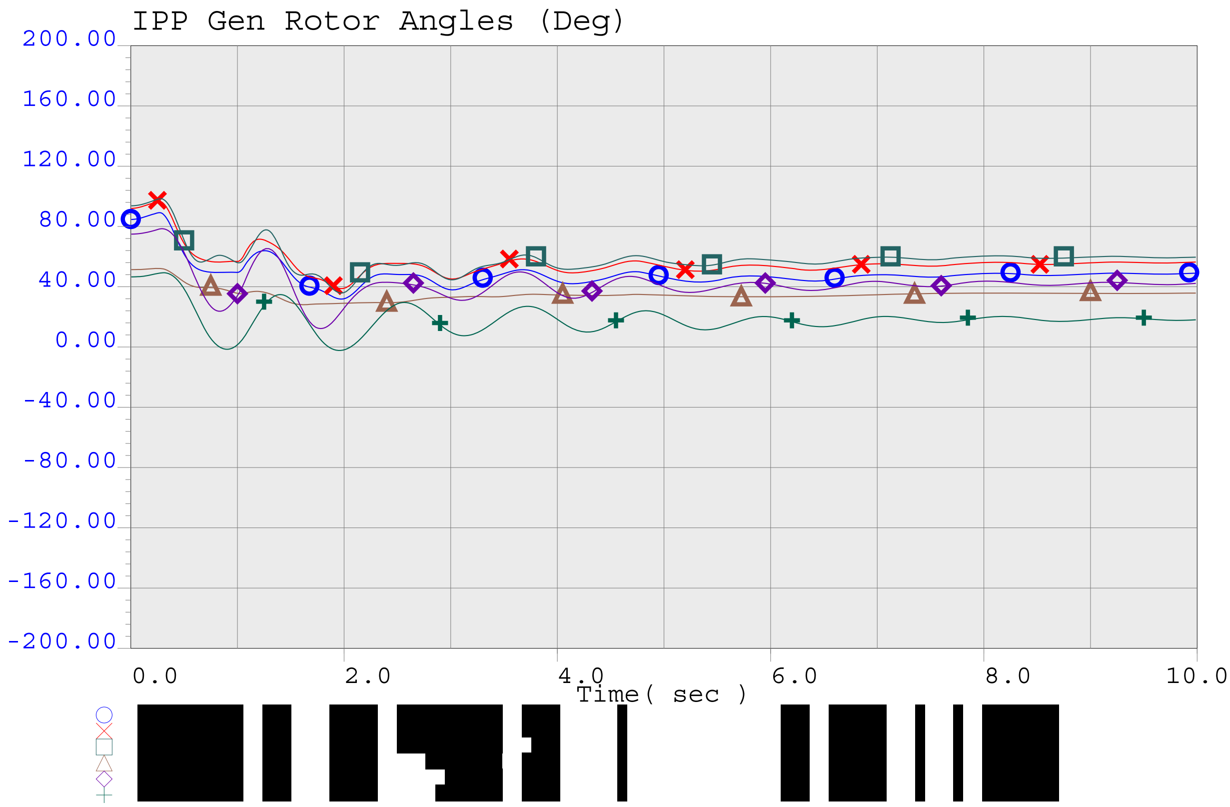

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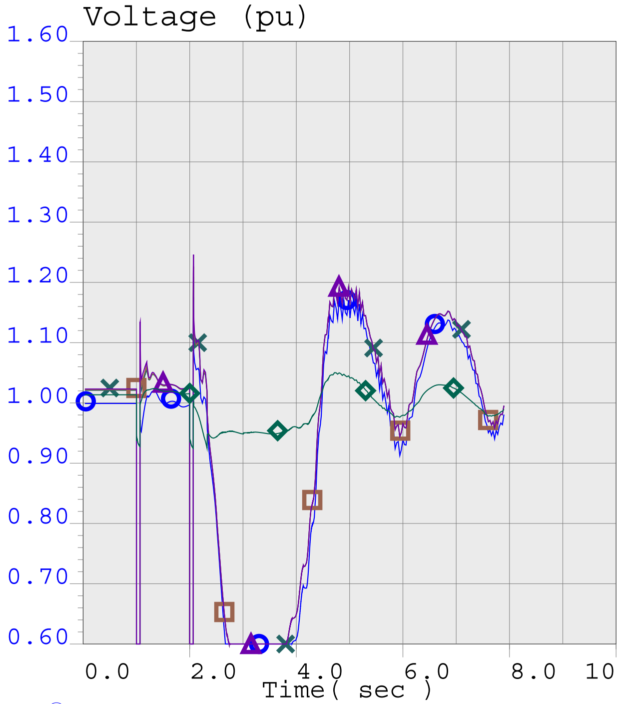

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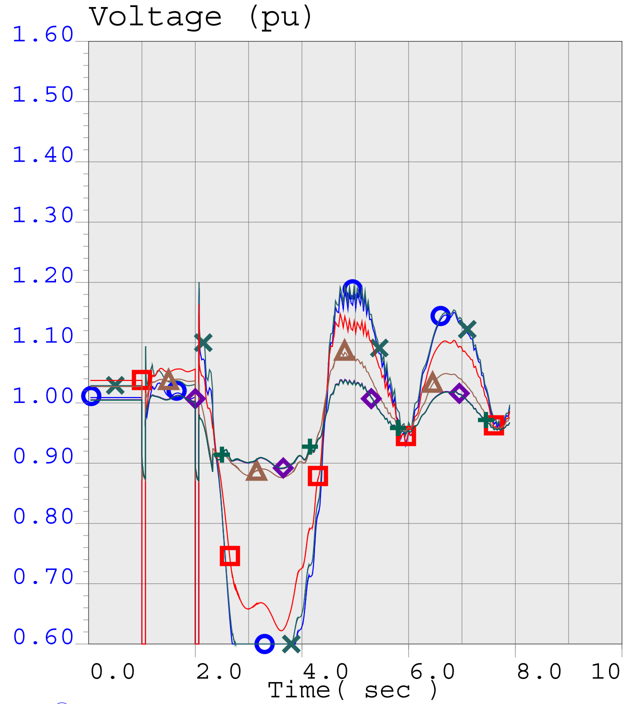

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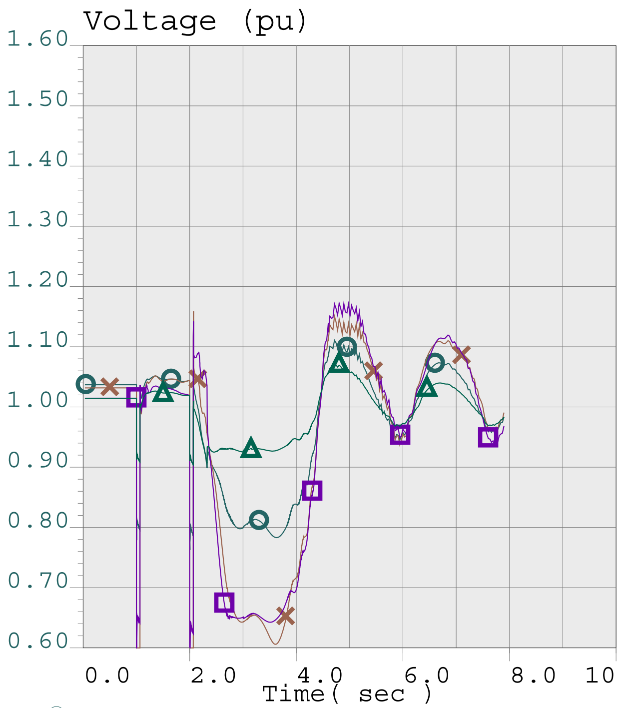

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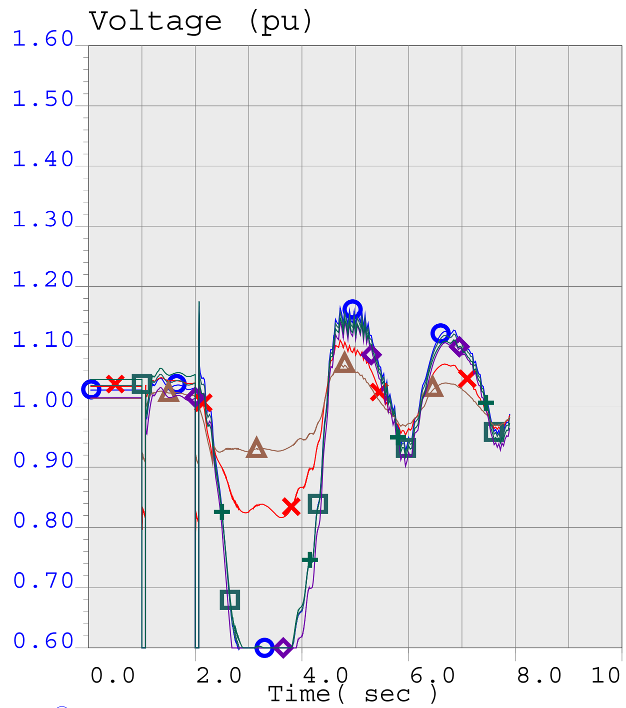

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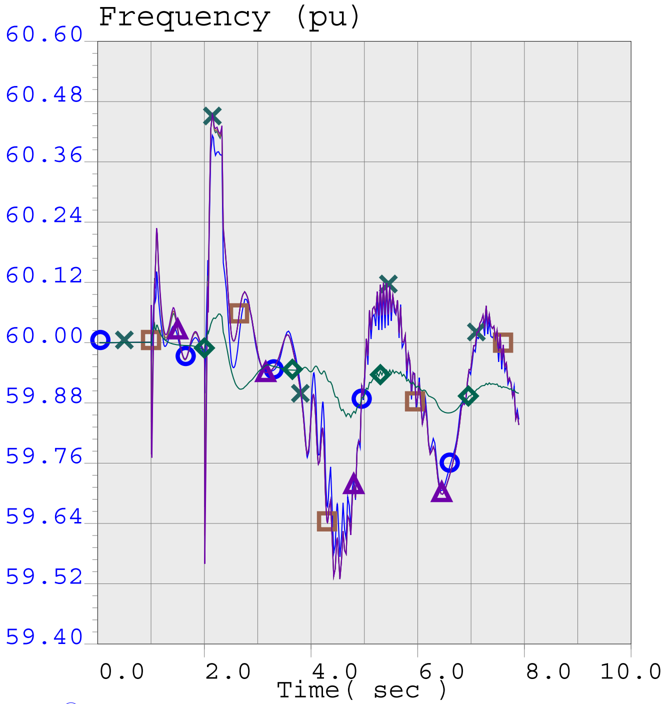

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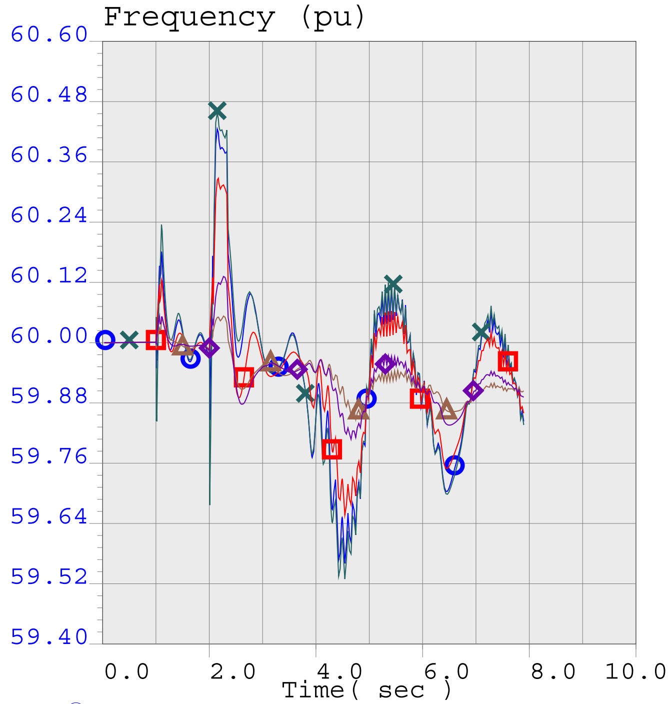

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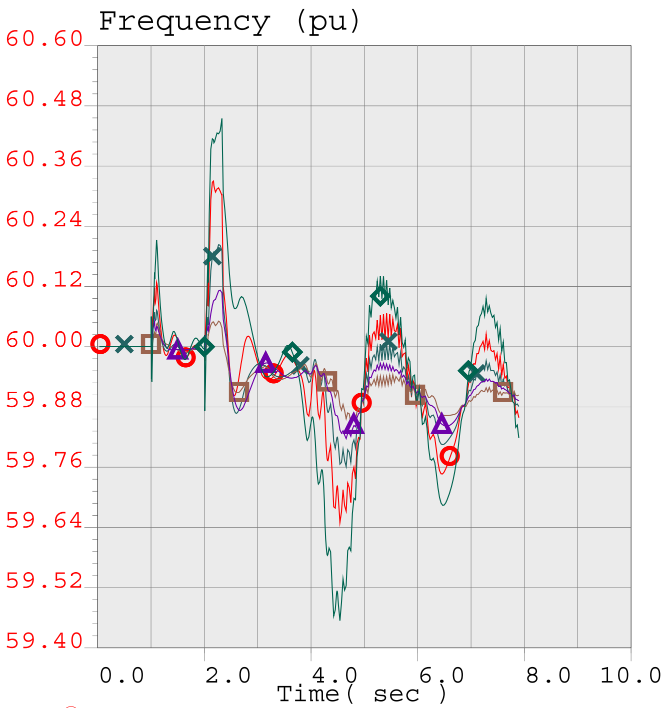

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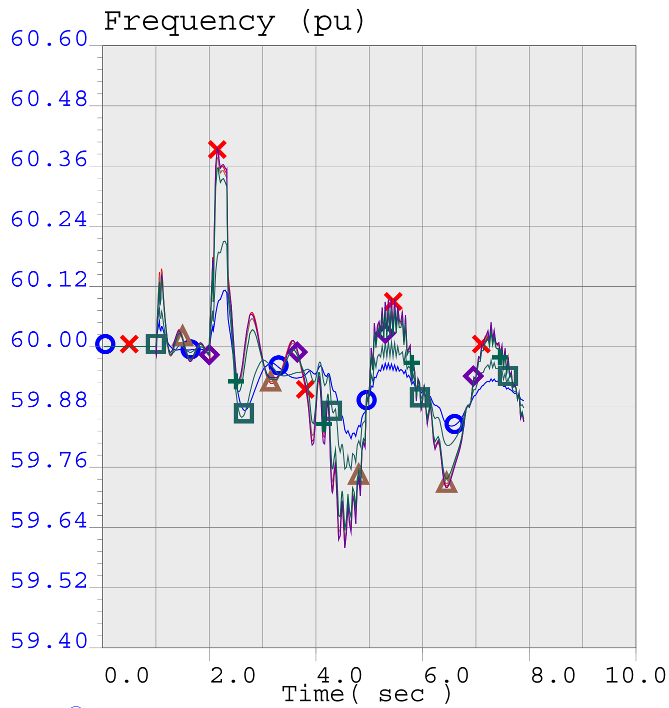

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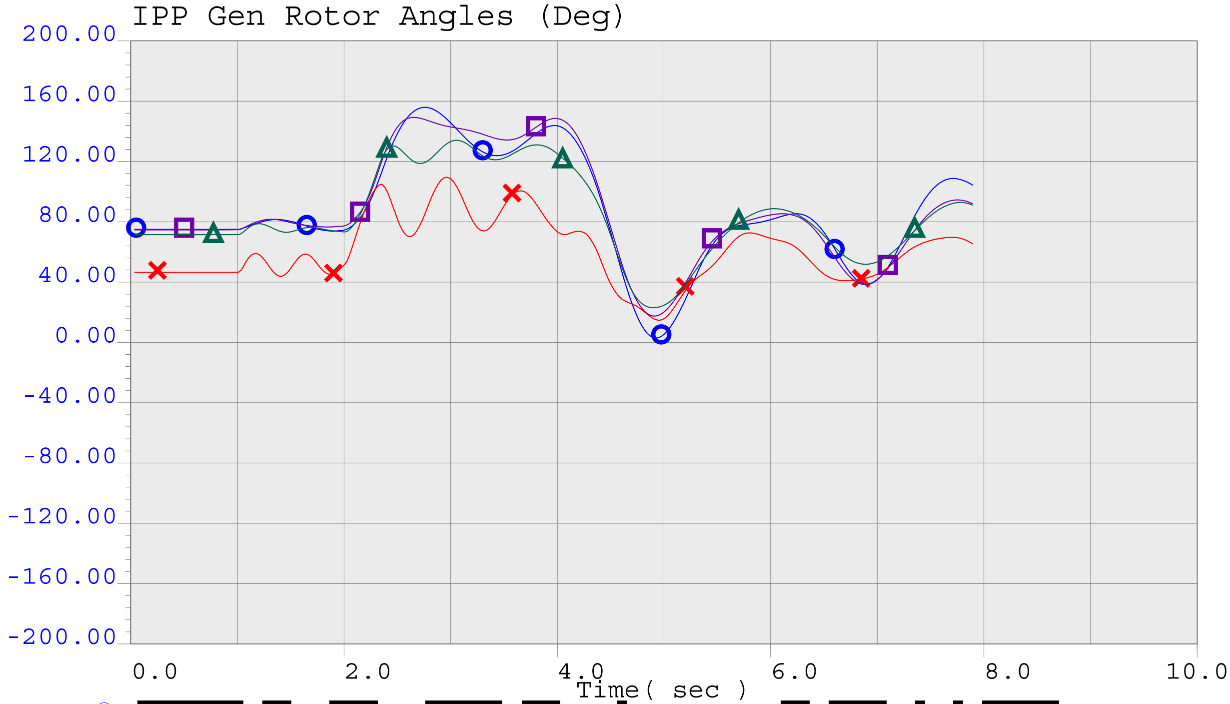
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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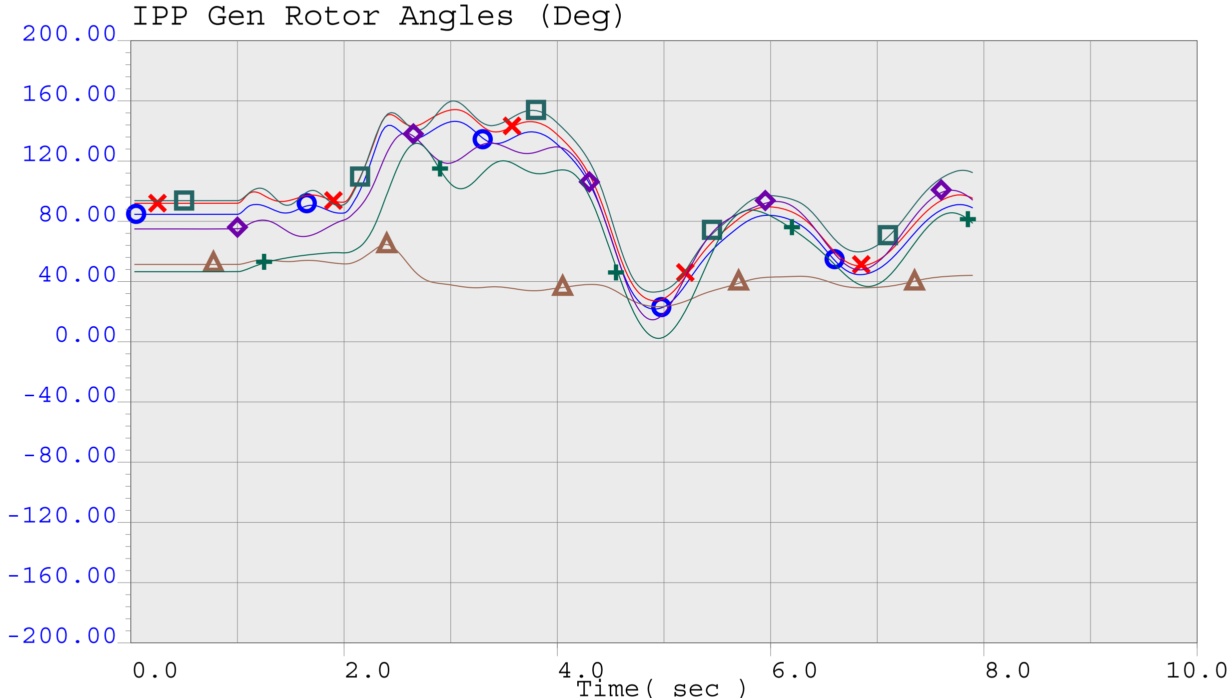
IPP Gen Rotor Angles (Deg)



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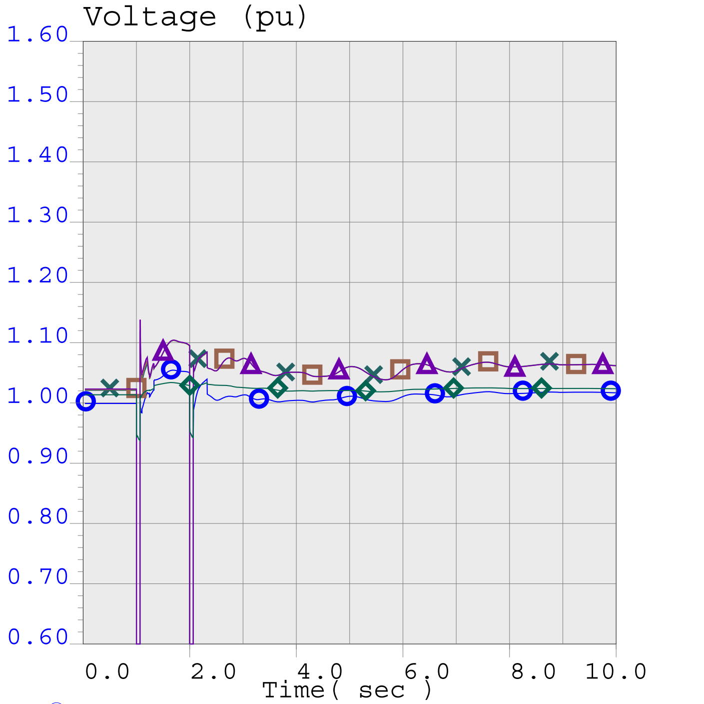
SYSTEM IMPACT STUDY (Voltage)



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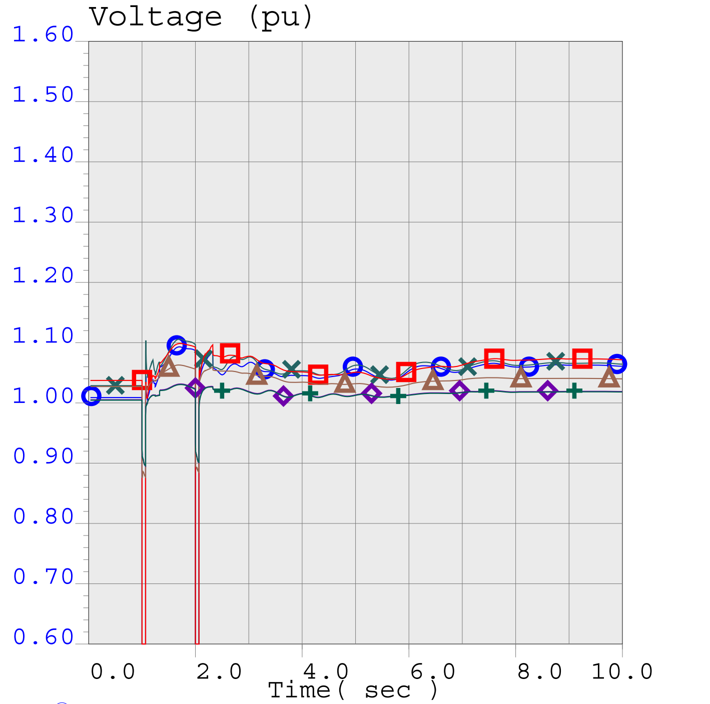

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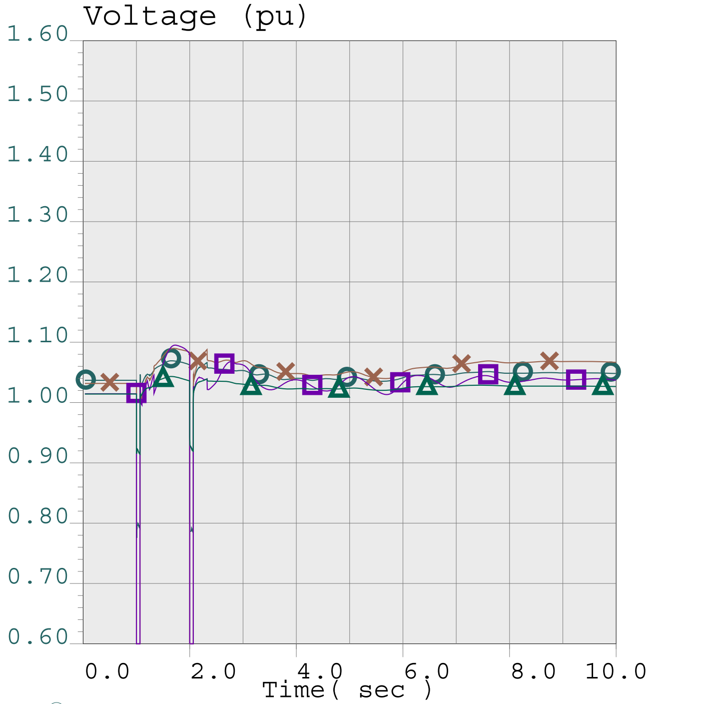

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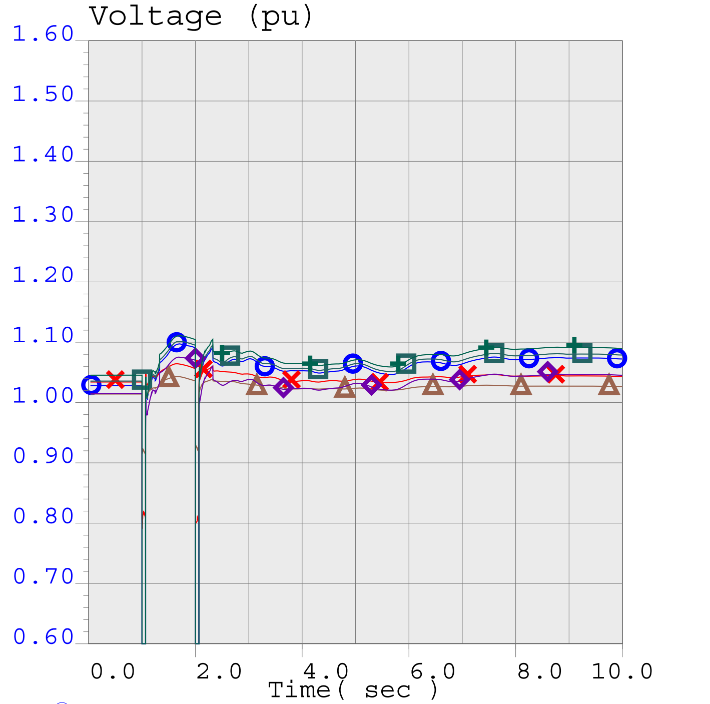

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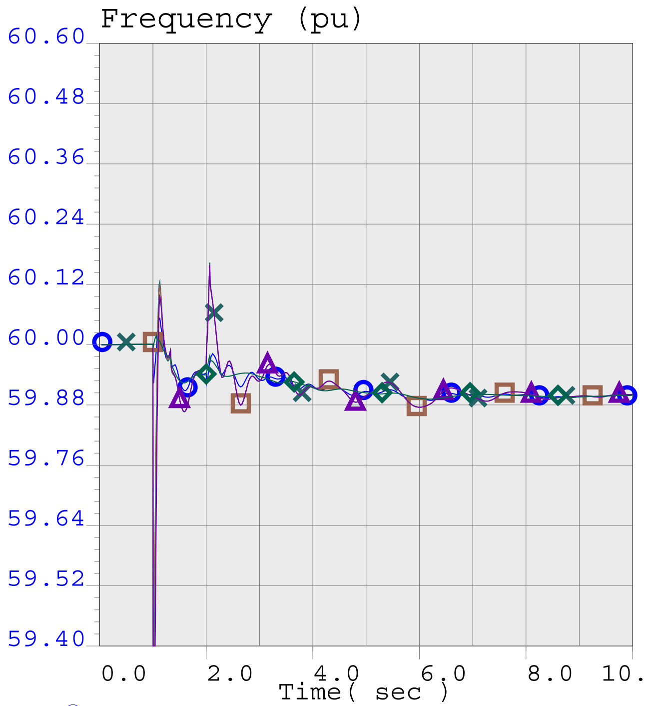
Fri Aug 26 08:40:27 2022

SYSTEM IMPACT STUDY (Frequency)



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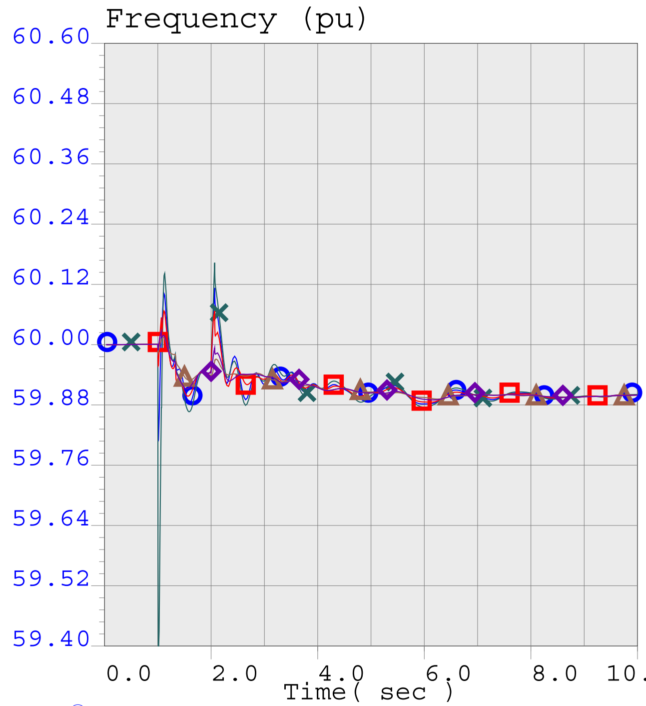

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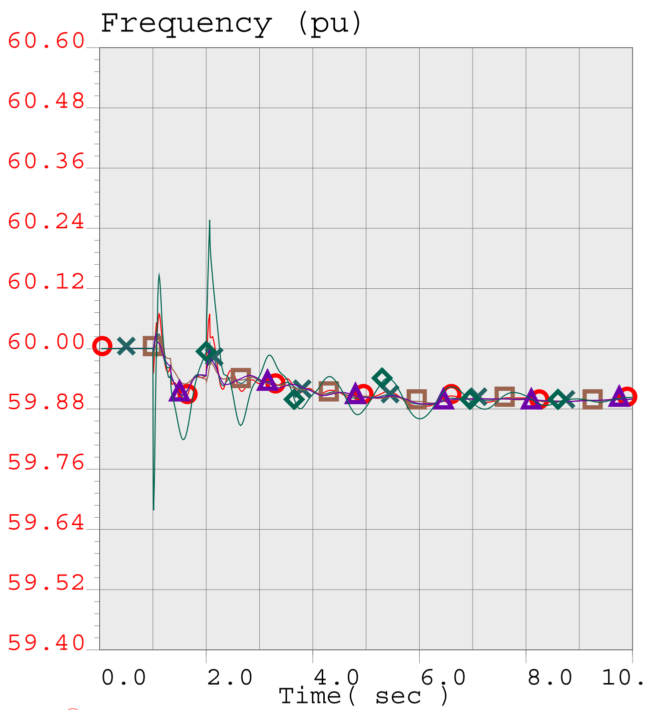

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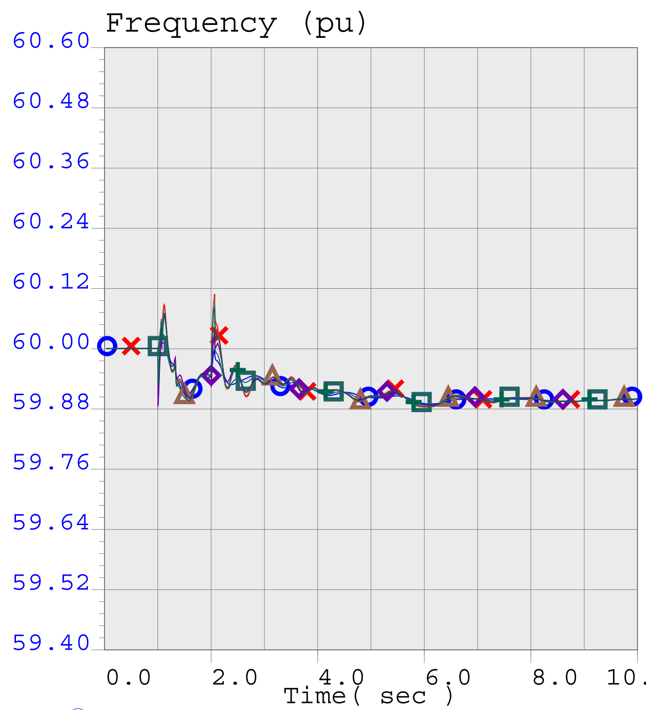

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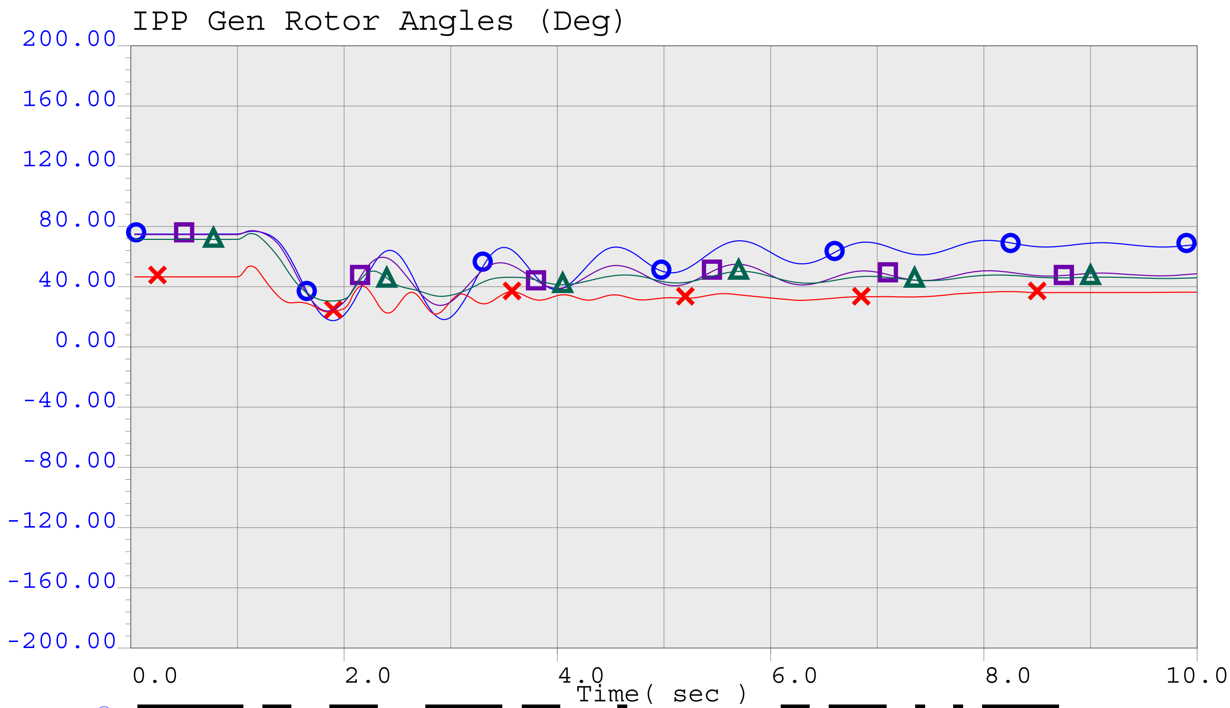
SYSTEM IMPACT STUDY (Rotor Angles)



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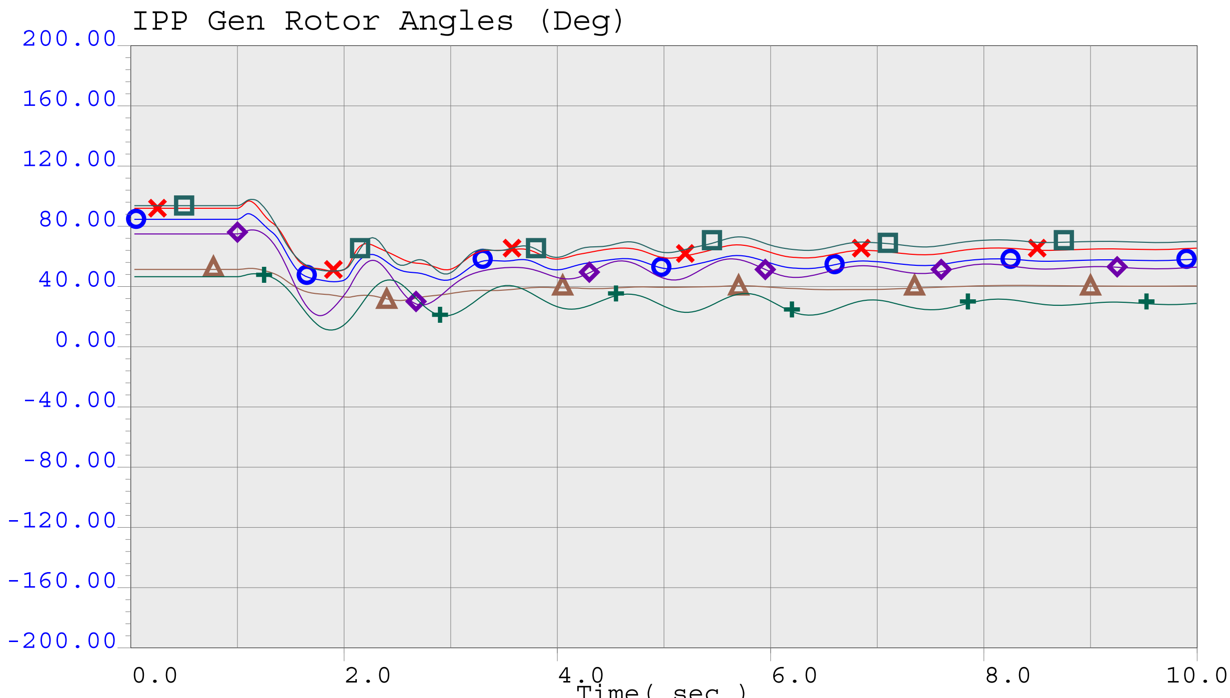

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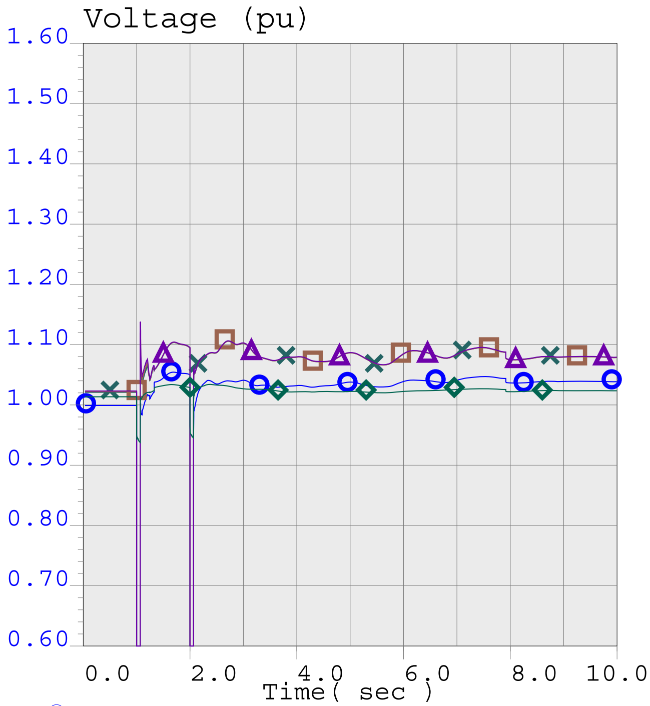

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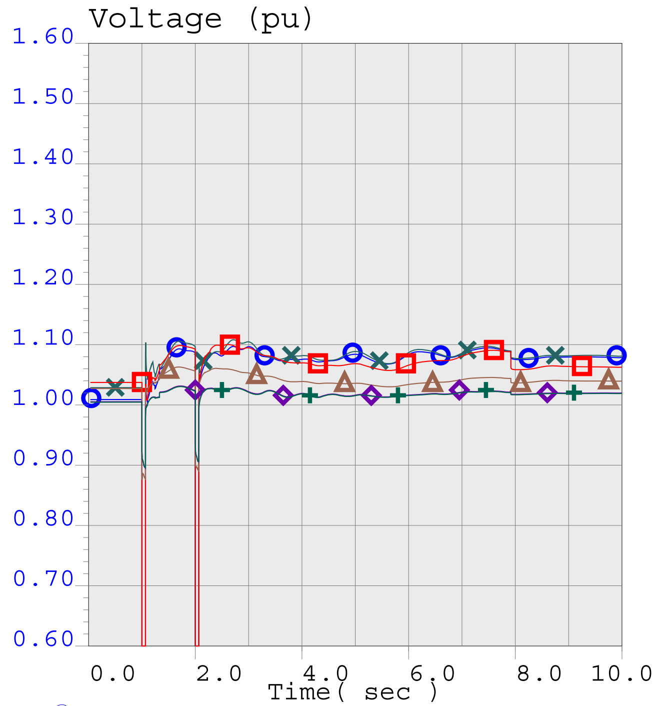

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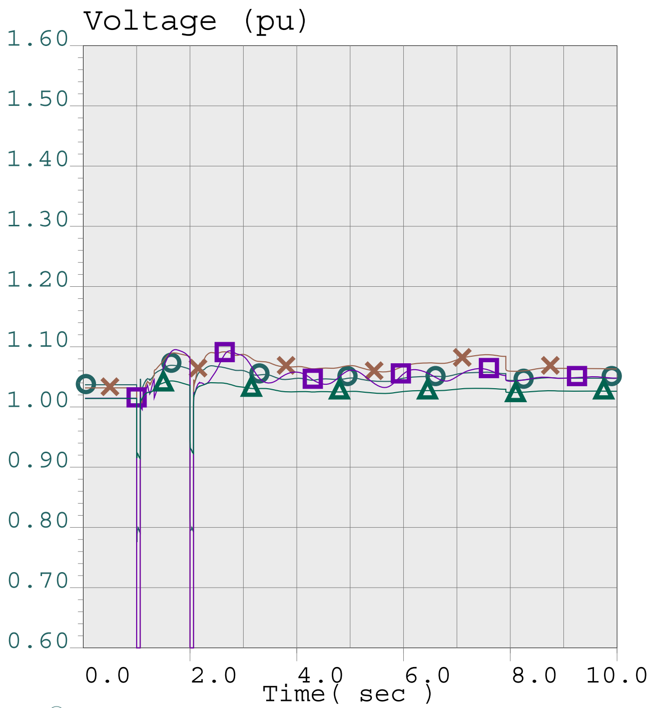

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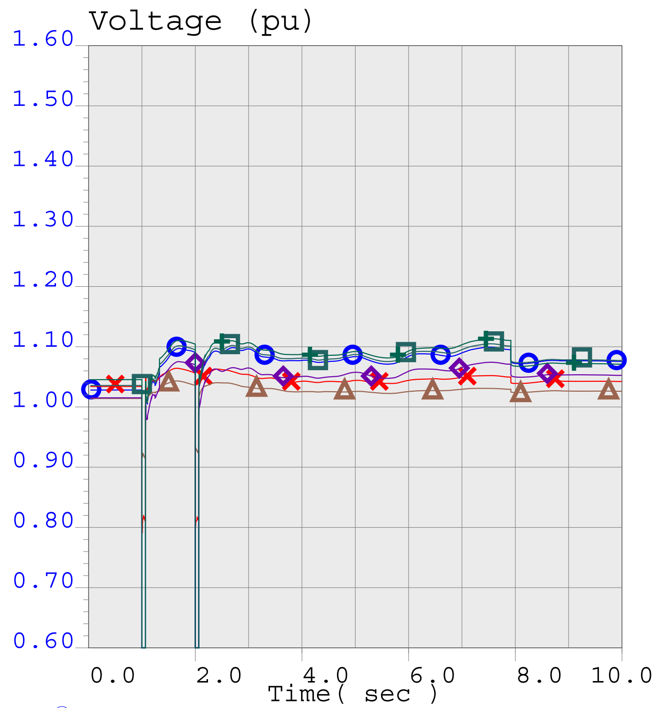

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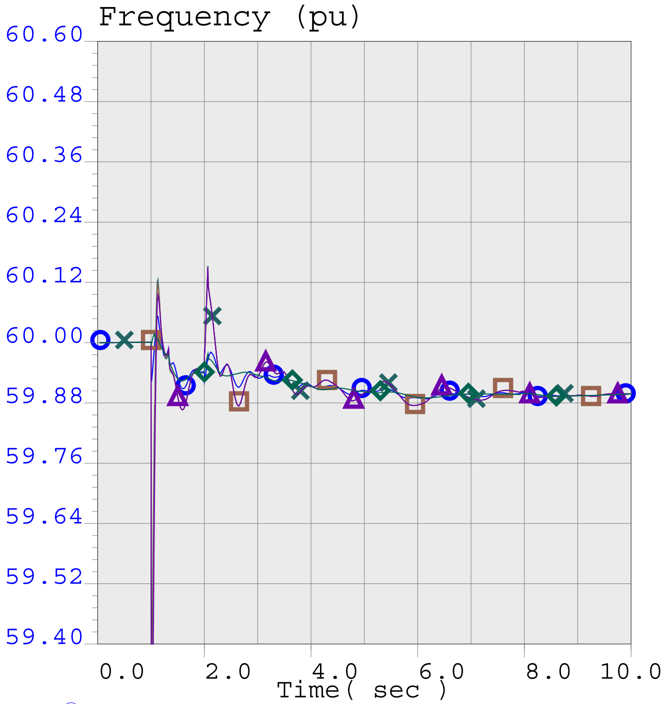

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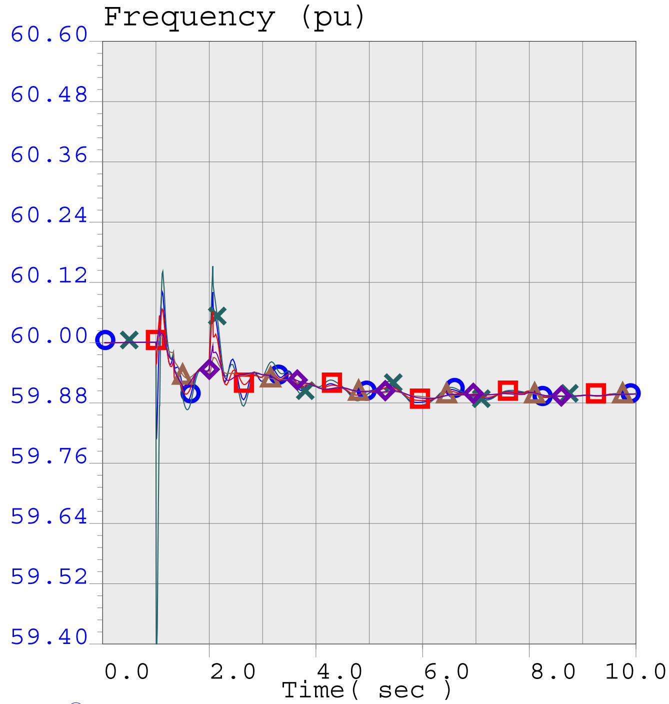

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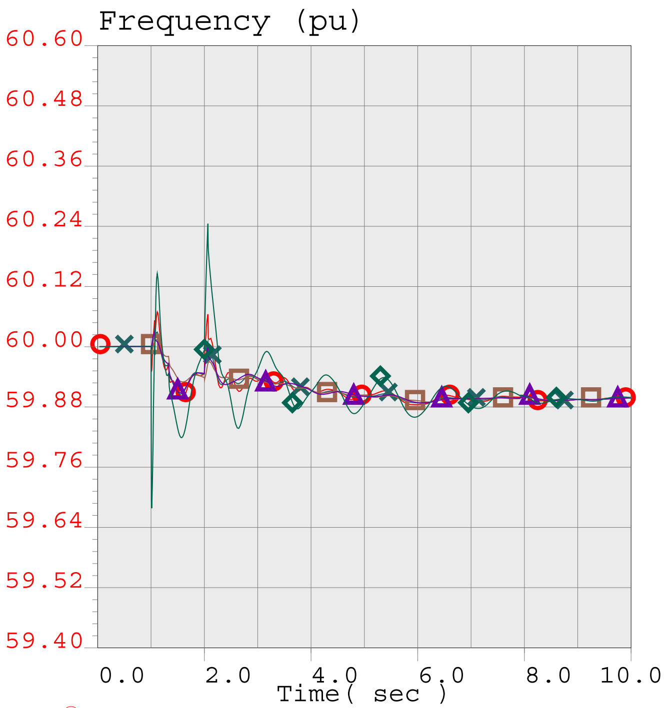

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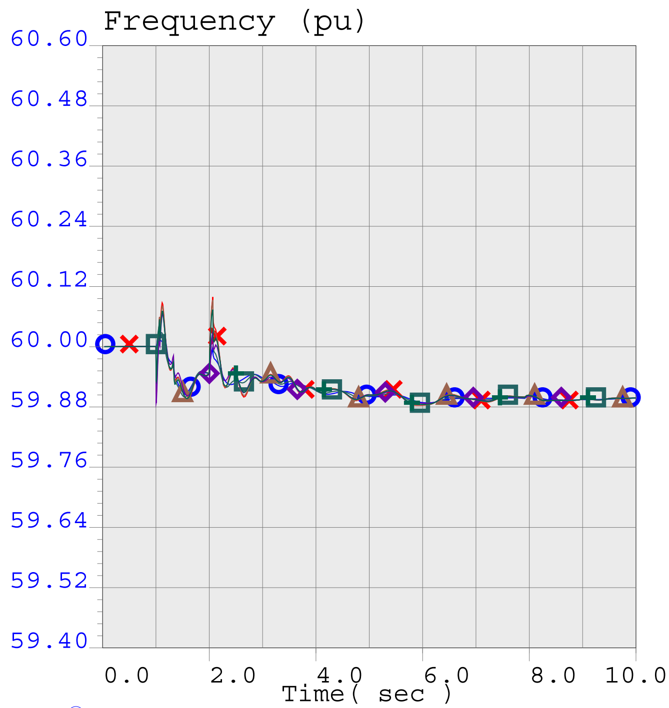

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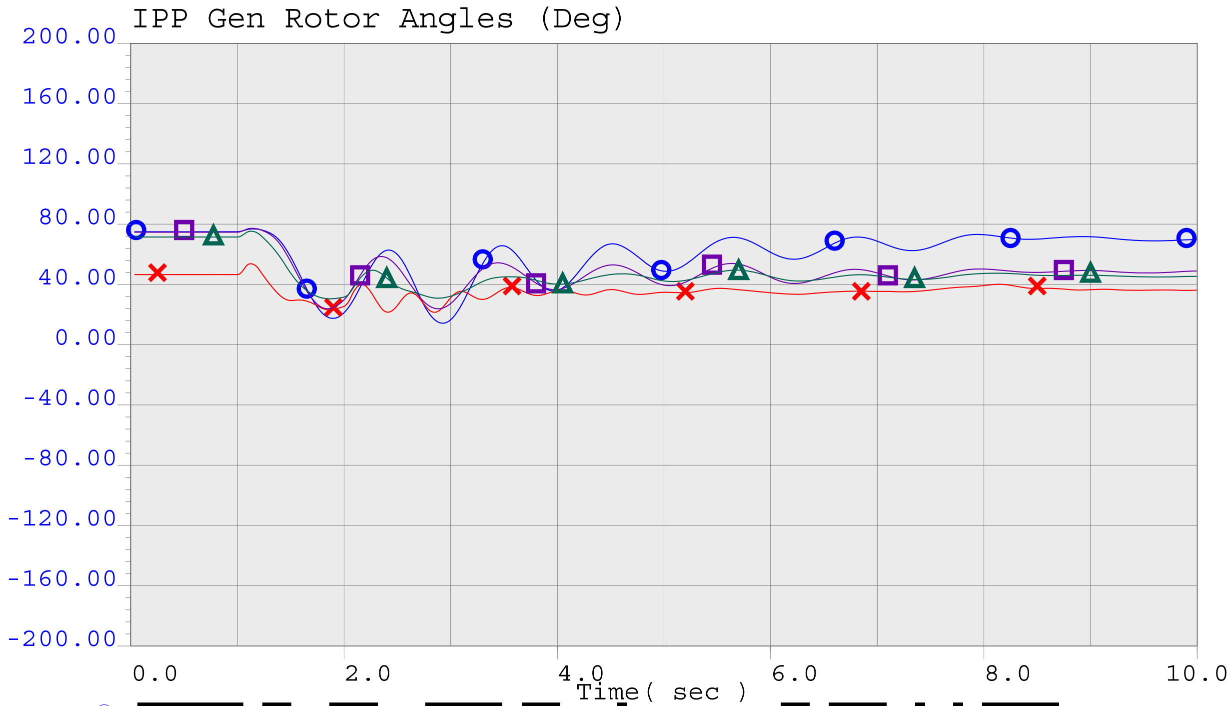
SYSTEM IMPACT STUDY (Rotor Angles)



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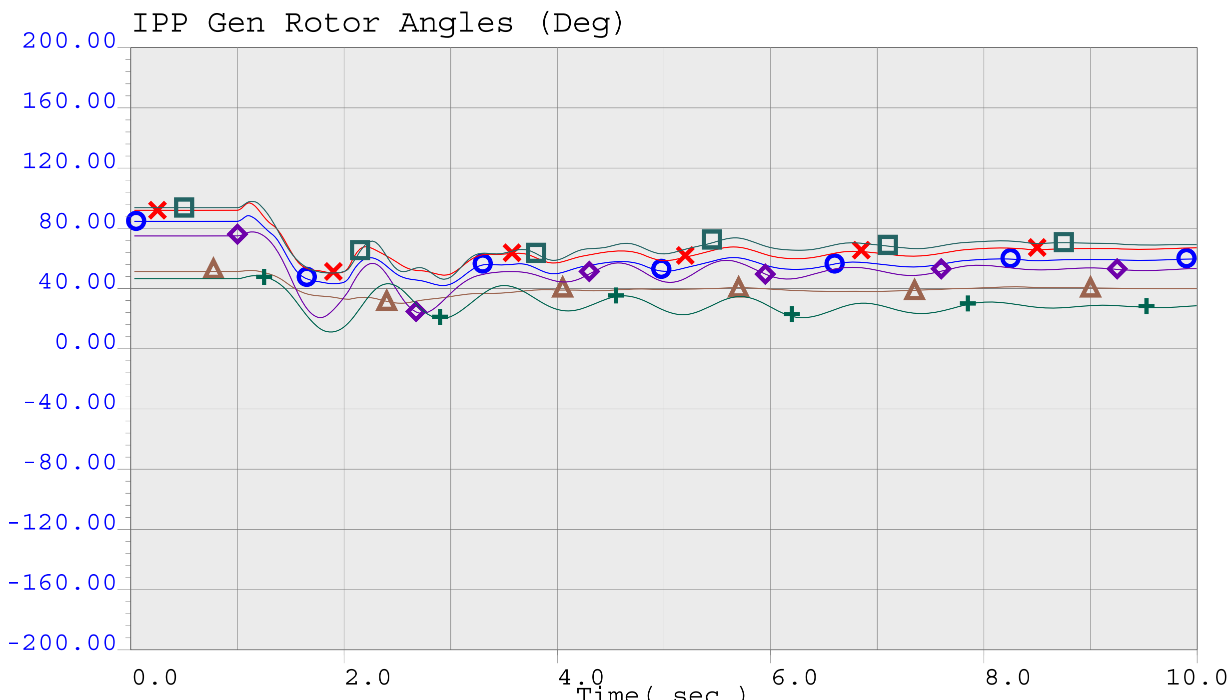

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Fri Aug 26 08:40:30 2022

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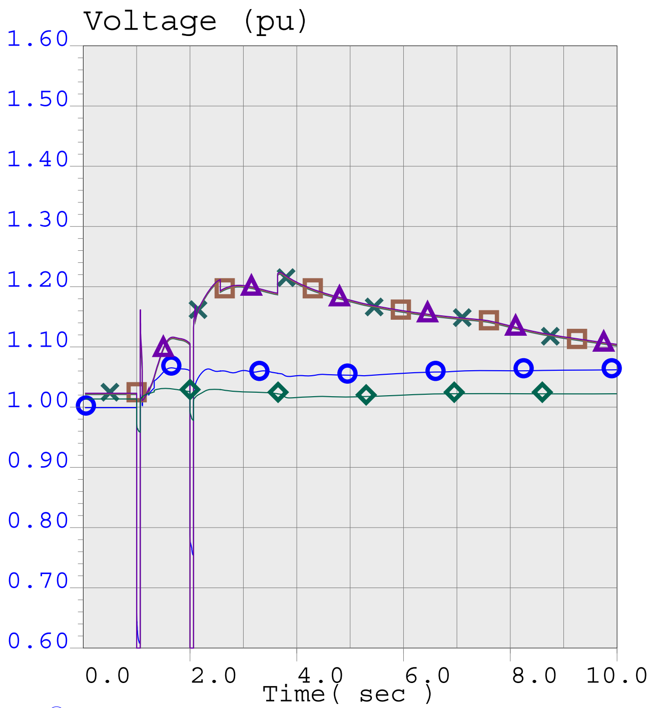

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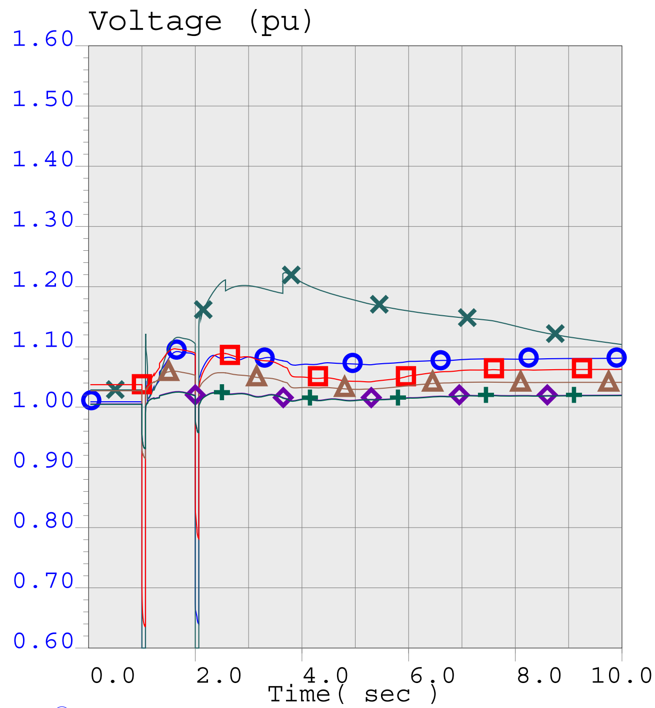

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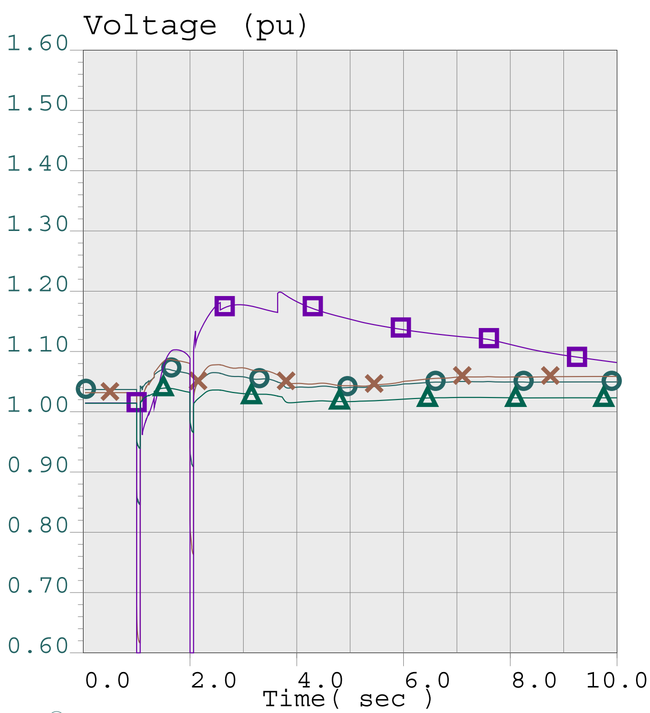

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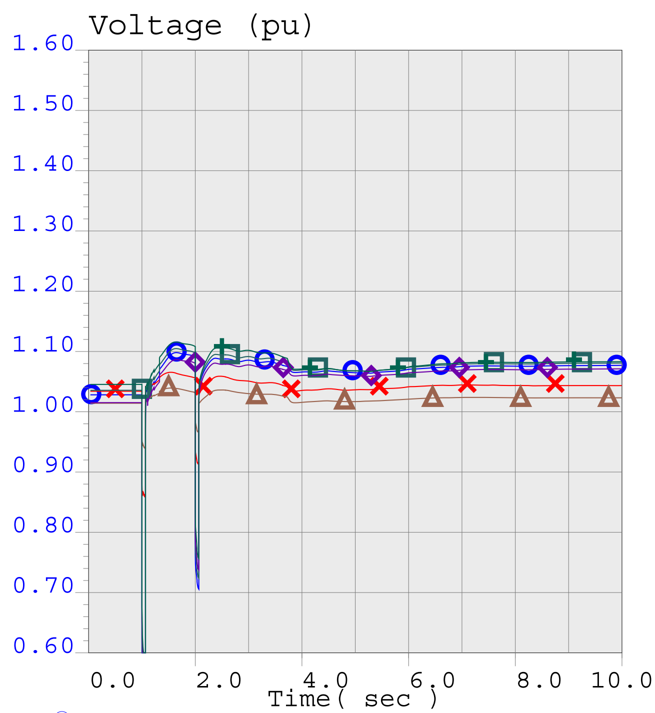

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Fri Aug 26 08:40:32 2022

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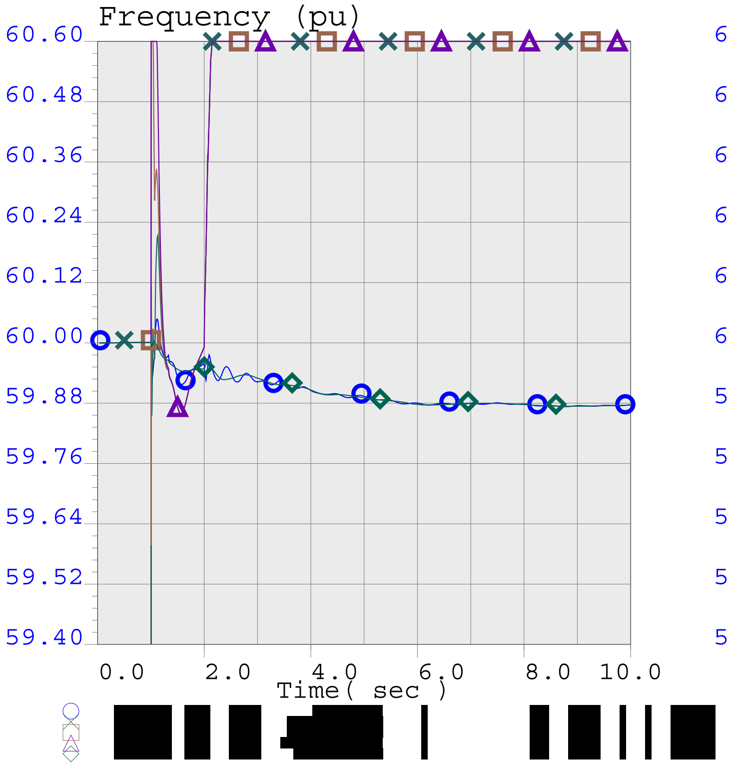

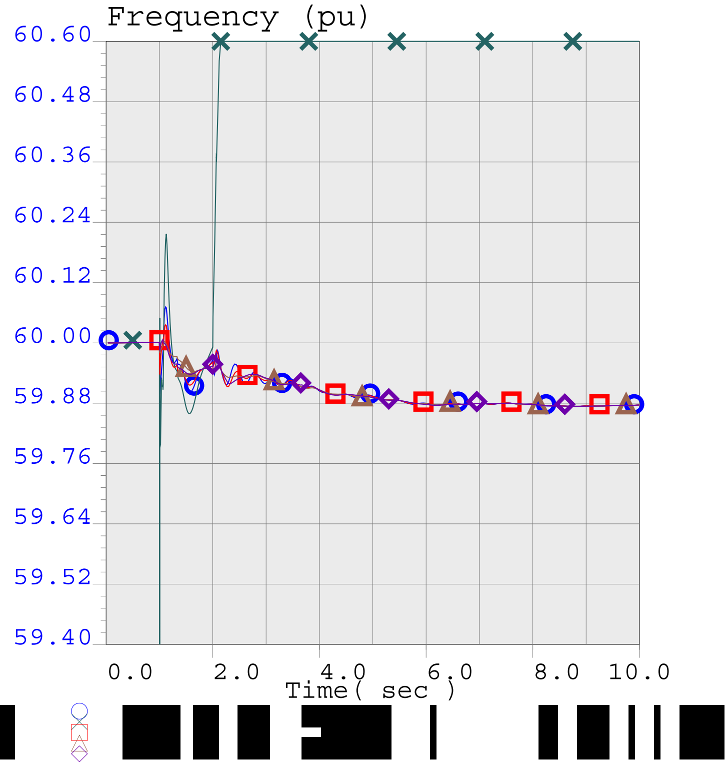

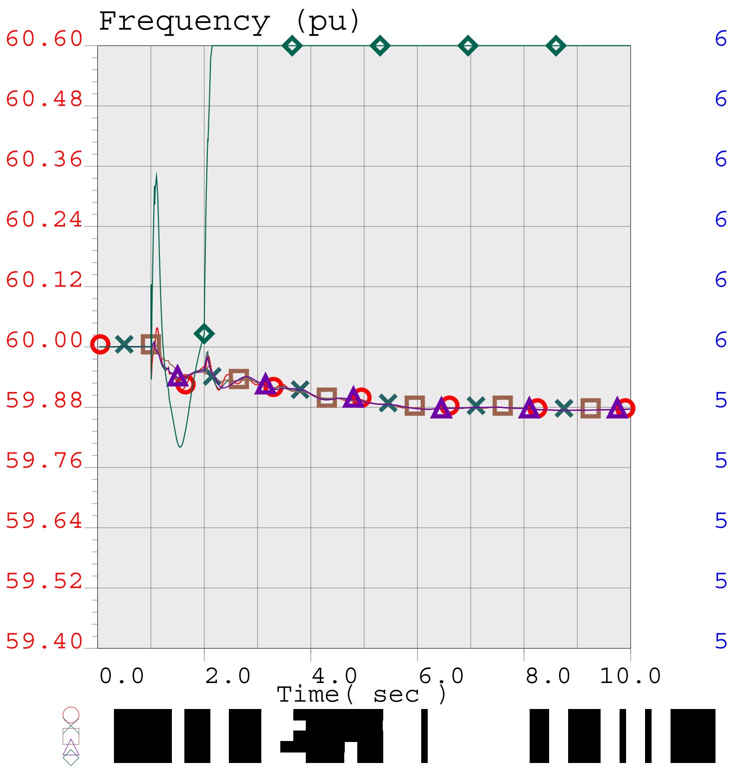

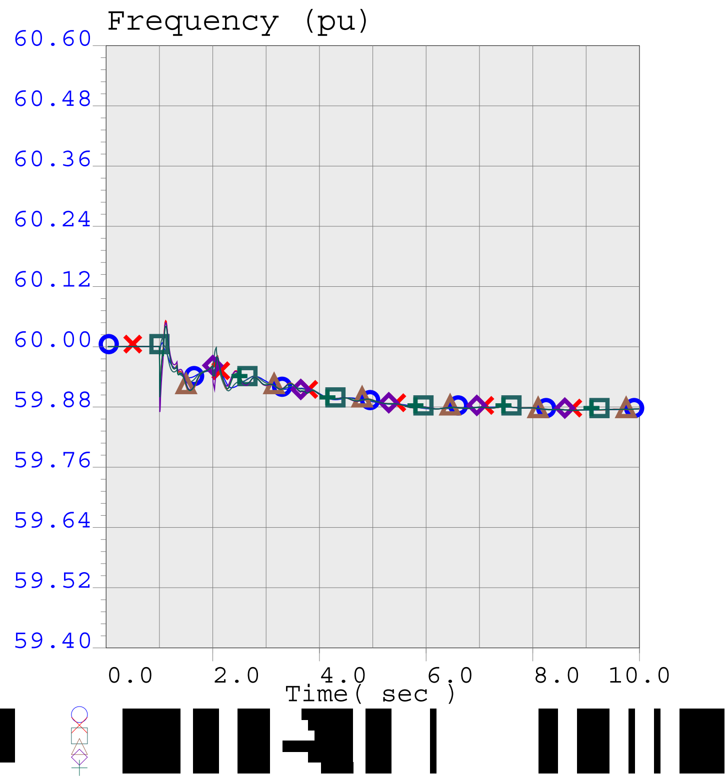

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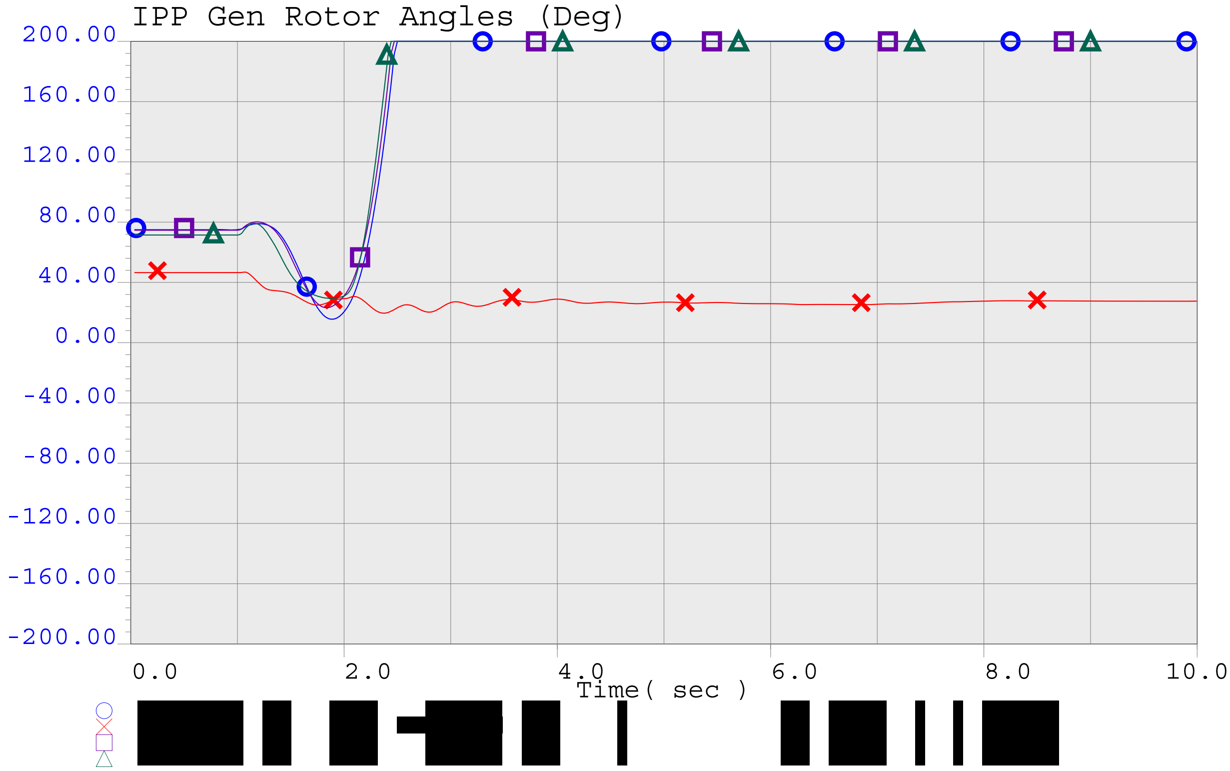
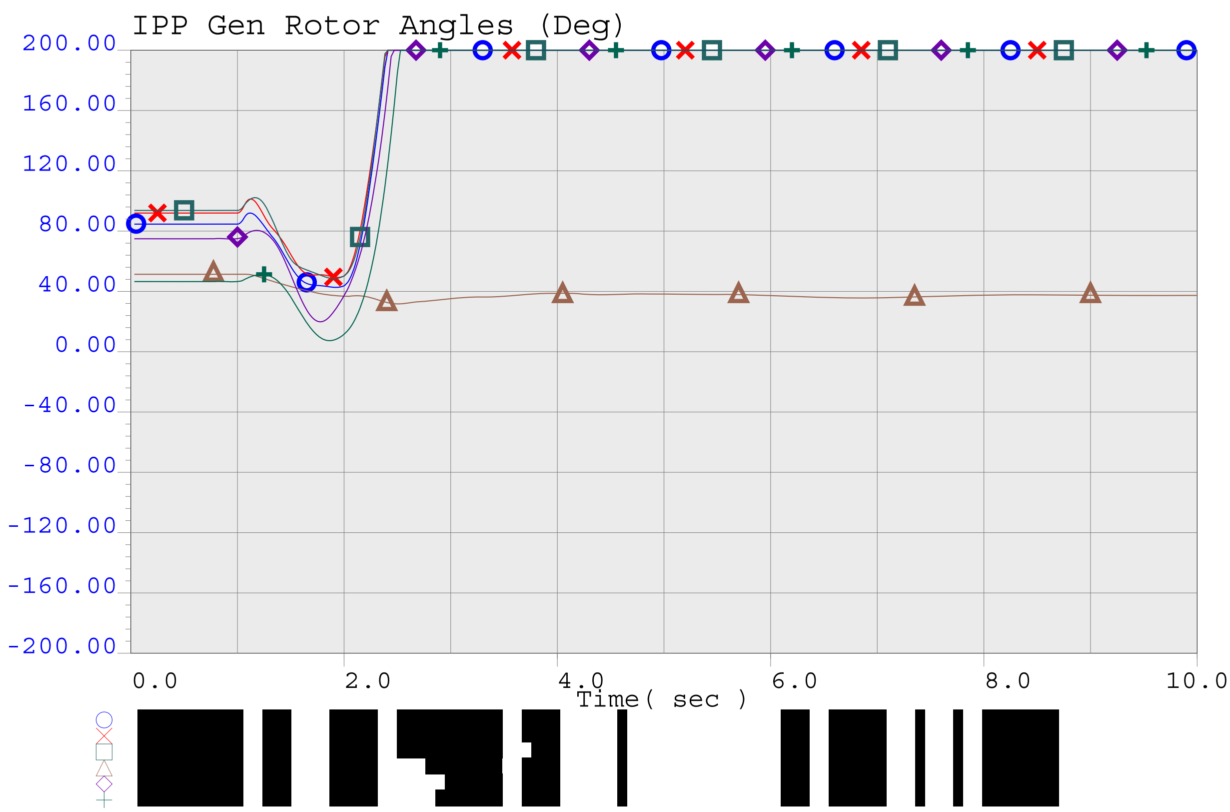
Fri Aug 26 08:40:32 2022

SYSTEM IMPACT STUDY (Rotor Angles)





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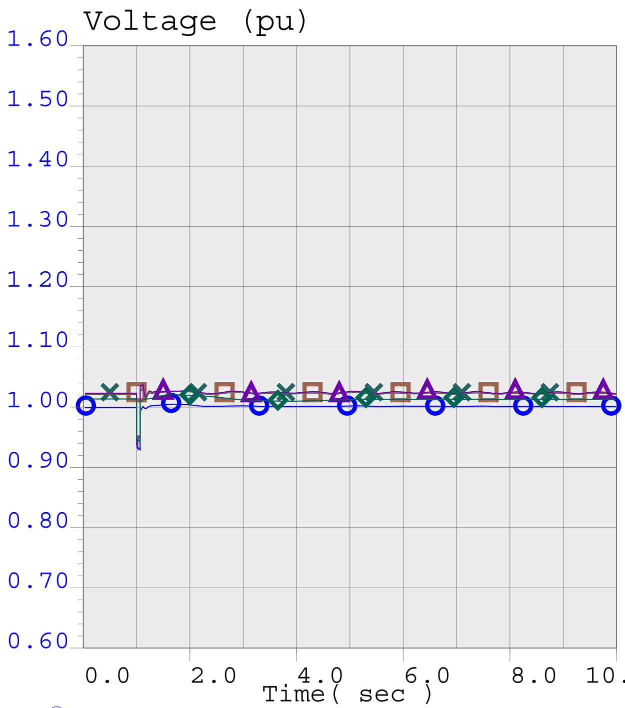
SYSTEM IMPACT STUDY (Voltage)



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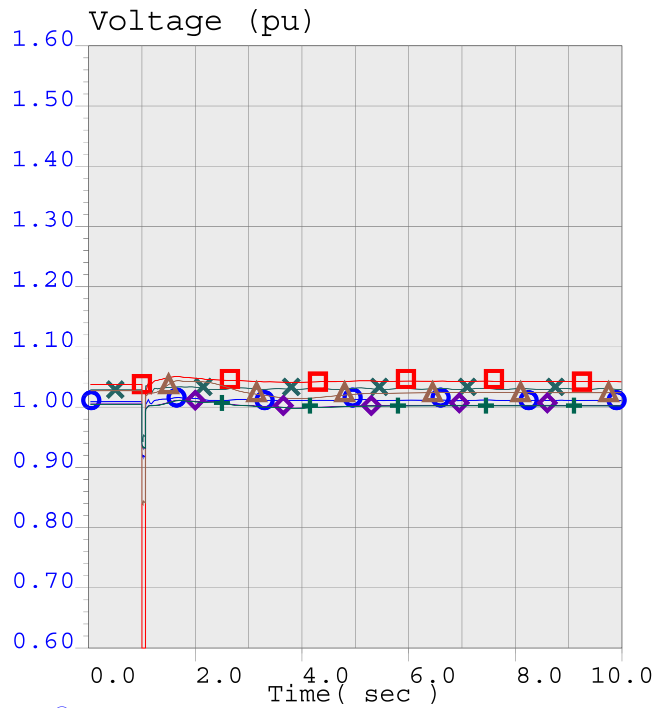

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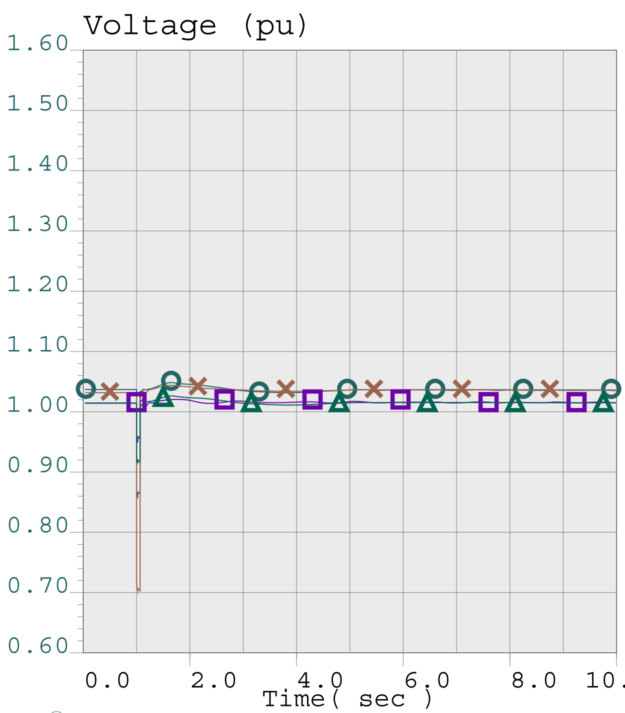

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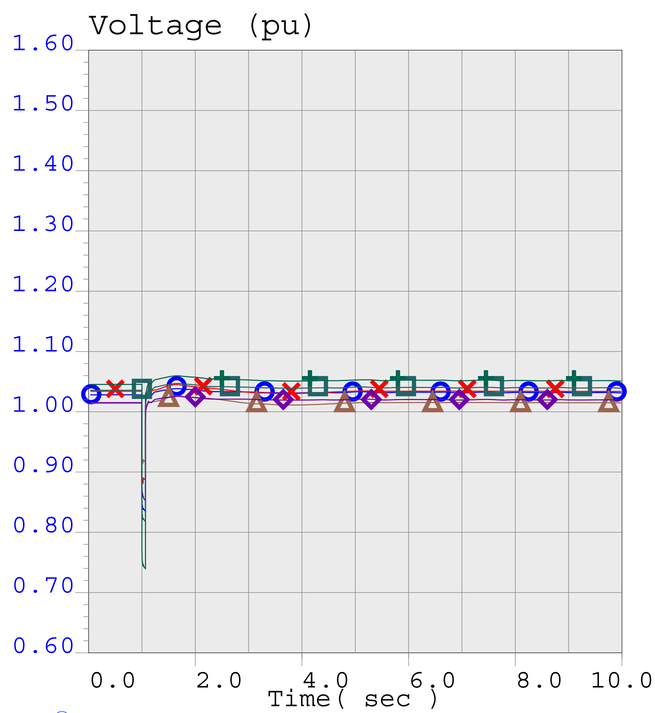

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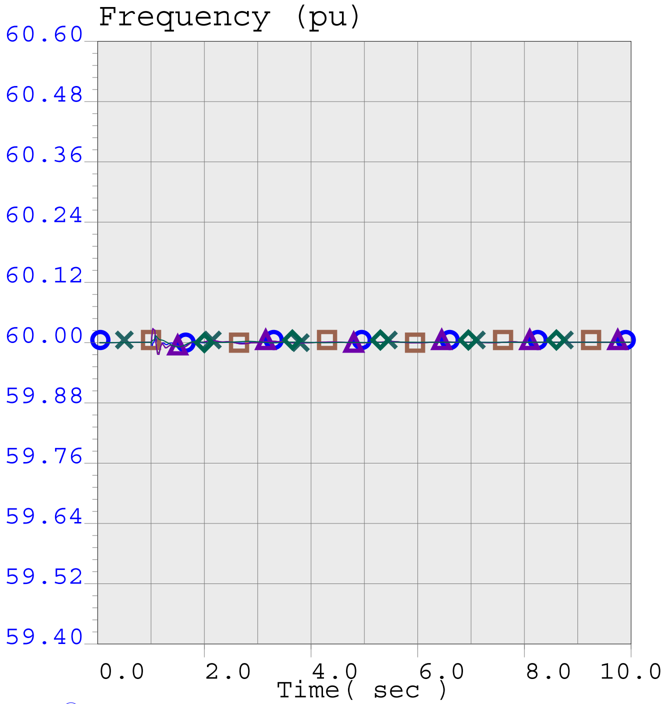

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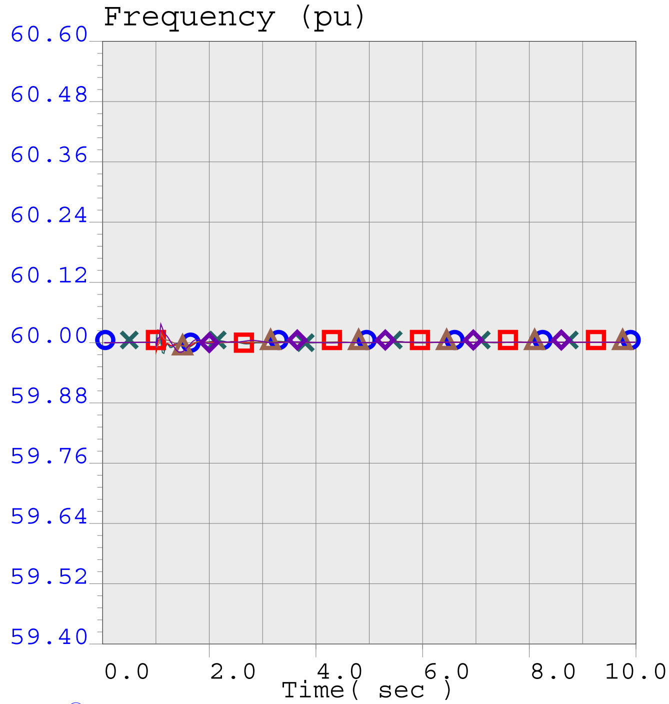

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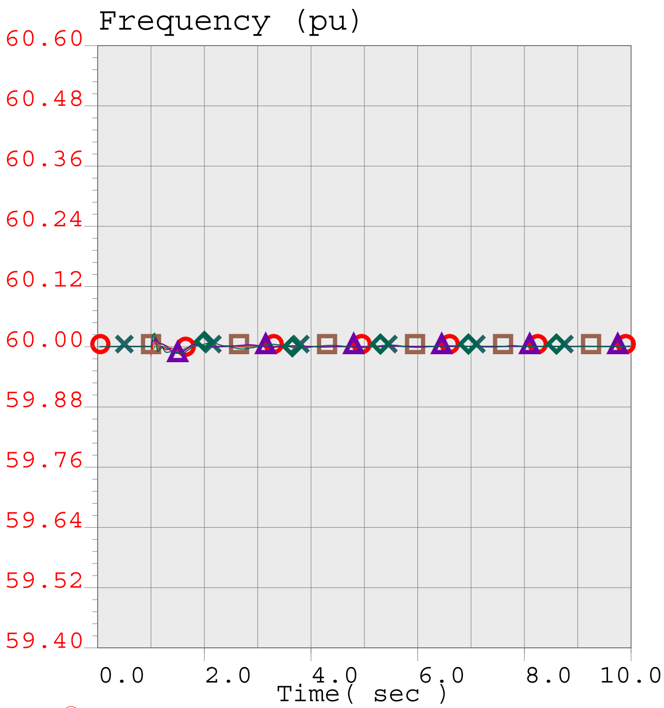

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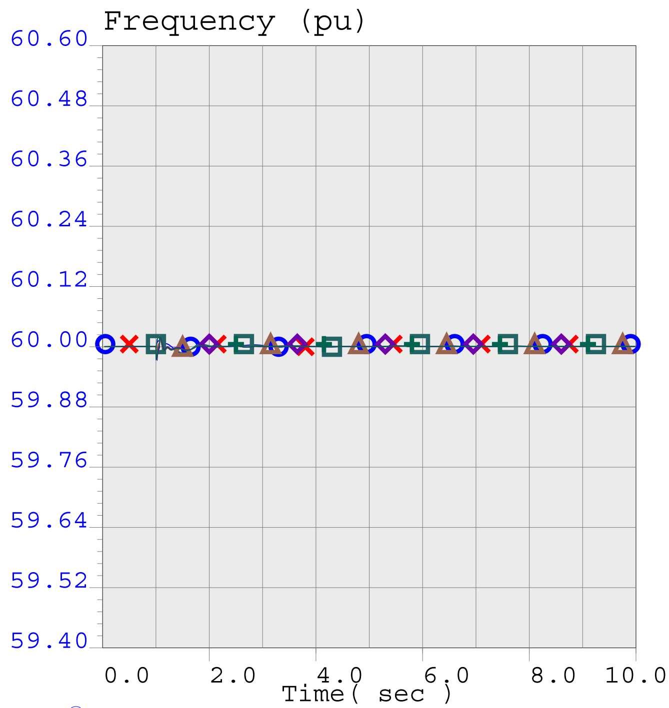

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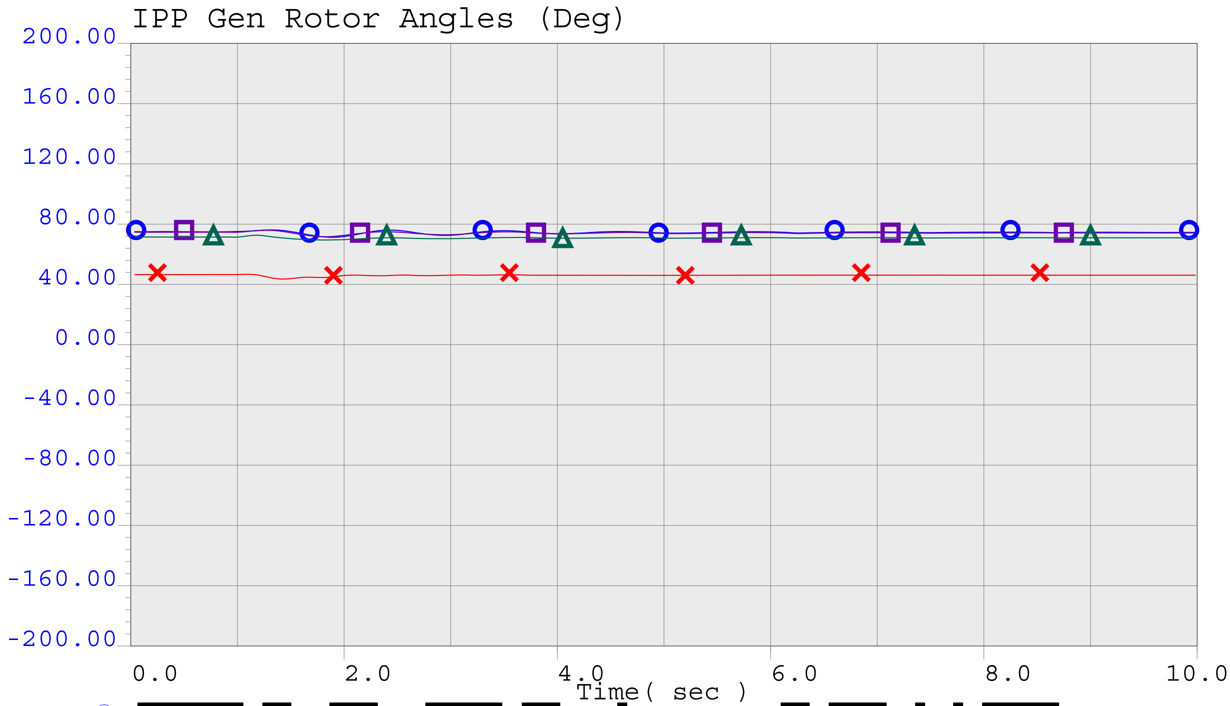

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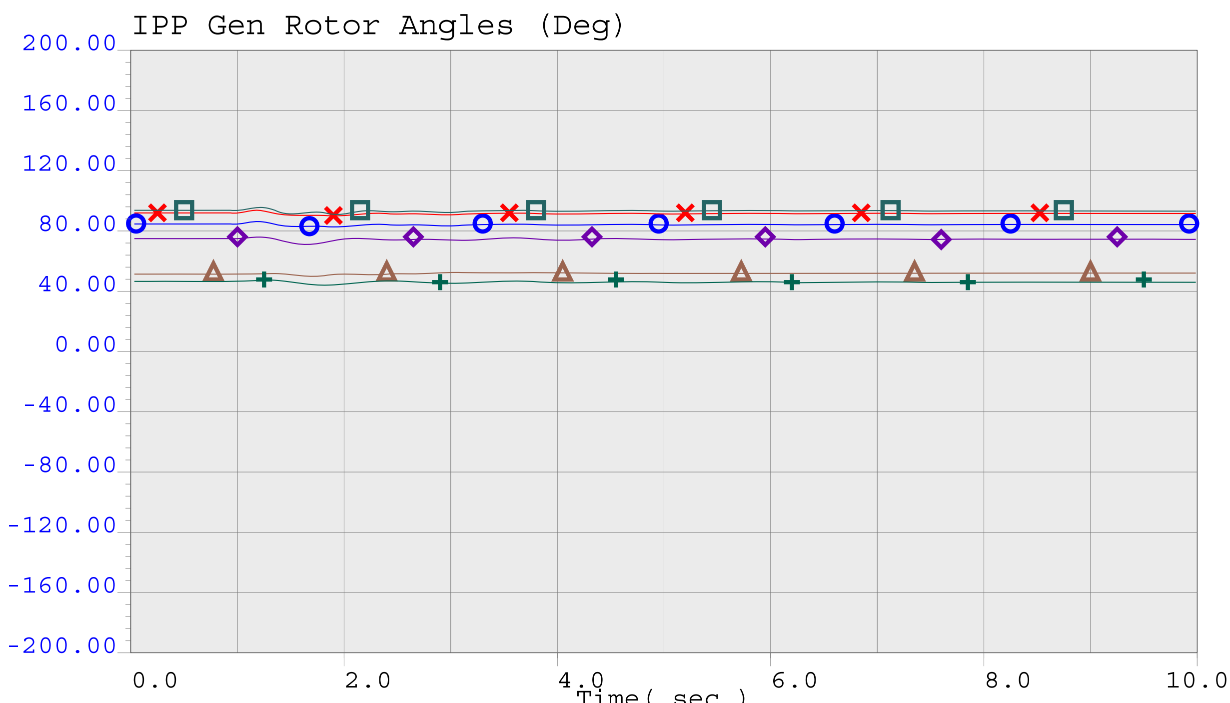

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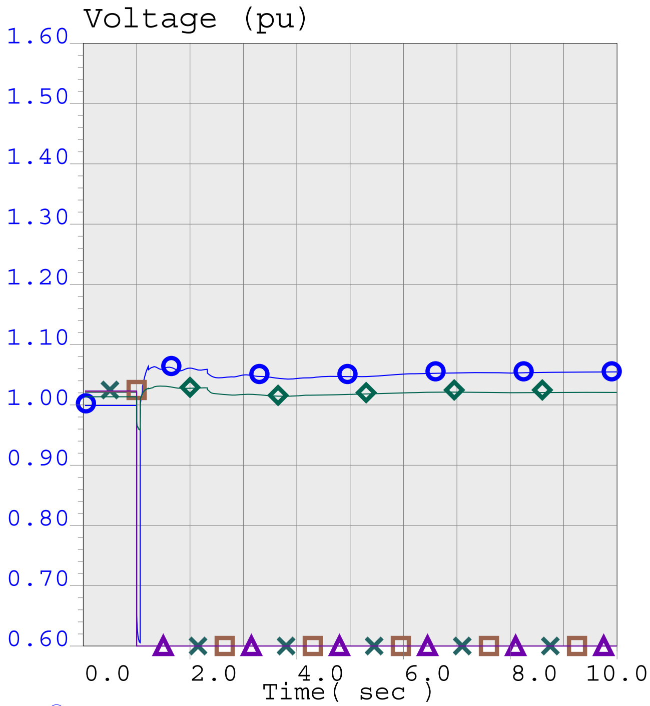

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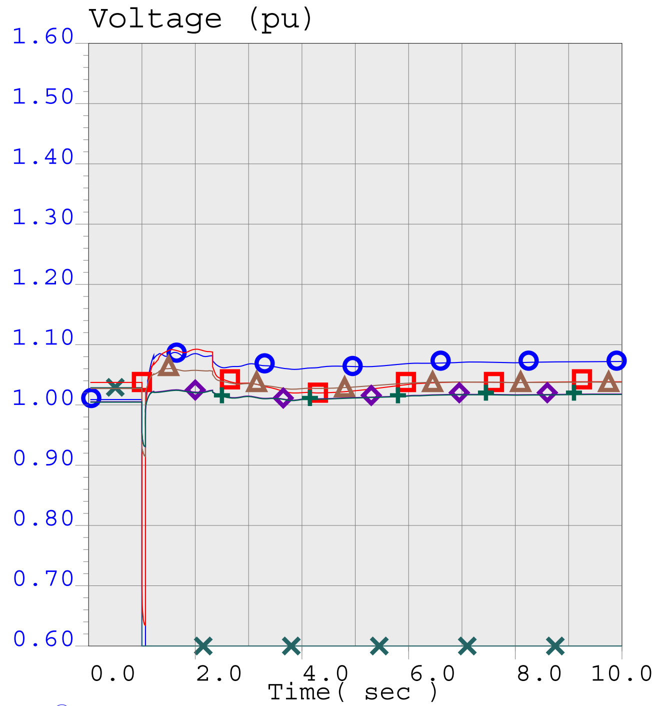

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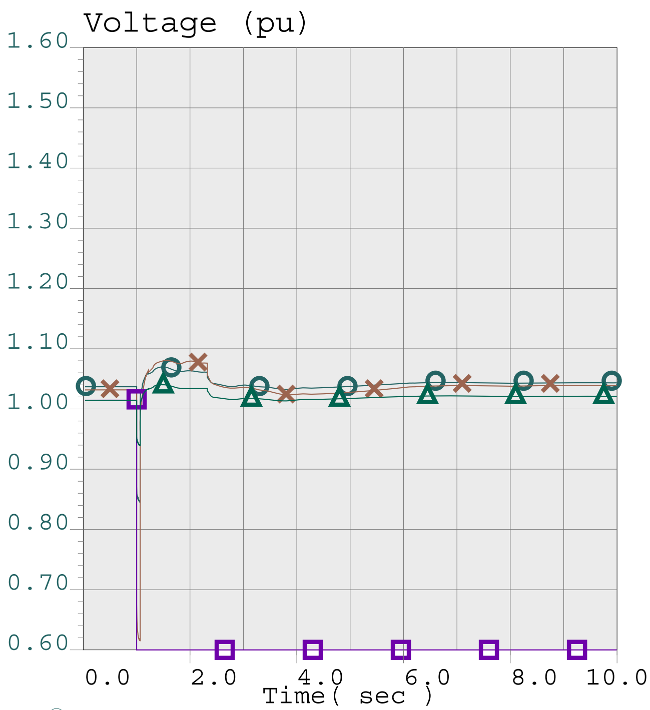

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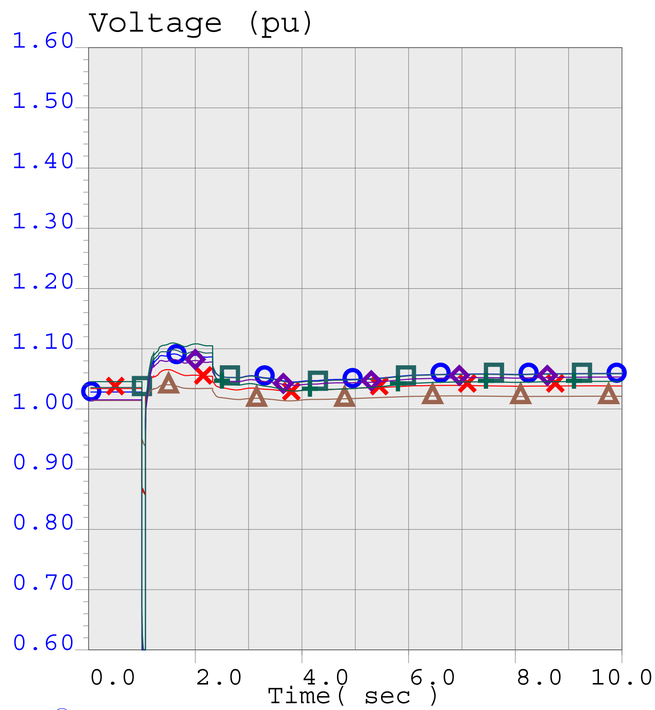

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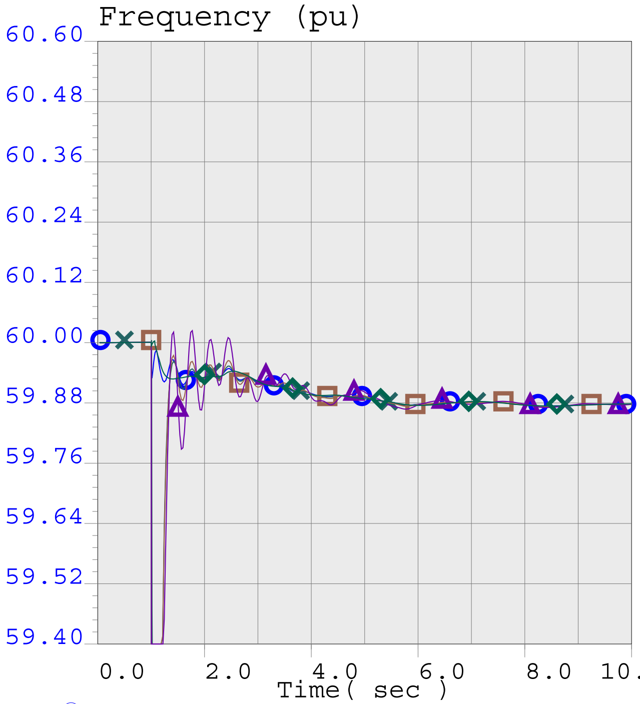

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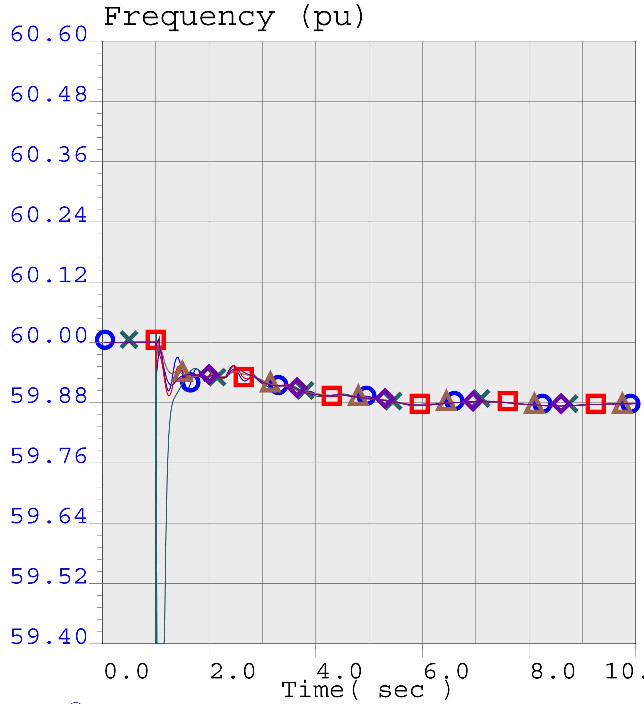

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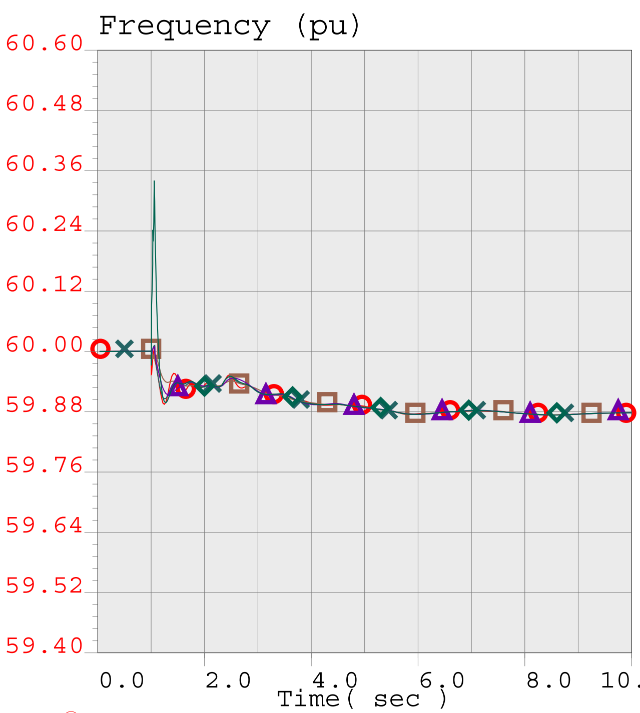

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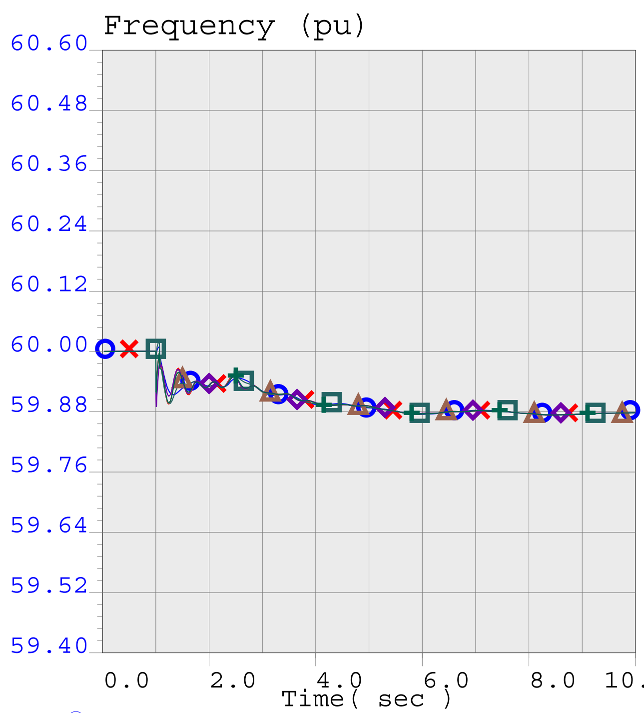

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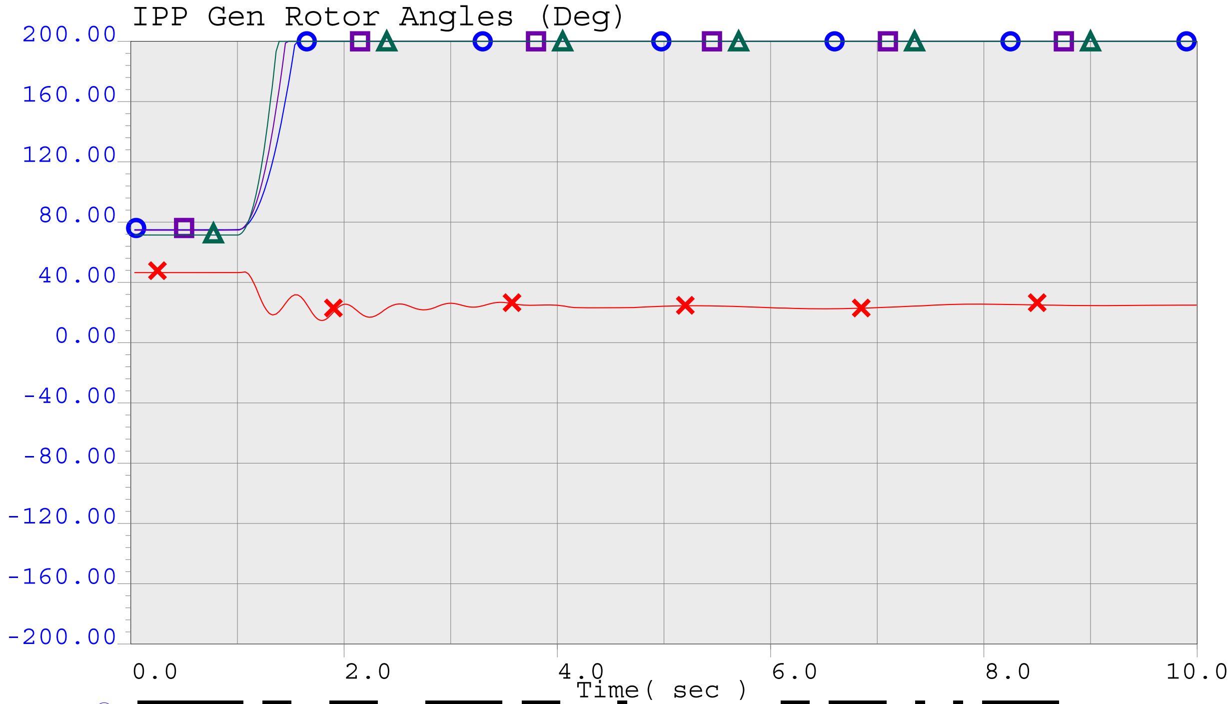
Fri Aug 26 11:42:03 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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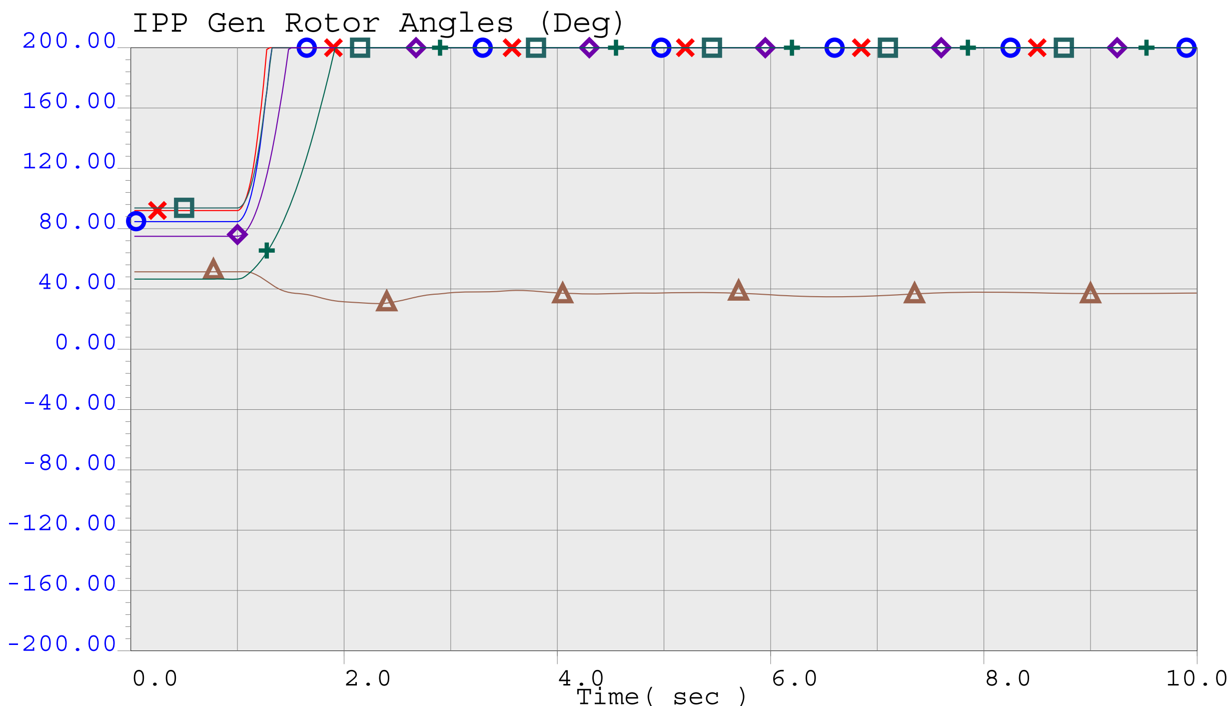

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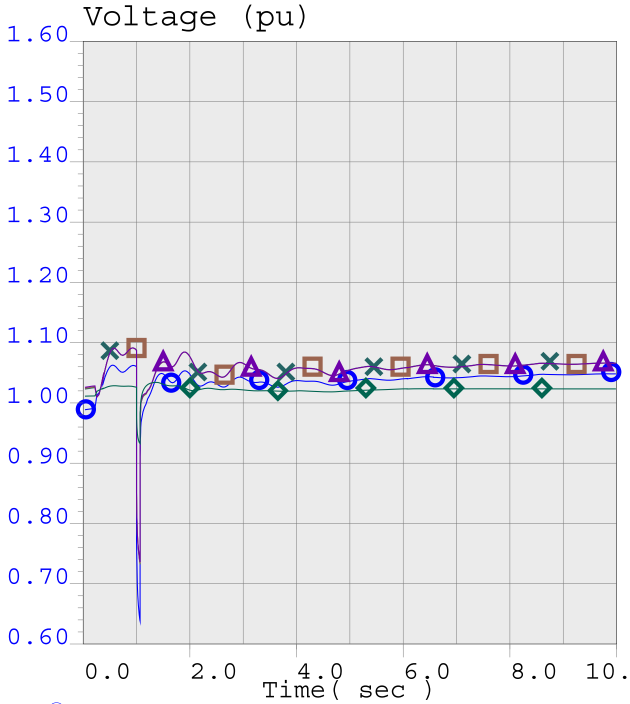

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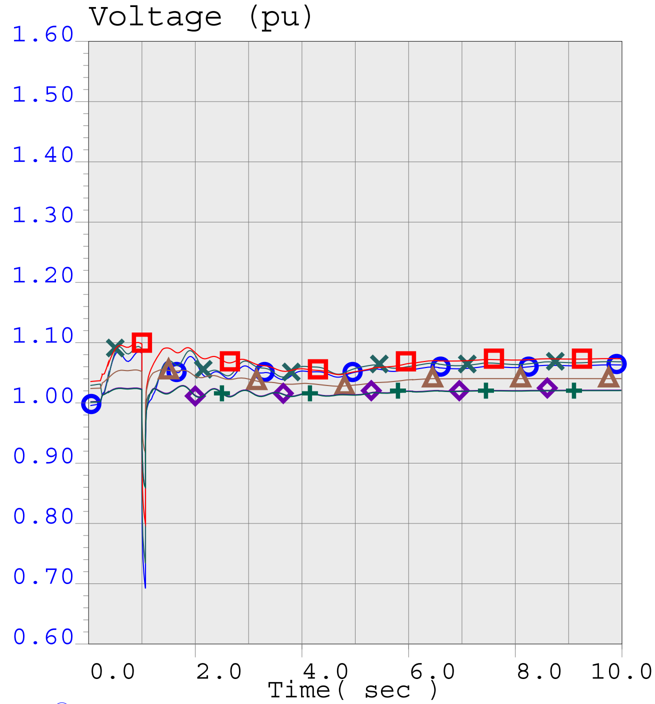

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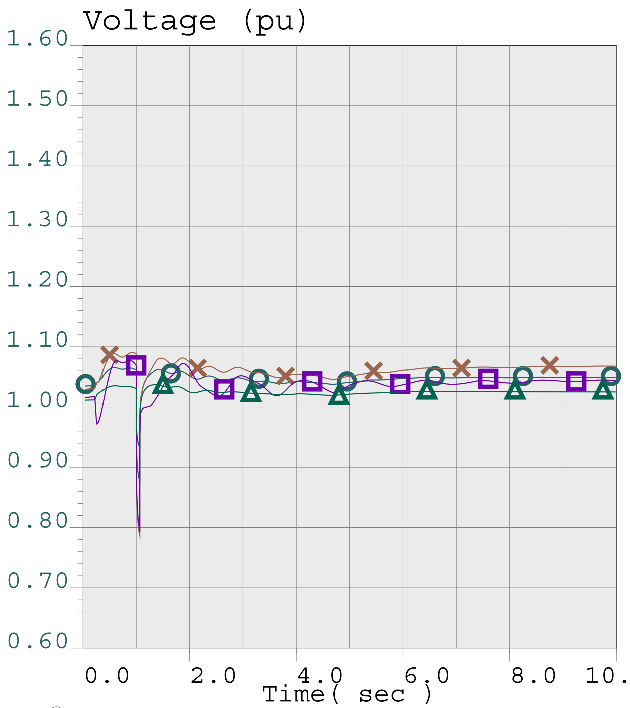

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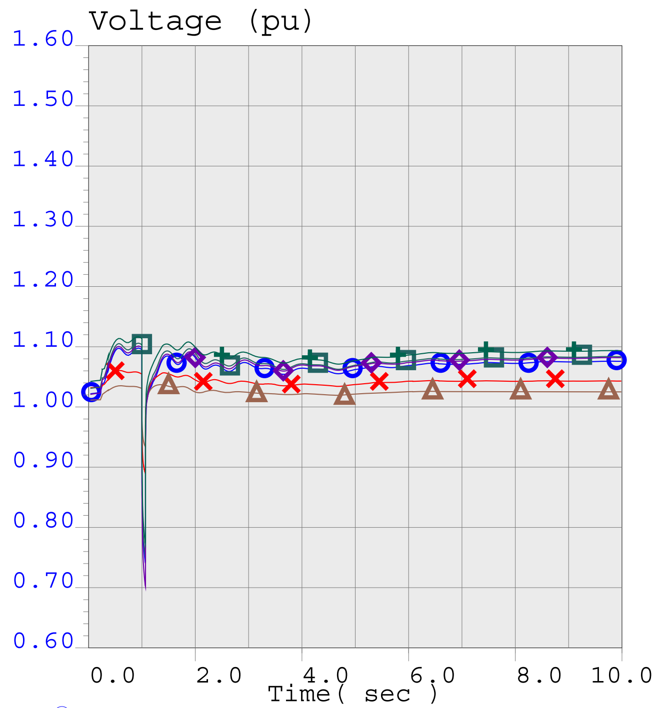

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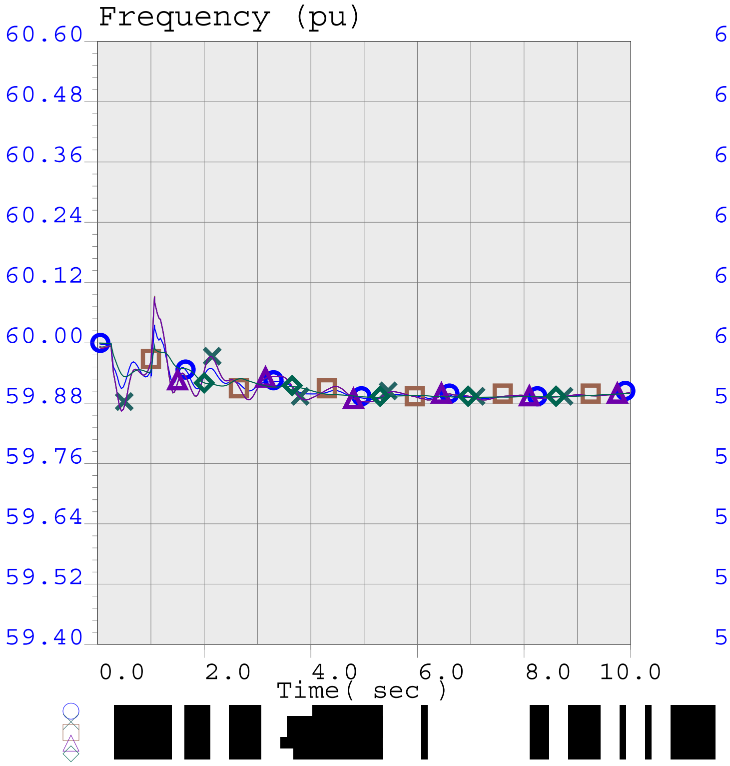
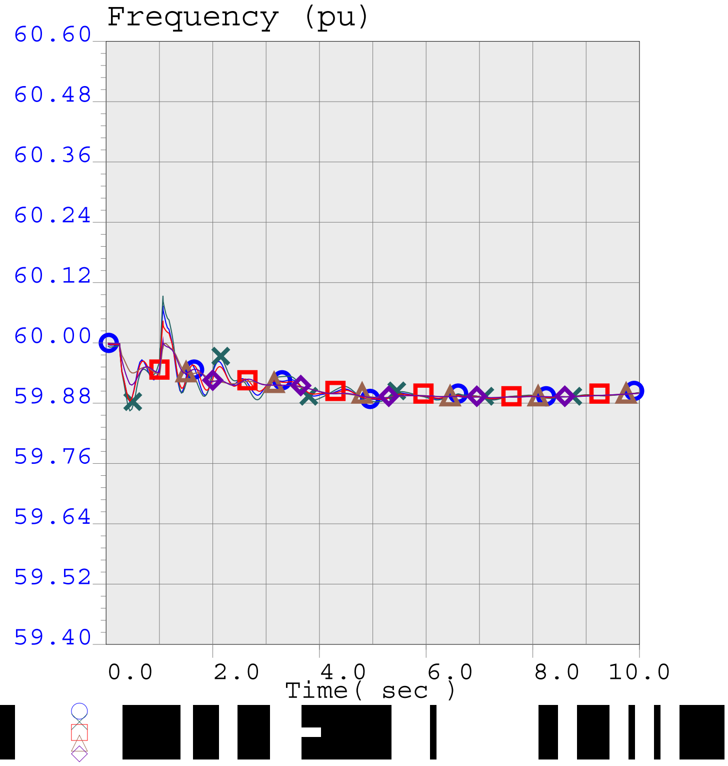
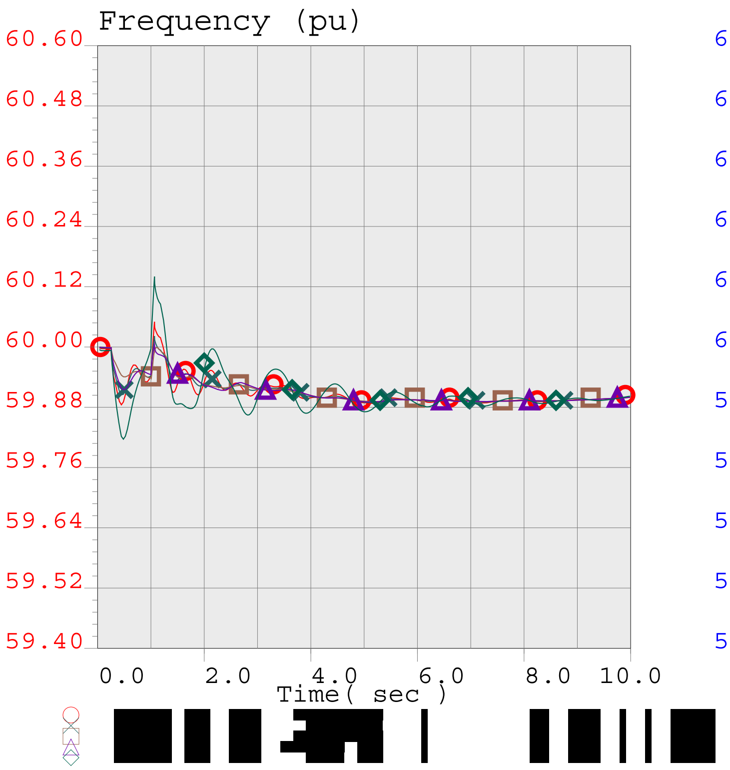
SYSTEM IMPACT STUDY (Frequency)







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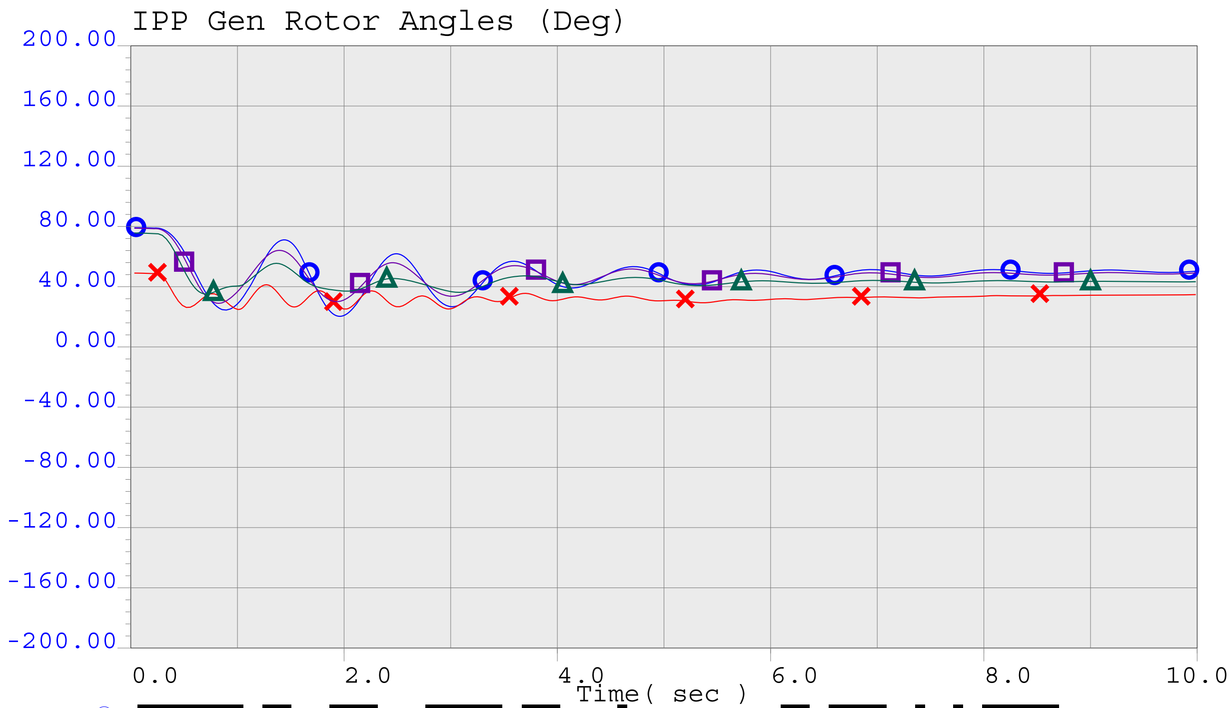
SYSTEM IMPACT STUDY (Rotor Angles)



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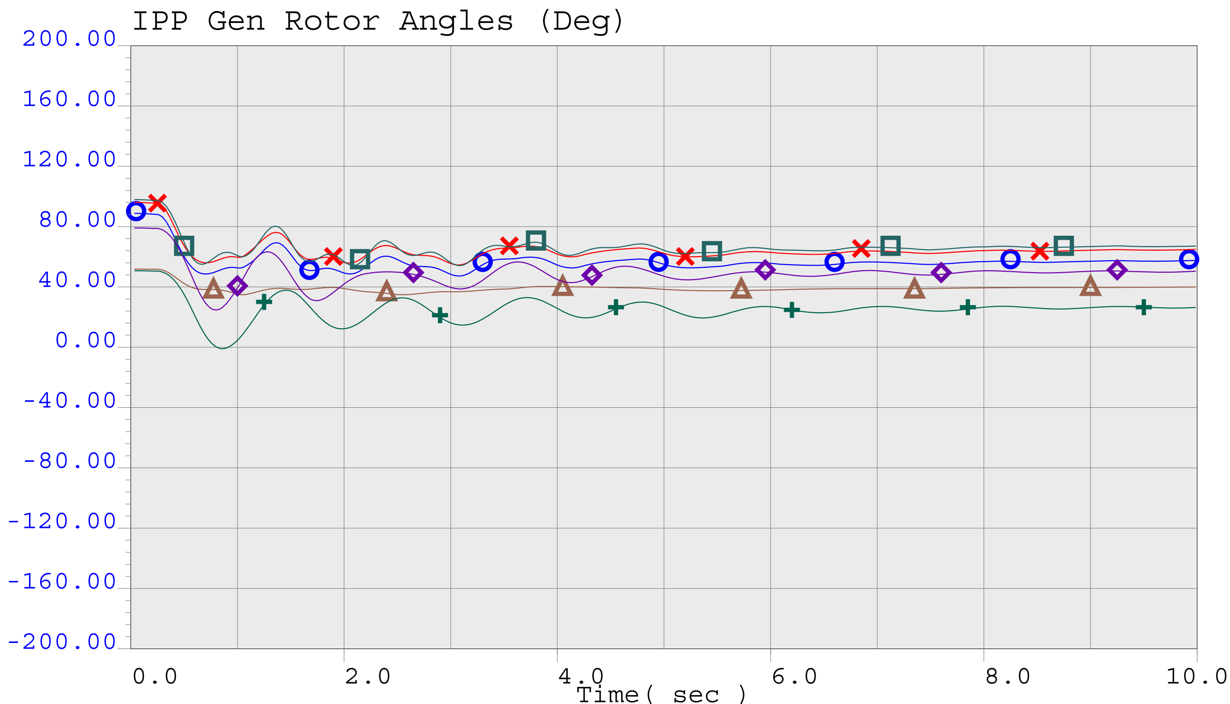

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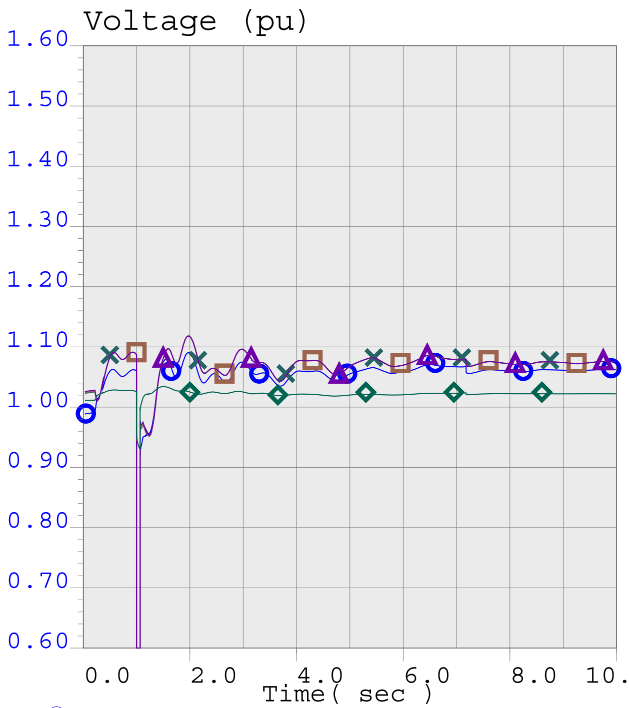
SYSTEM IMPACT STUDY (Voltage)



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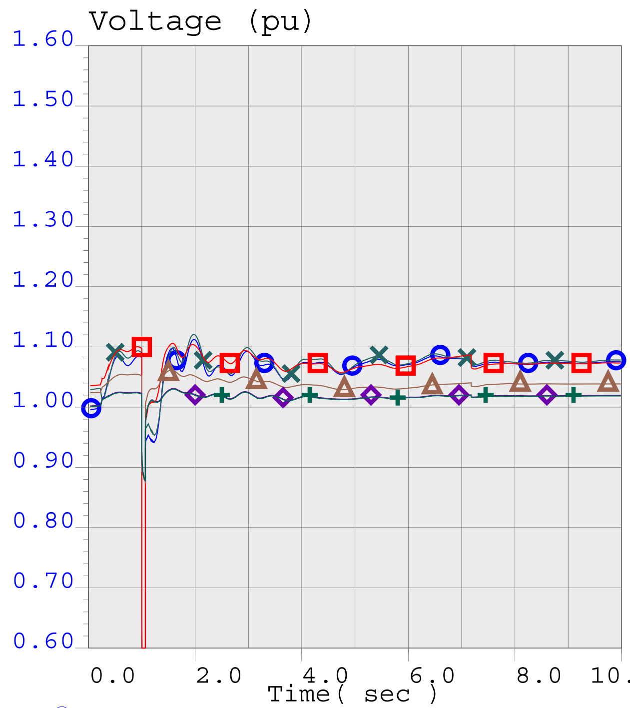

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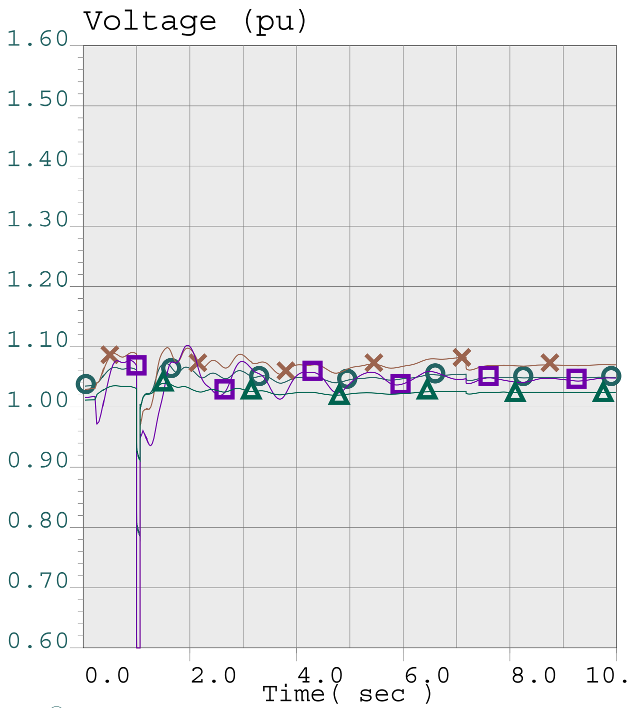

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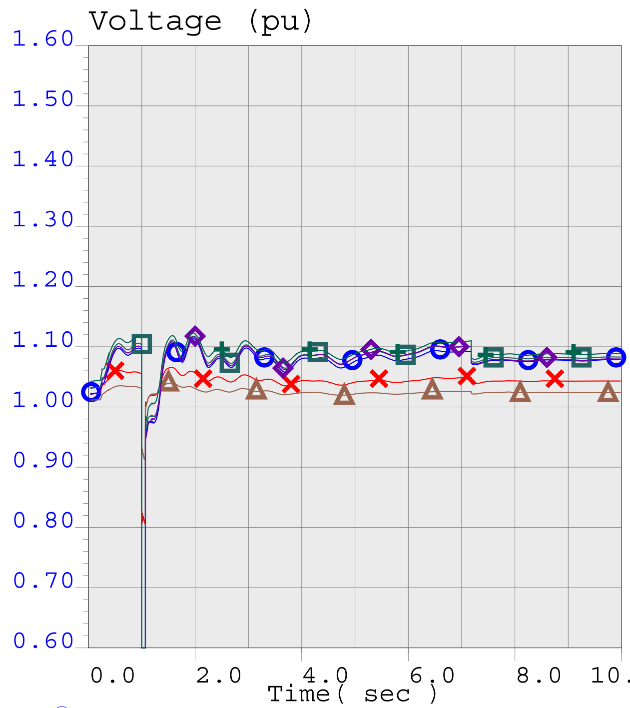

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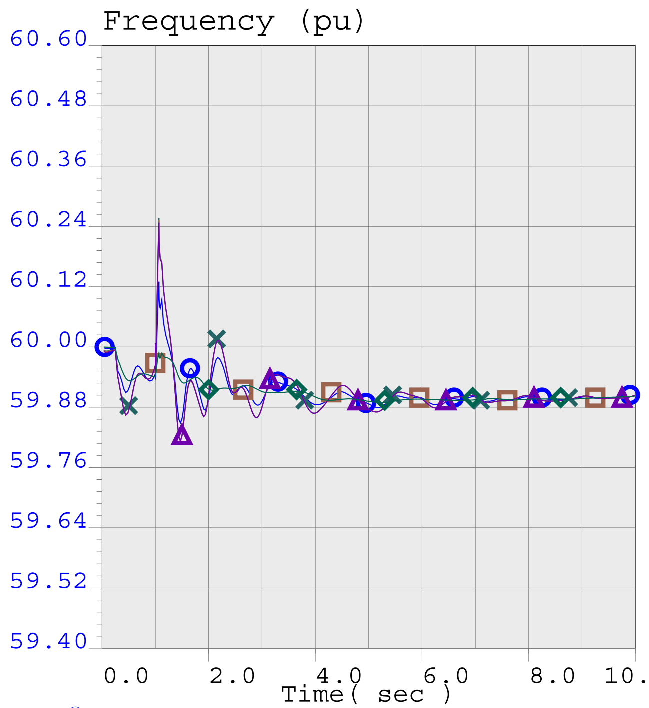

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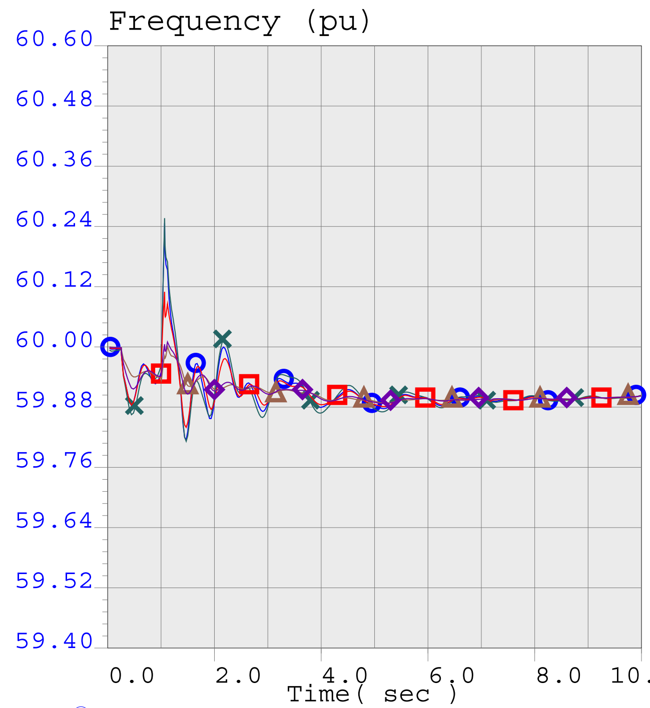

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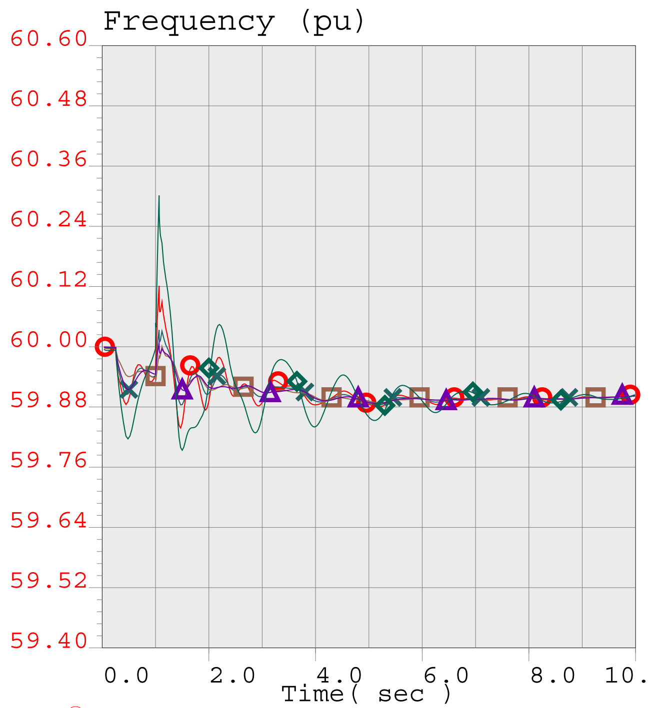

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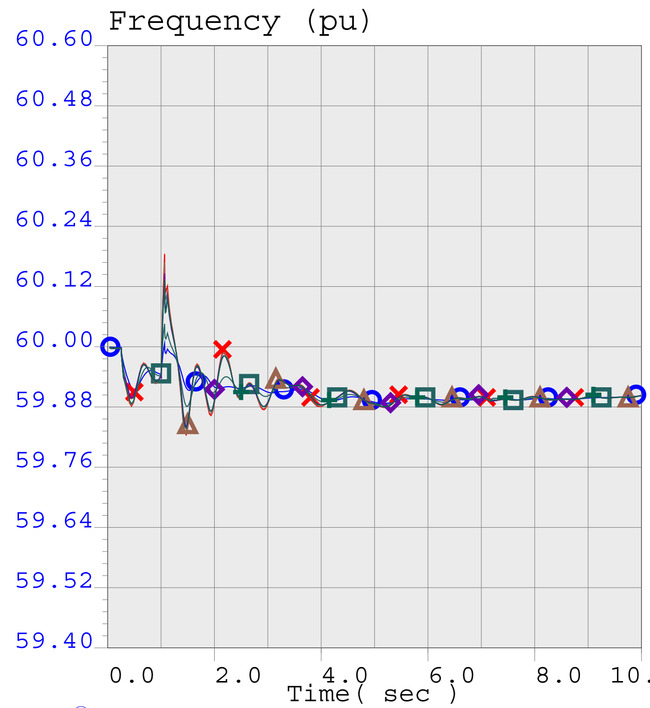

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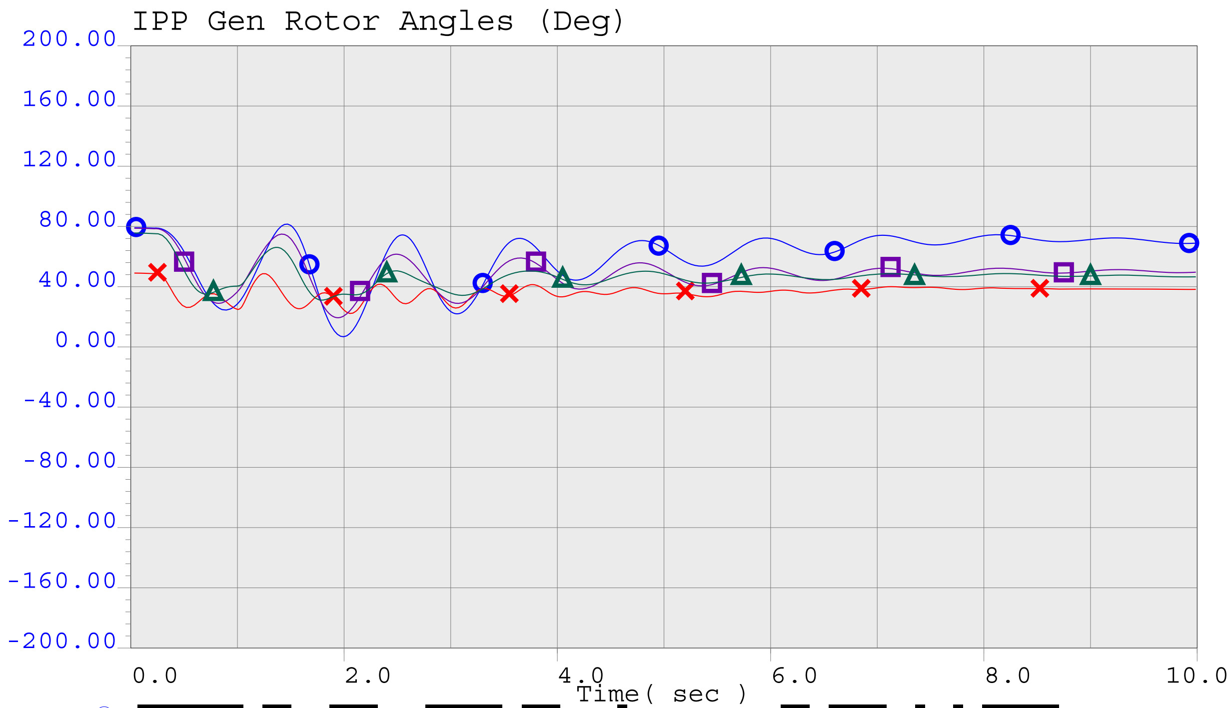
Fri Aug 26 08:40:39 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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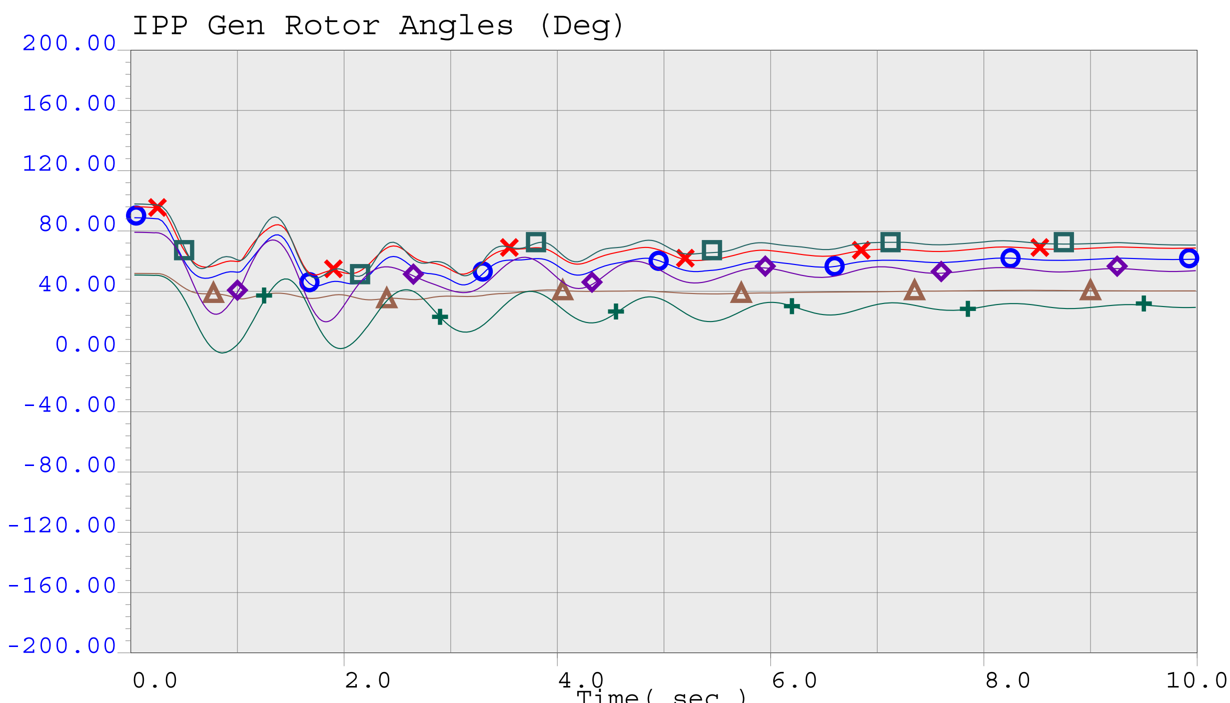

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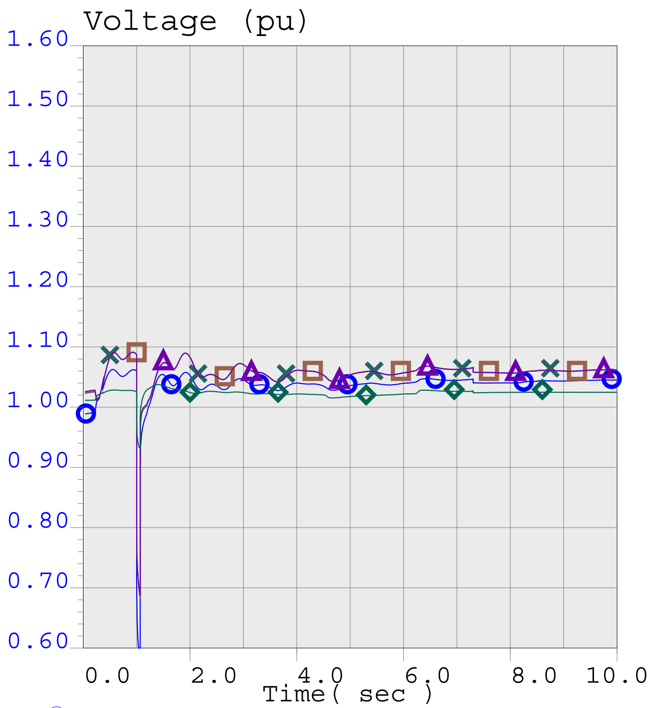
SYSTEM IMPACT STUDY (Voltage)



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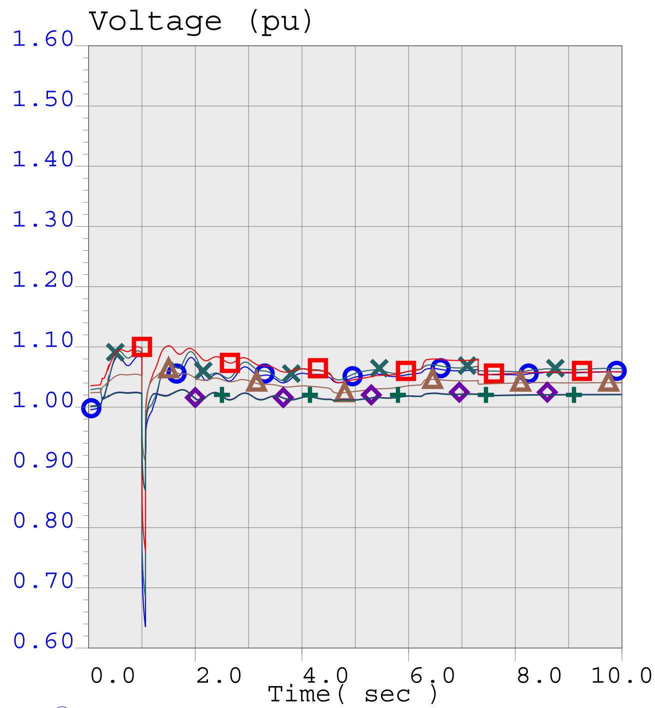

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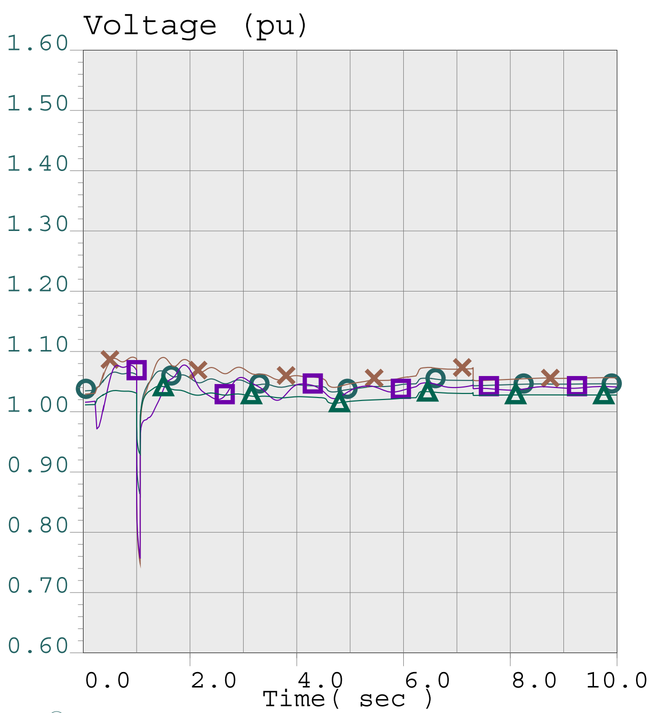

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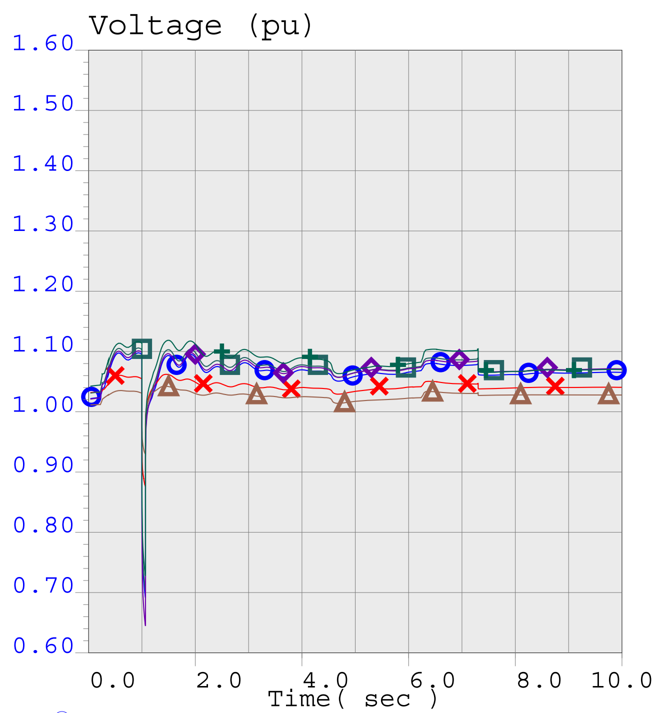

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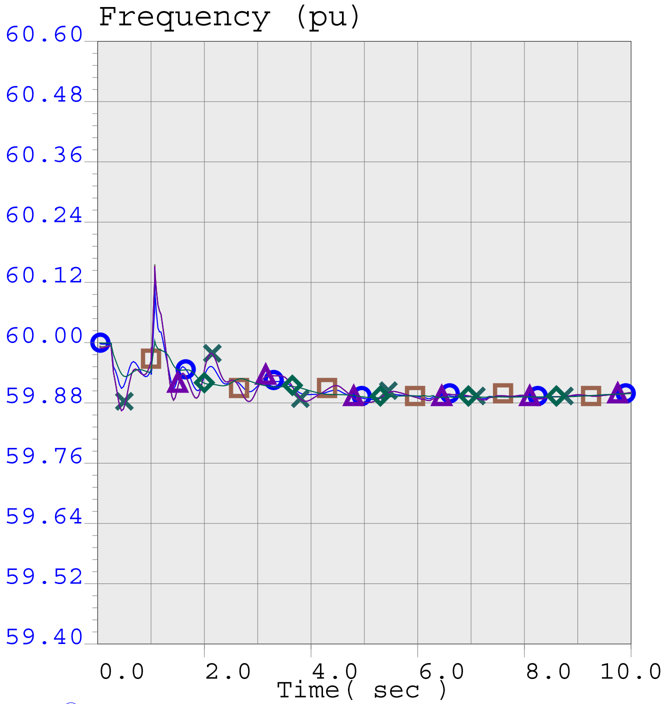
Fri Aug 26 08:40:41 2022

SYSTEM IMPACT STUDY (Frequency)



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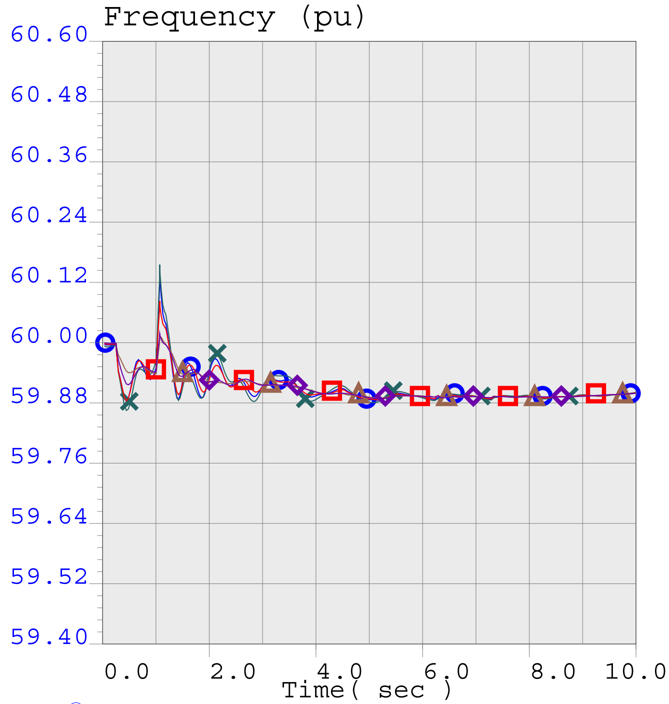

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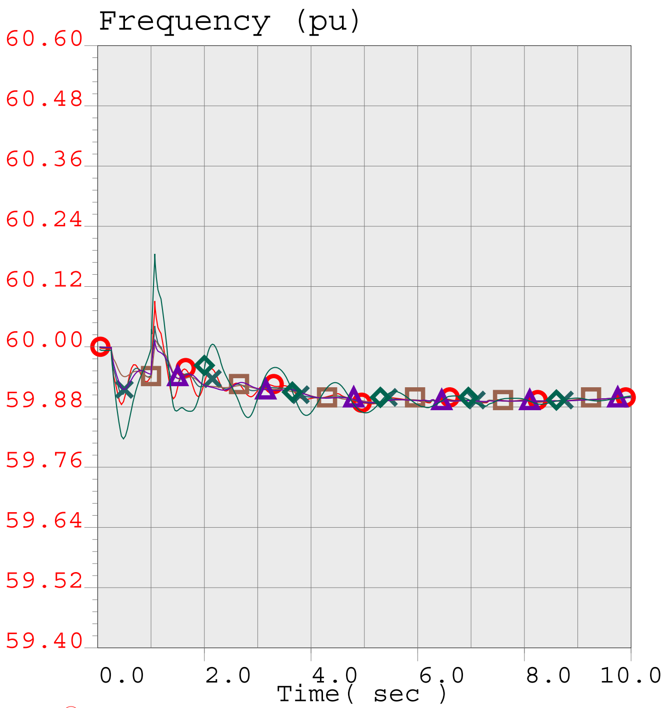

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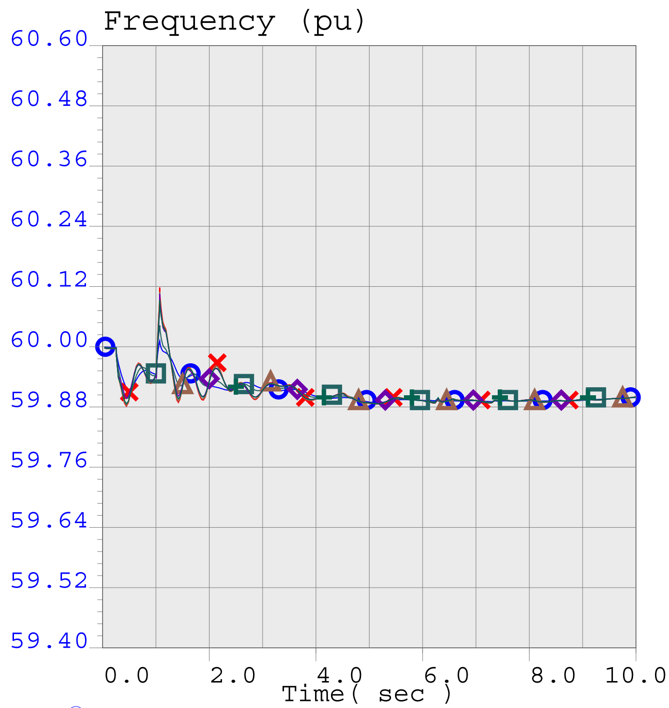

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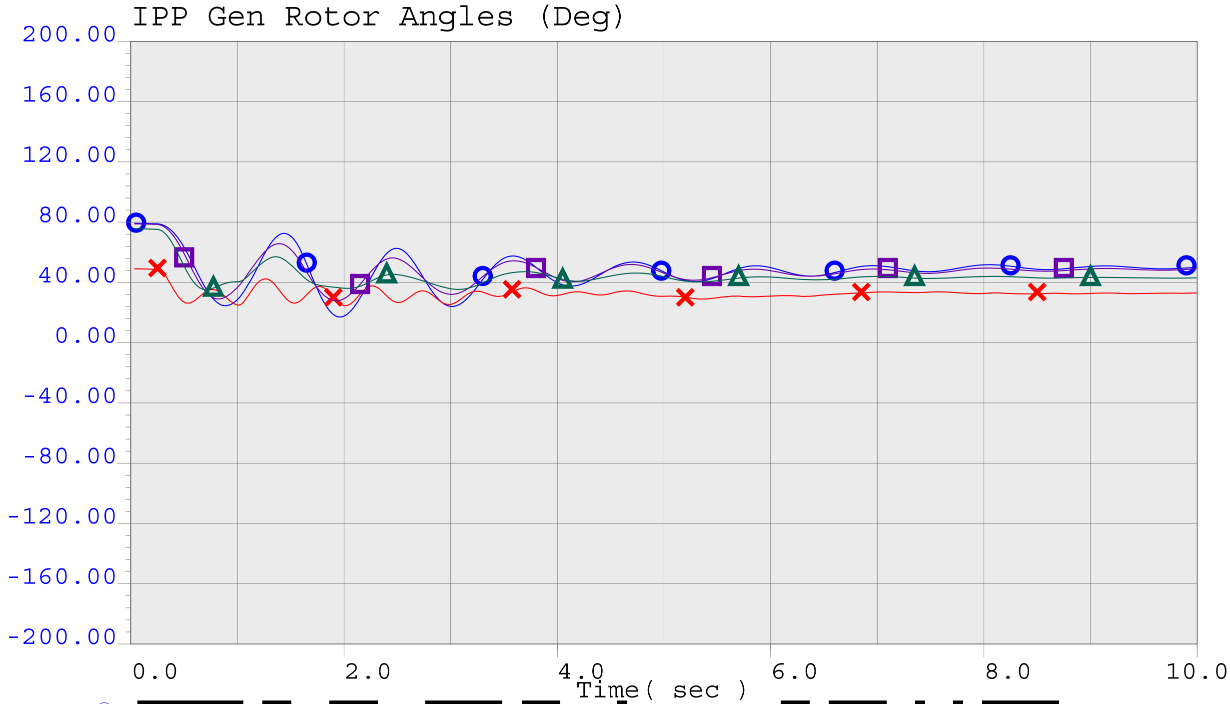
SYSTEM IMPACT STUDY (Rotor Angles)



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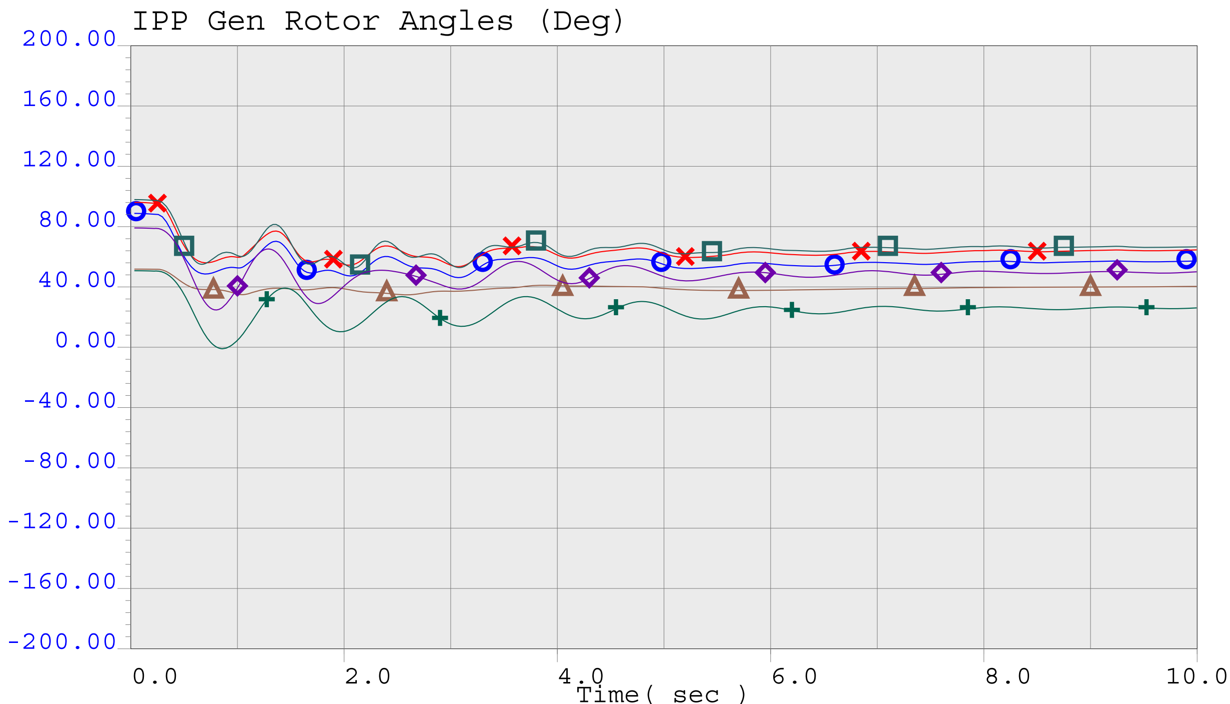

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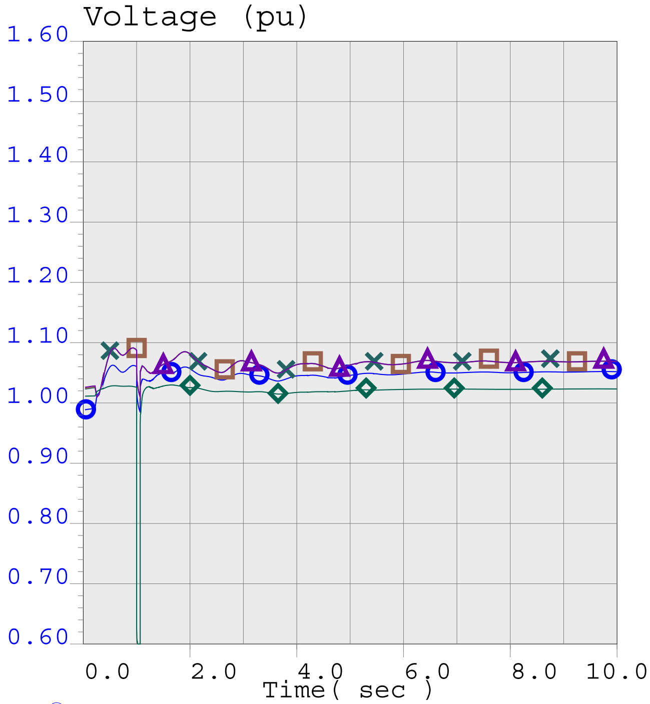
SYSTEM IMPACT STUDY (Voltage)



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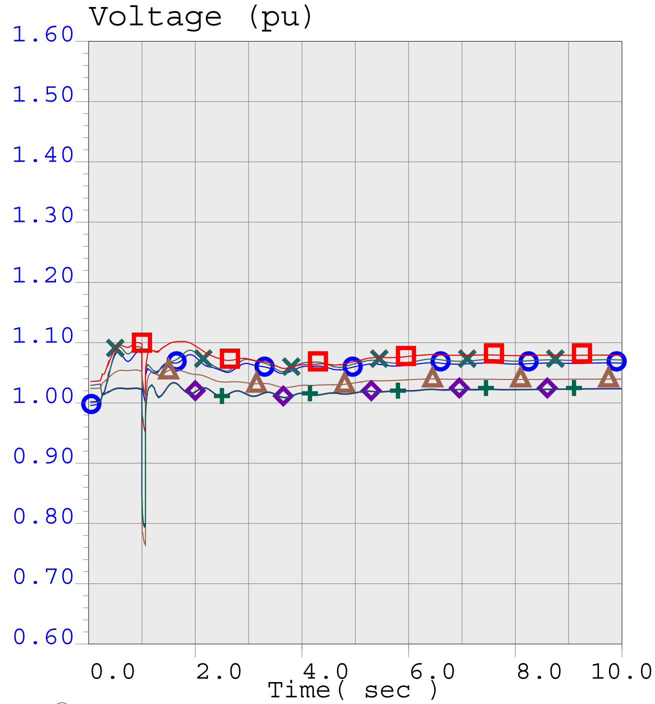

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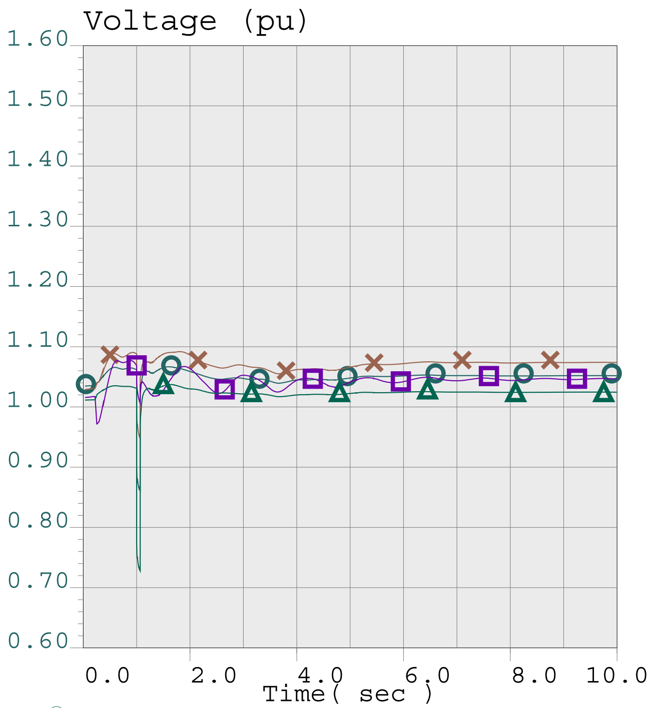

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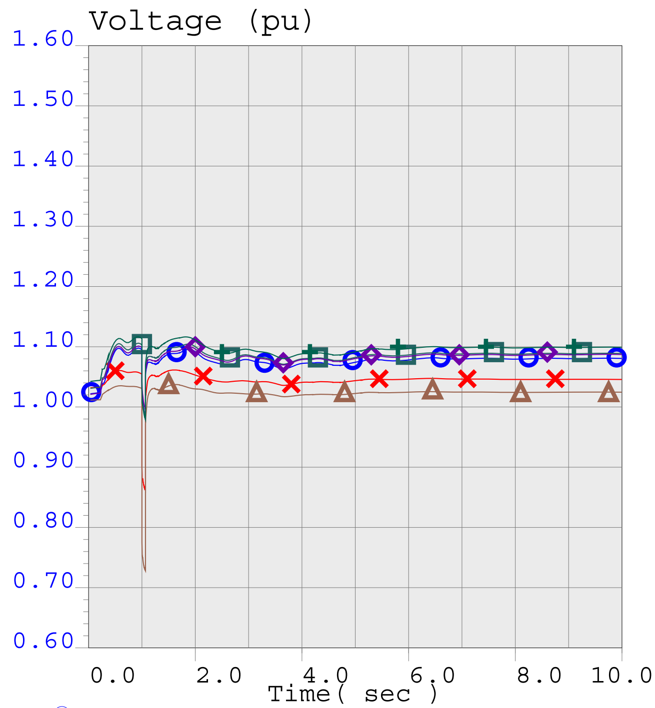

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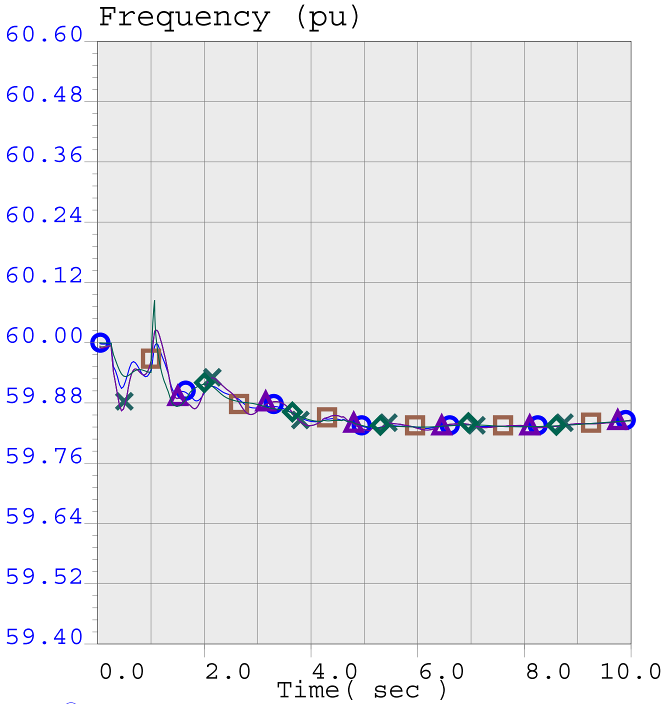
SYSTEM IMPACT STUDY (Frequency)



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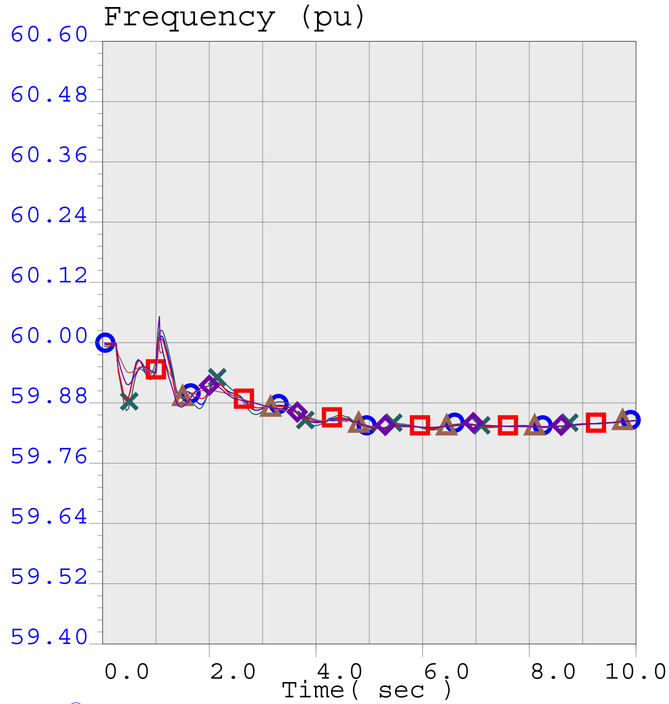

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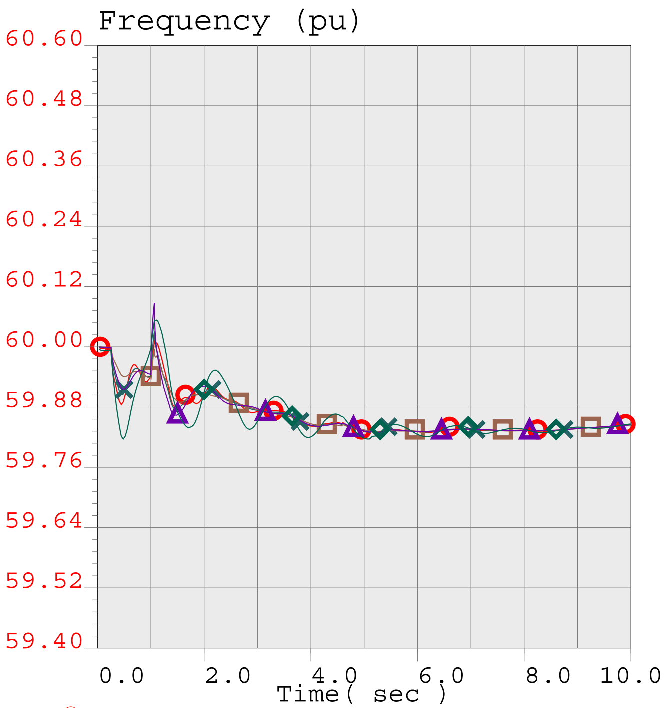

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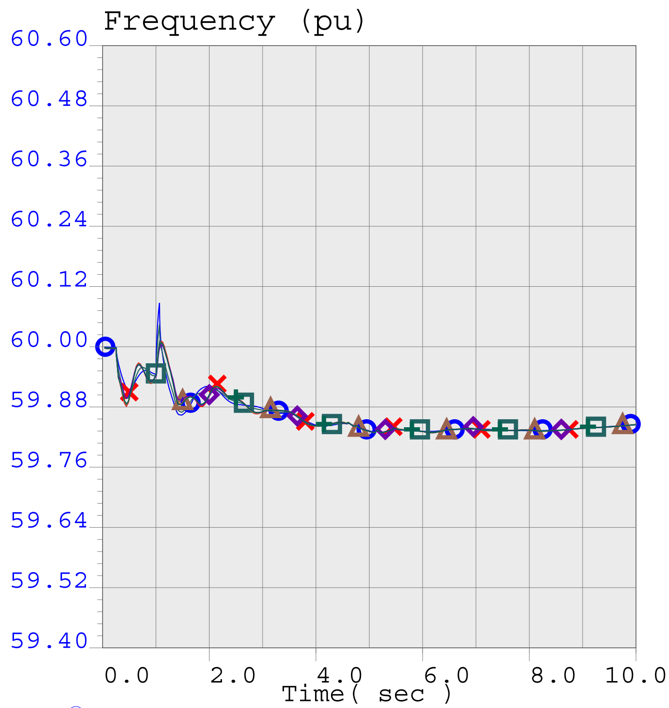

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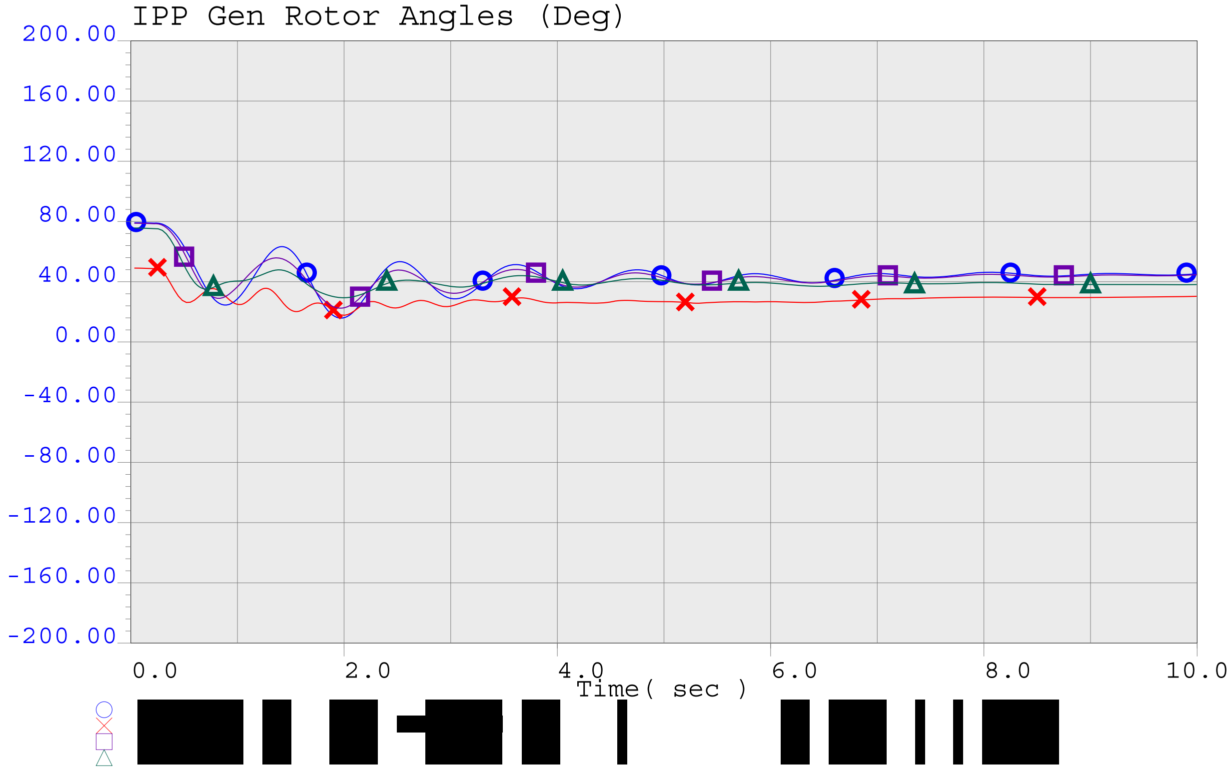
Fri Aug 26 08:40:43 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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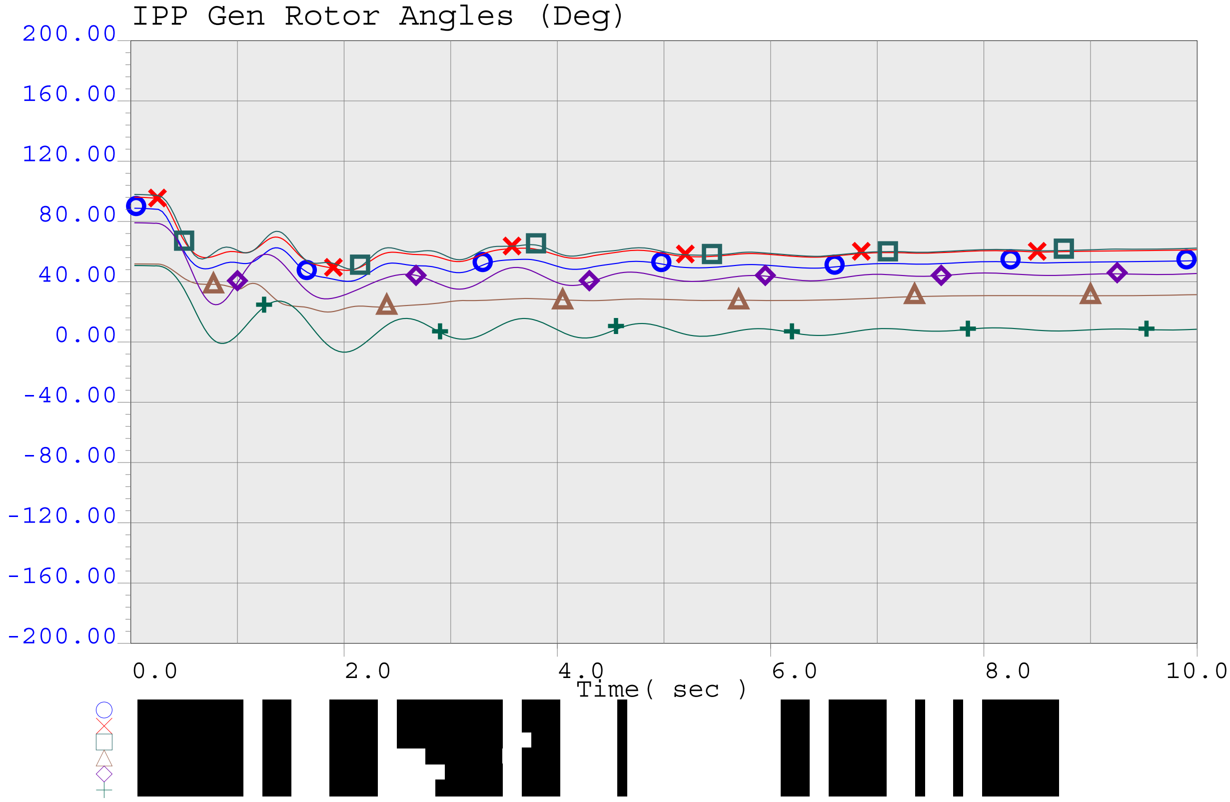
IPP Gen Rotor Angles (Deg)



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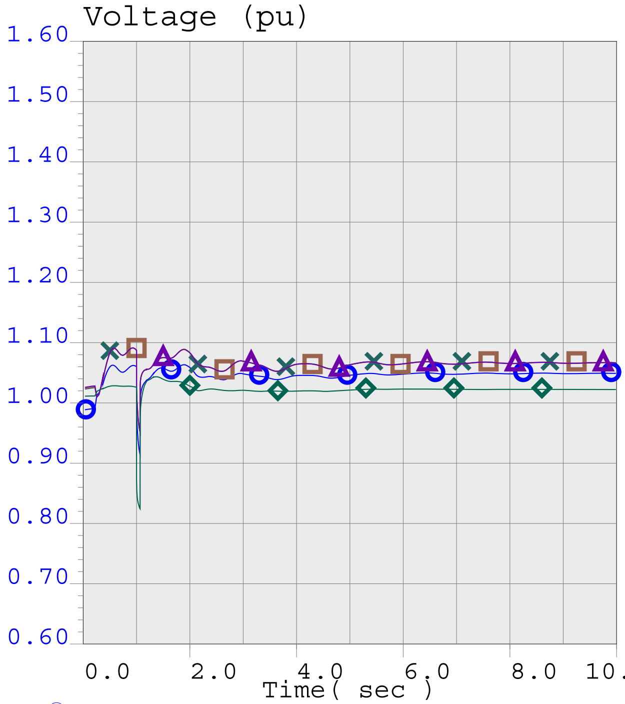
SYSTEM IMPACT STUDY (Voltage)



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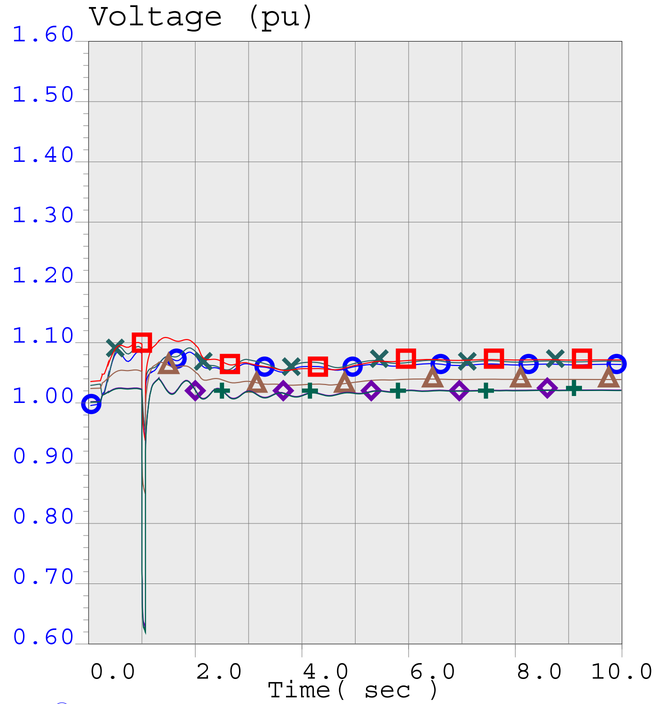

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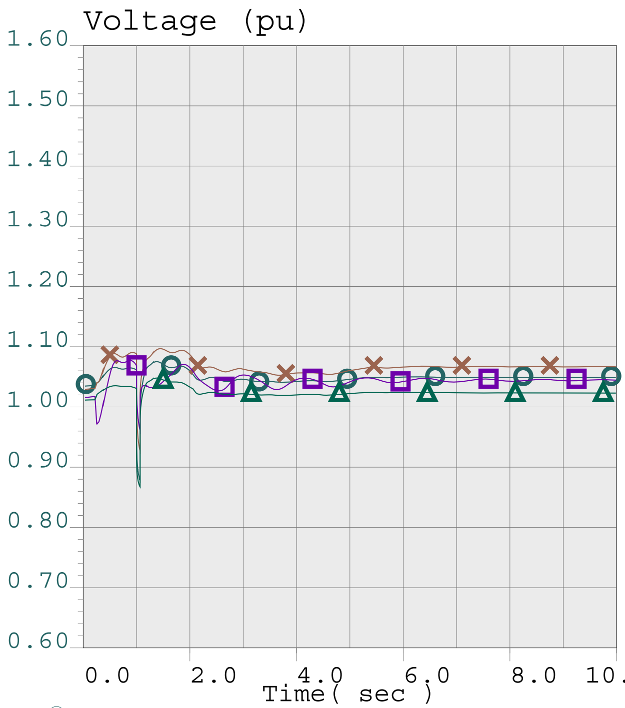

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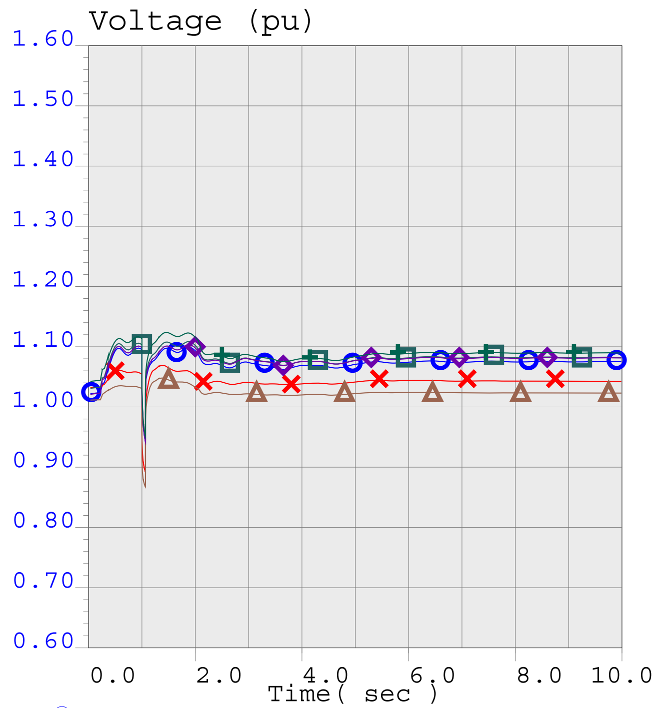

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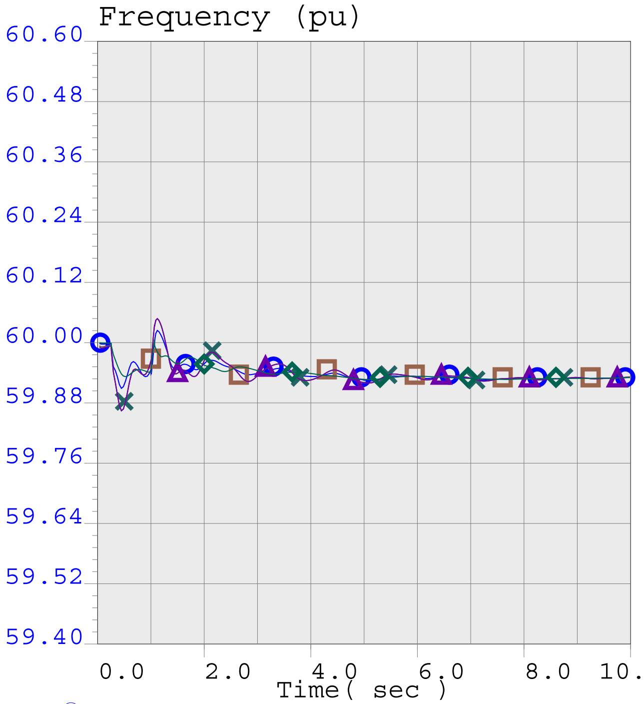

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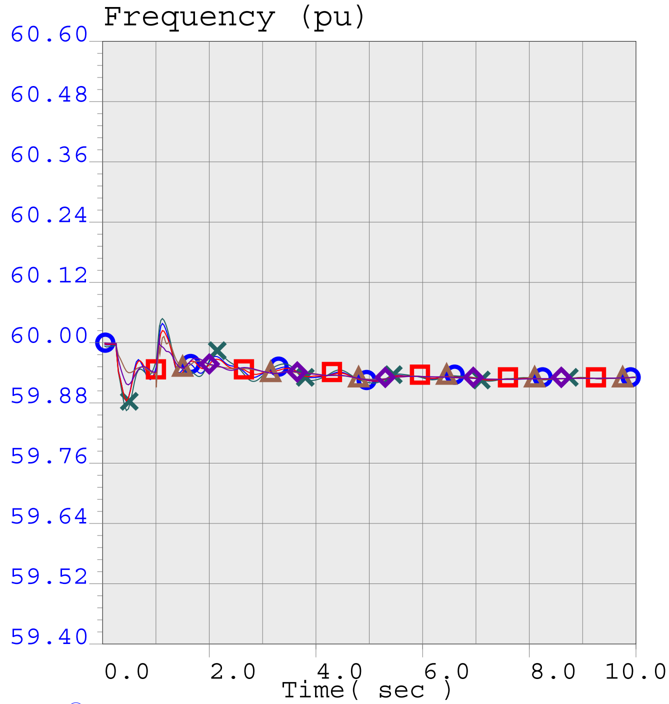

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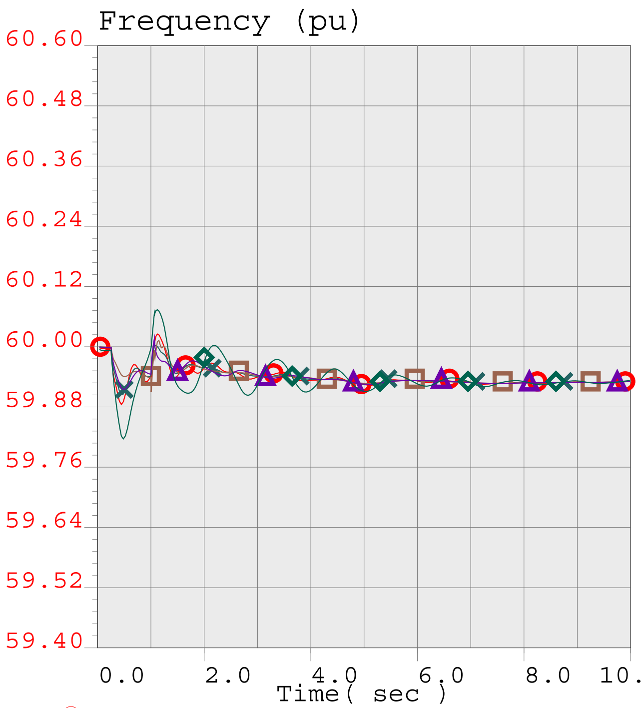

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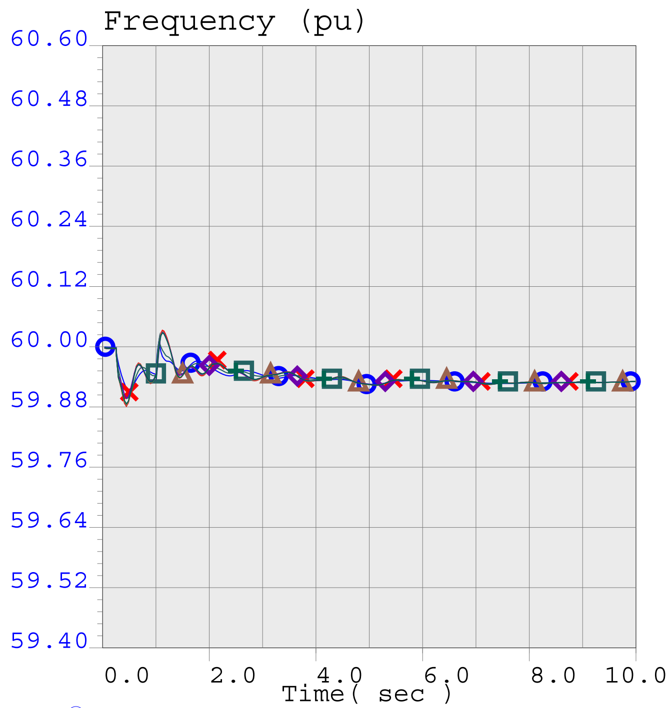

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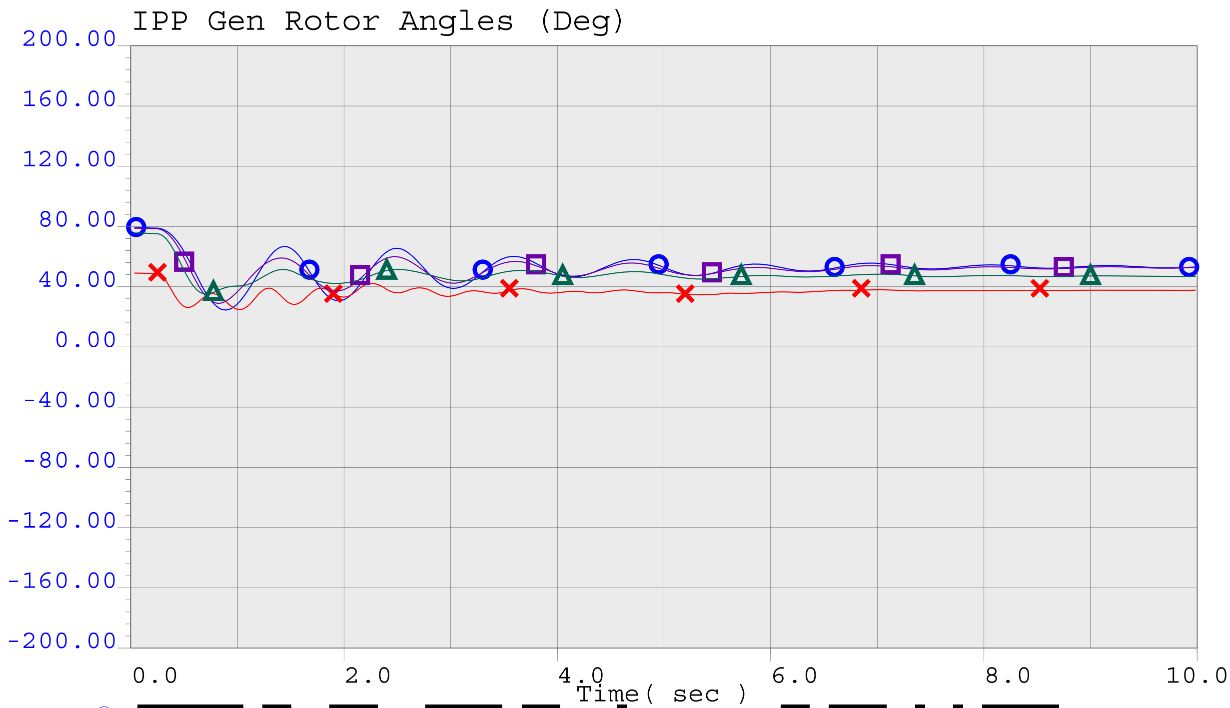
SYSTEM IMPACT STUDY (Rotor Angles)



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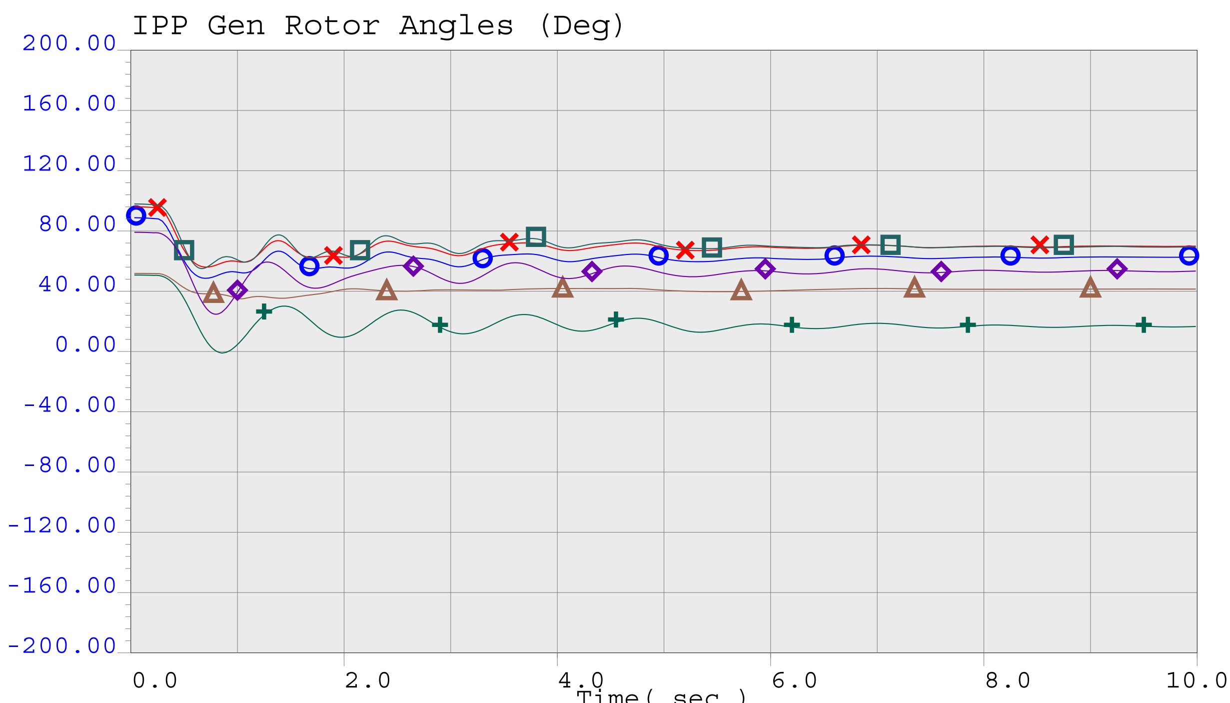

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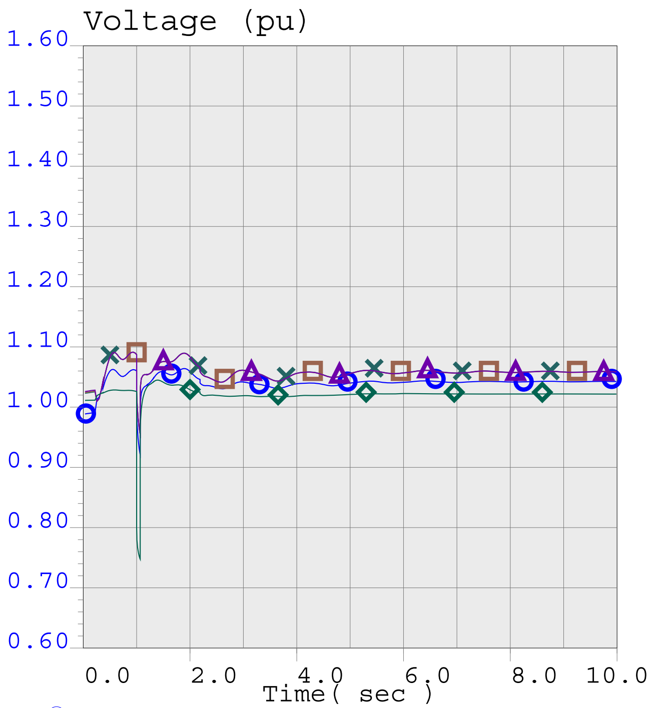

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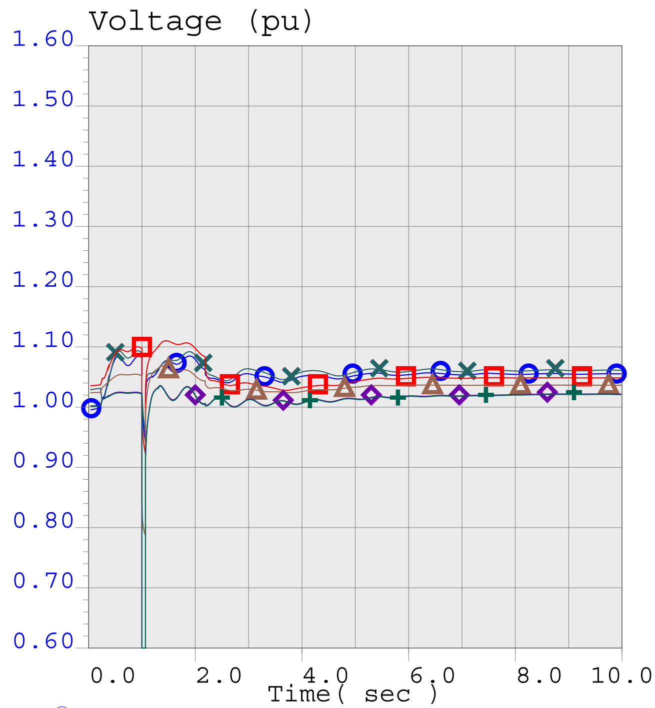

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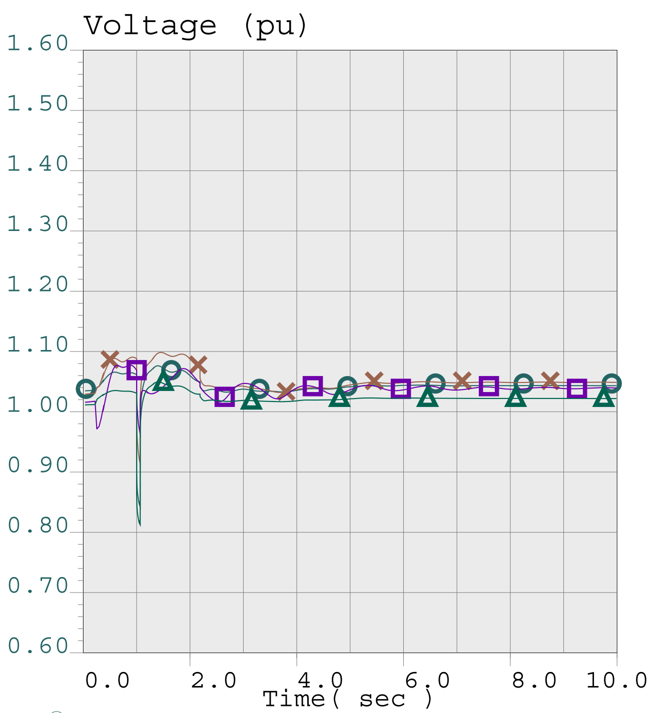

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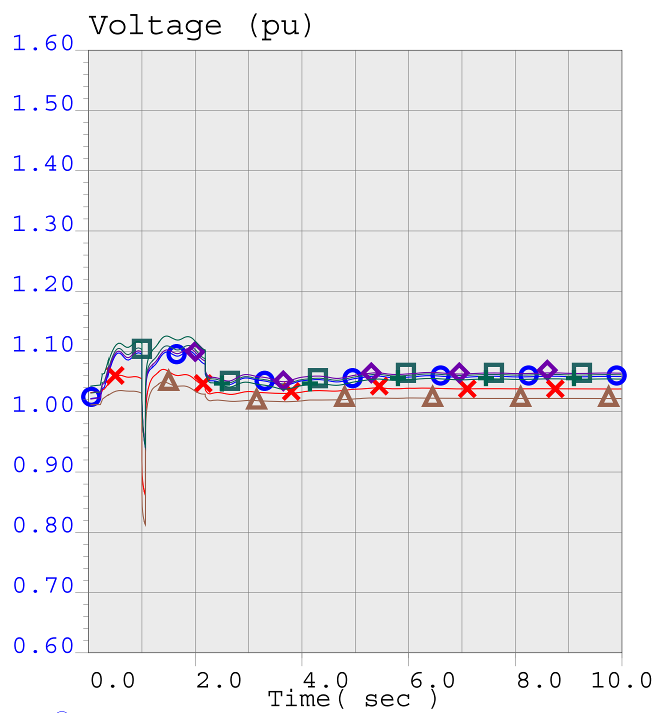

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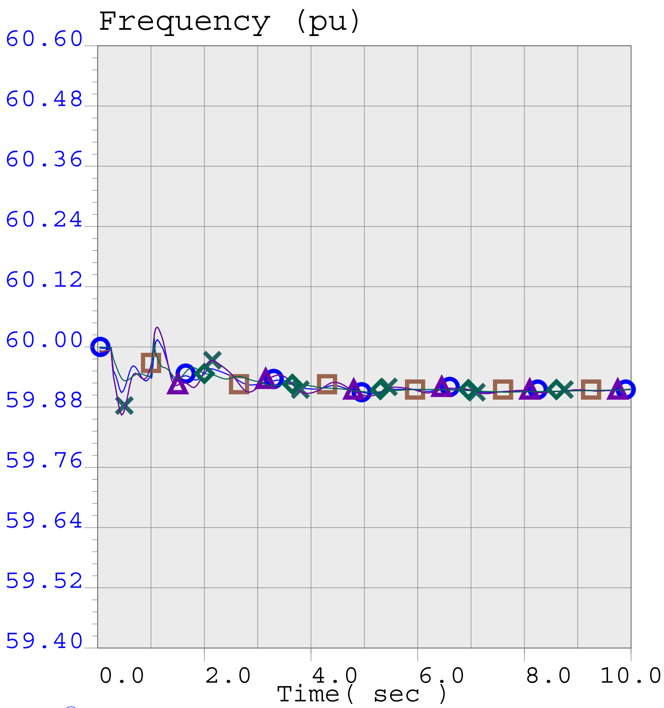

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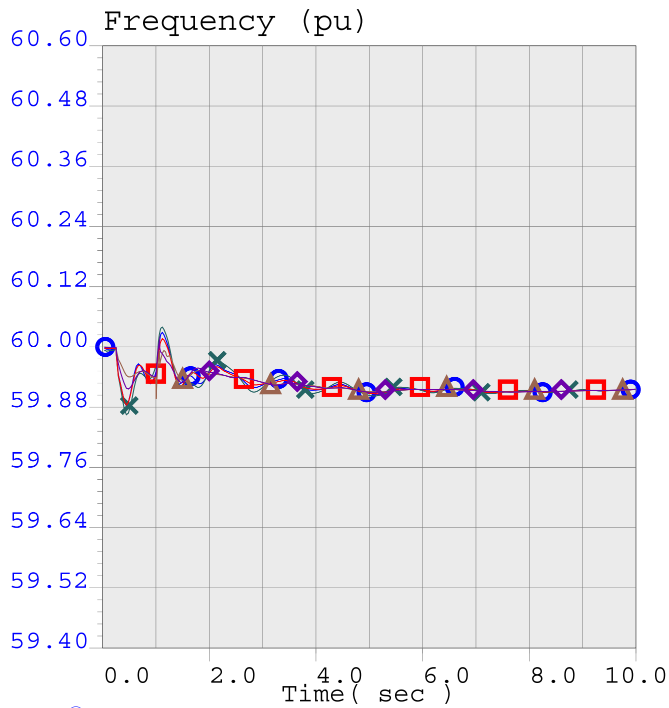

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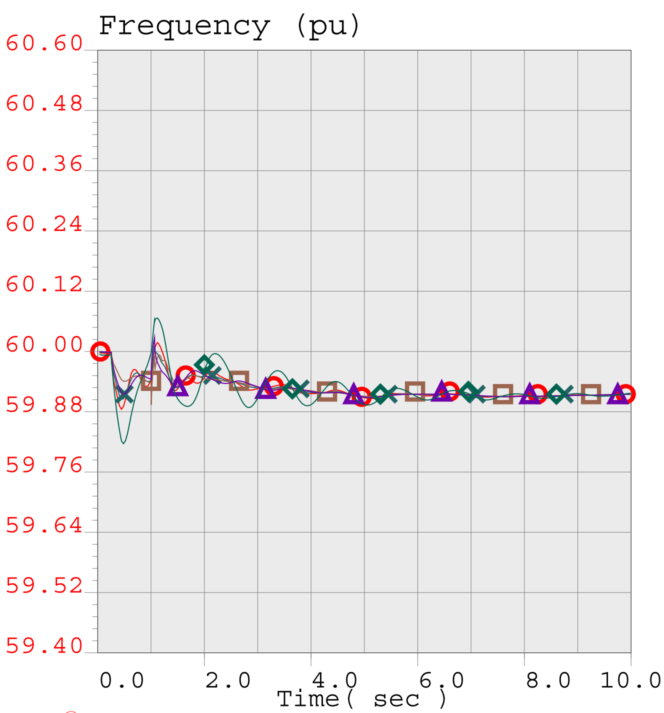

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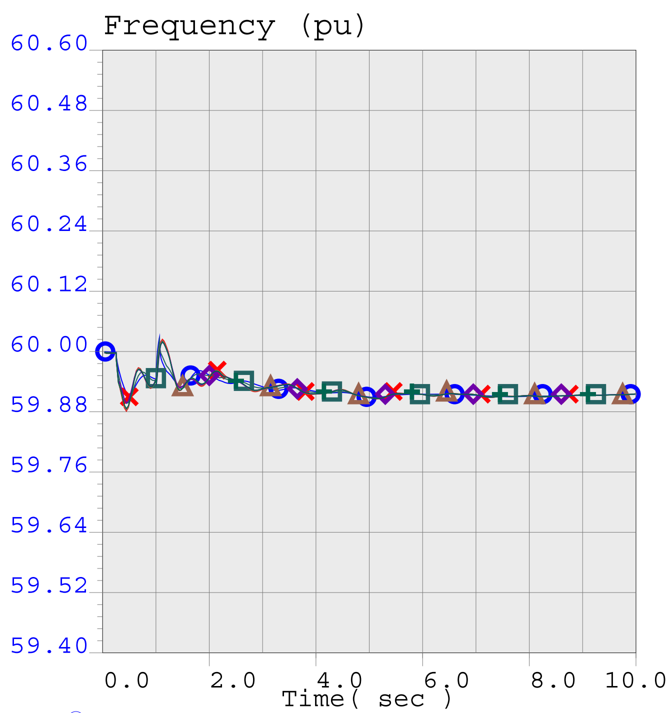

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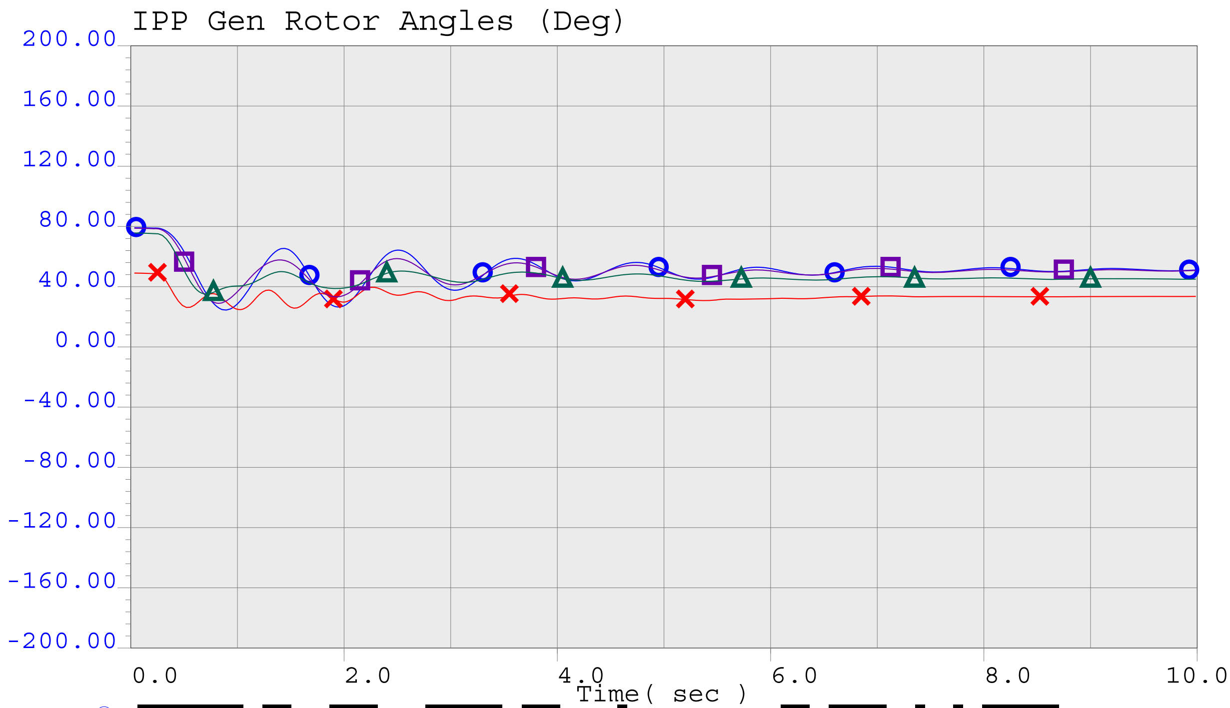
SYSTEM IMPACT STUDY (Rotor Angles)



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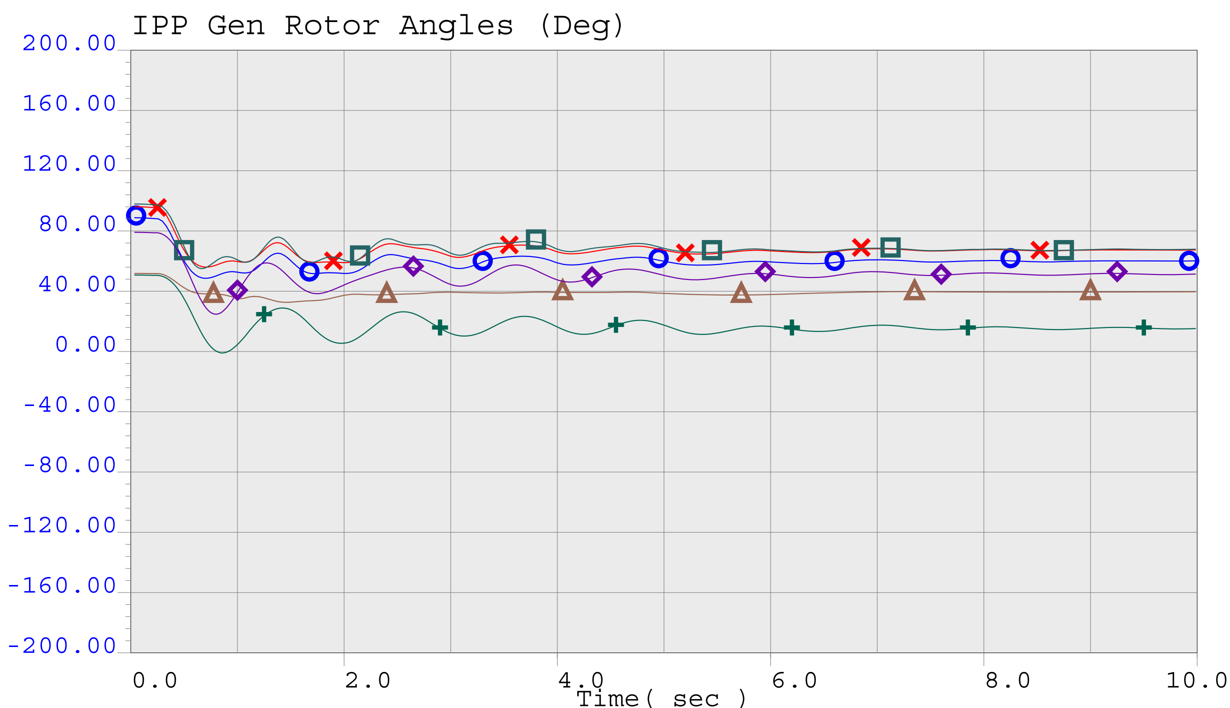

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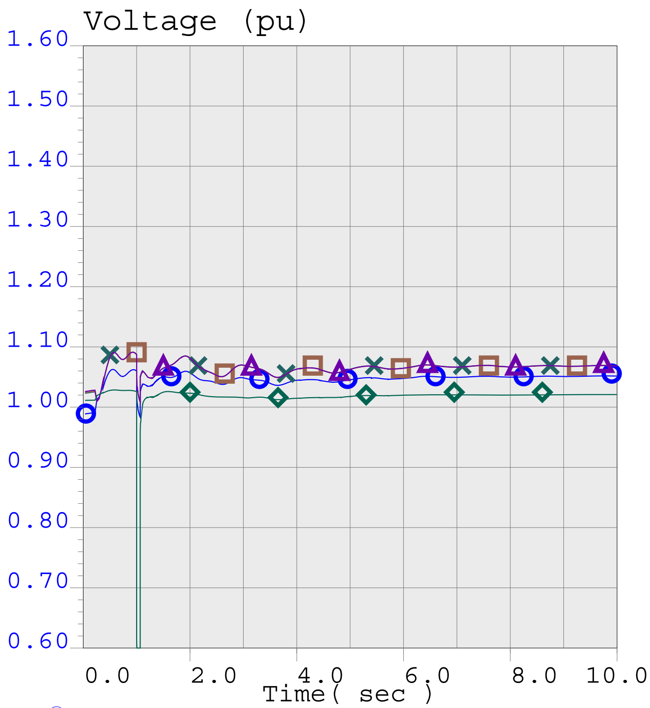

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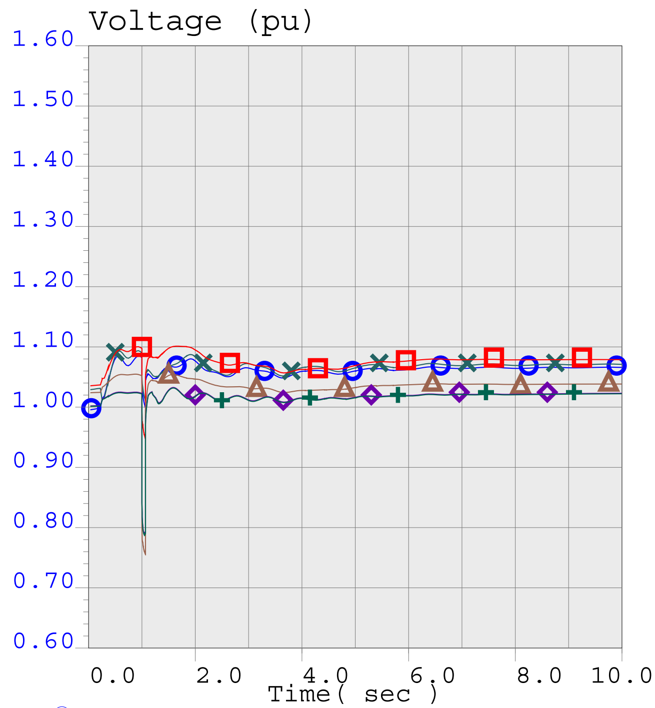

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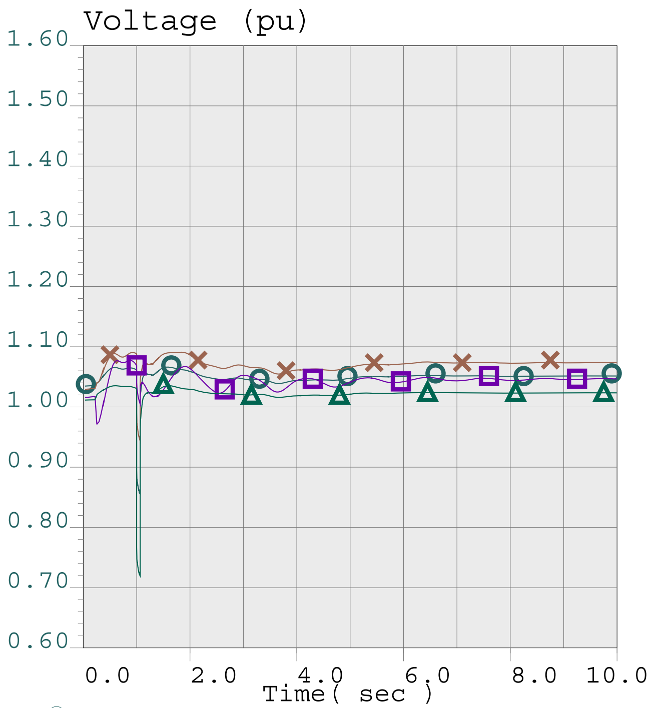

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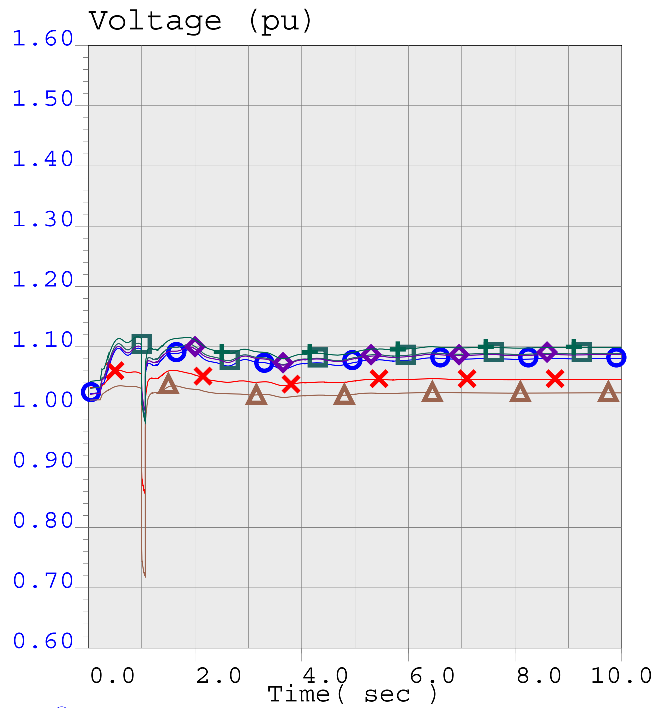

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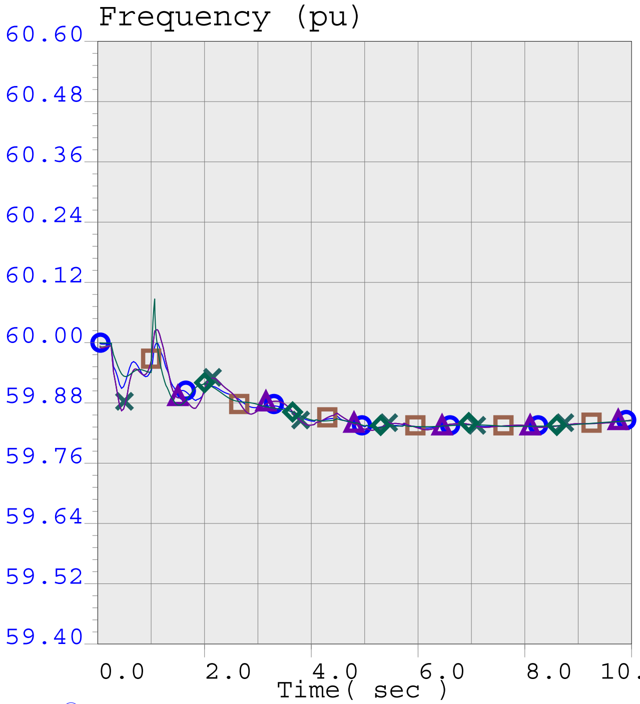

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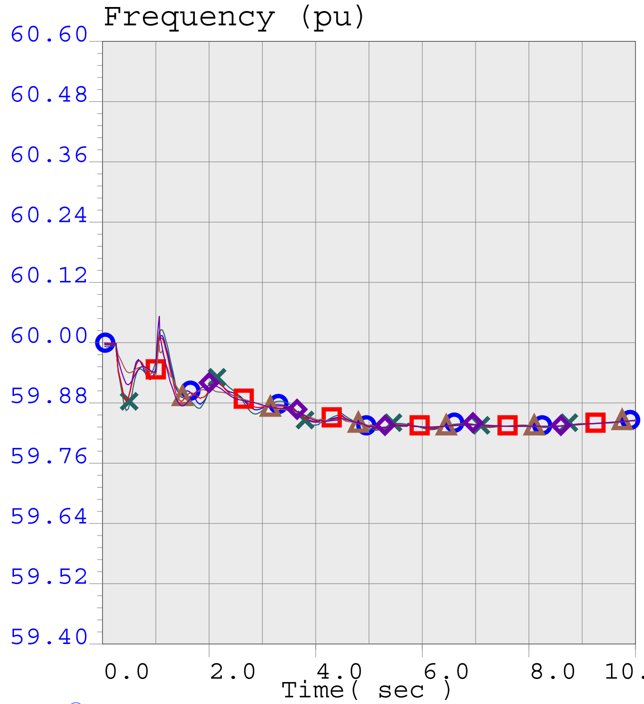

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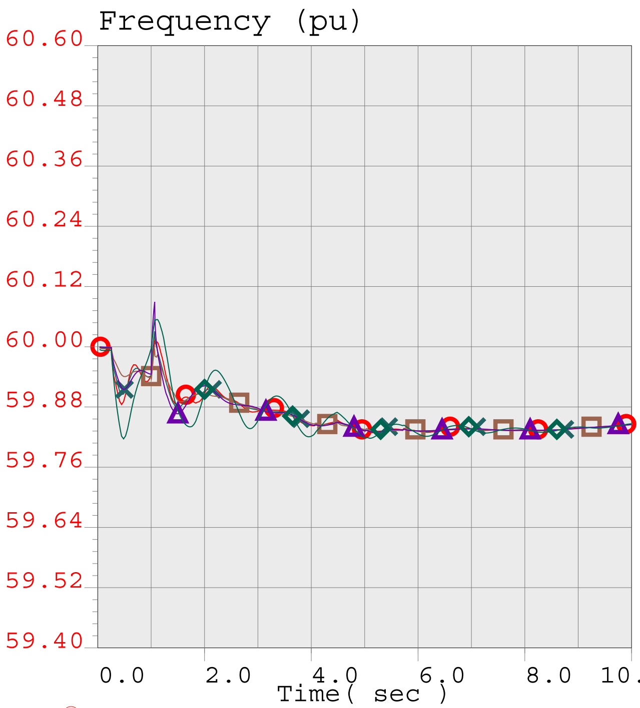

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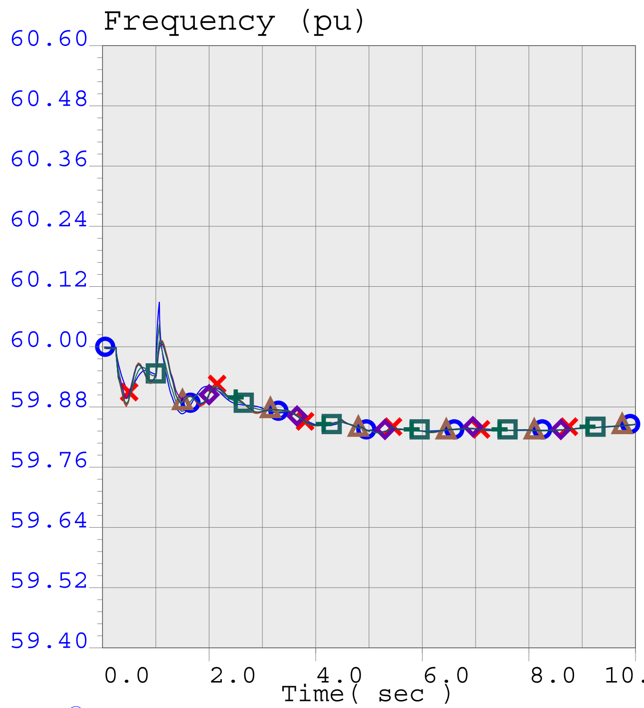

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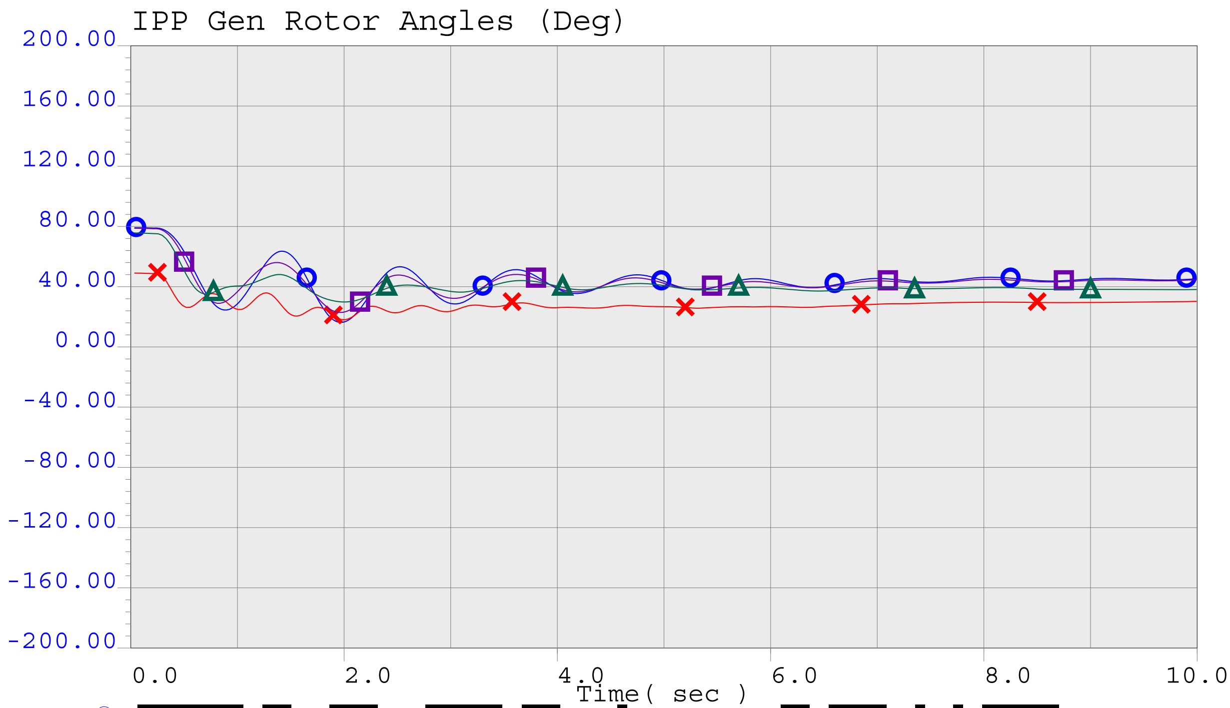
SYSTEM IMPACT STUDY (Rotor Angles)



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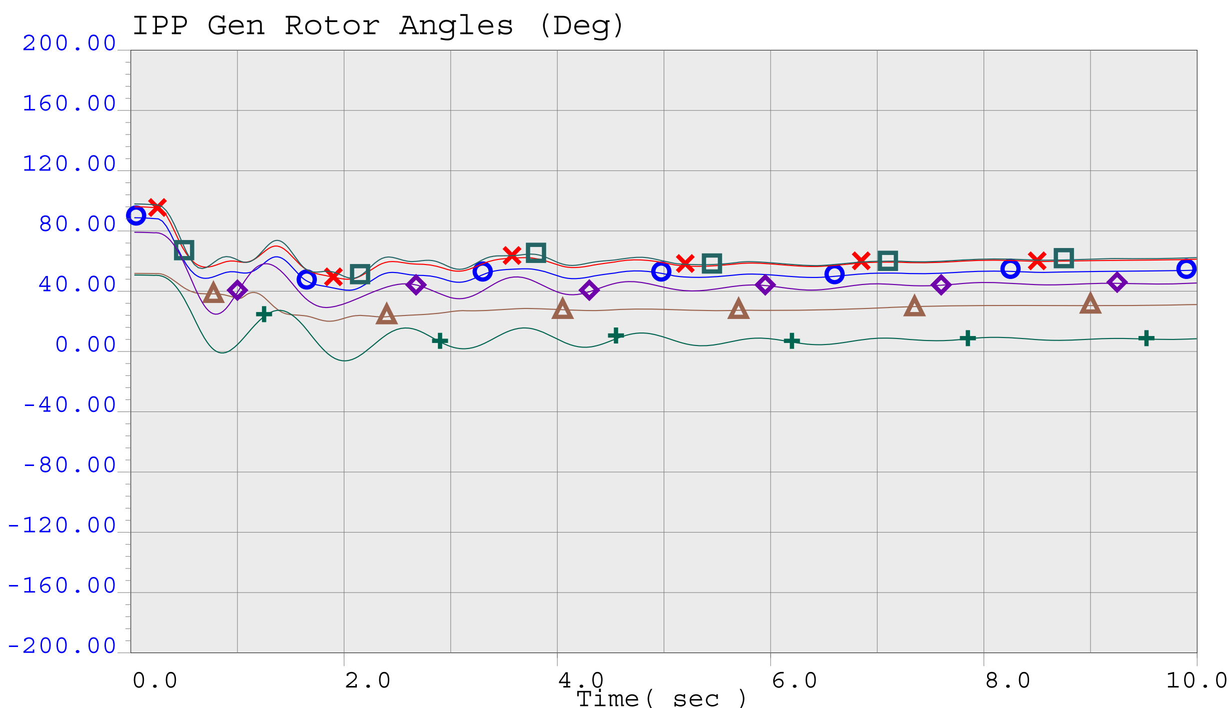

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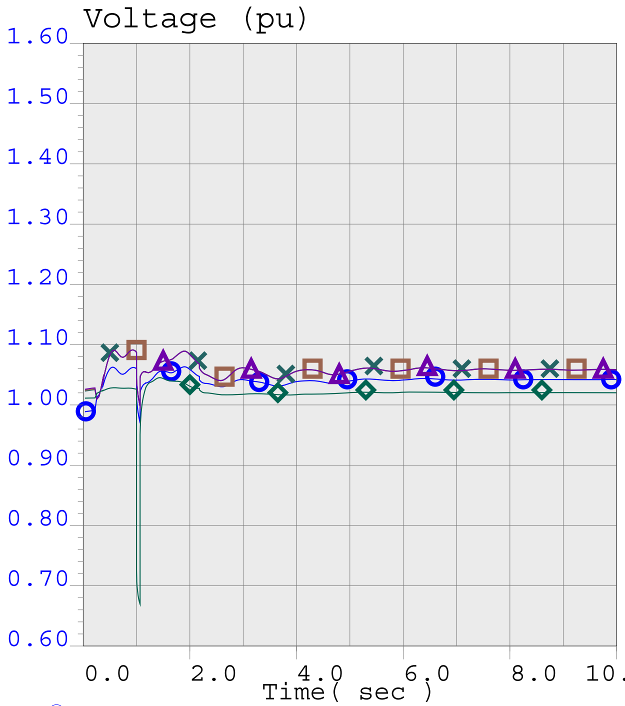

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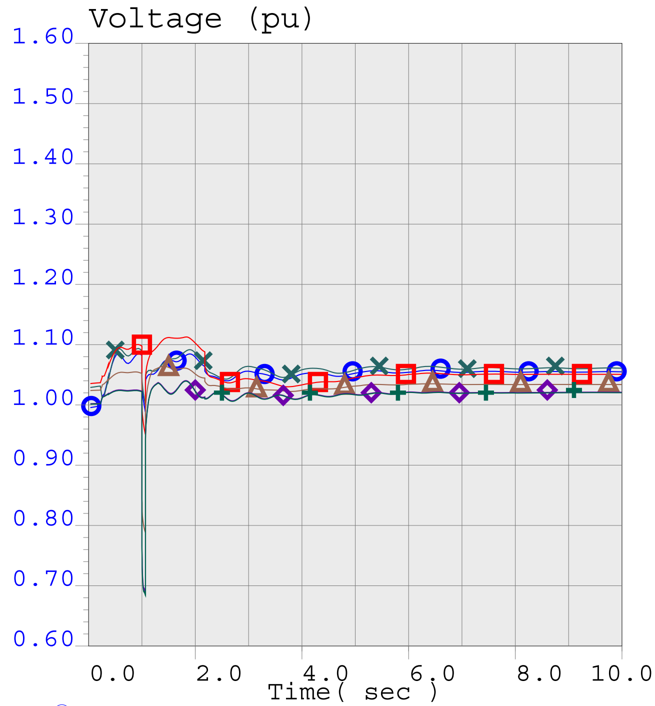

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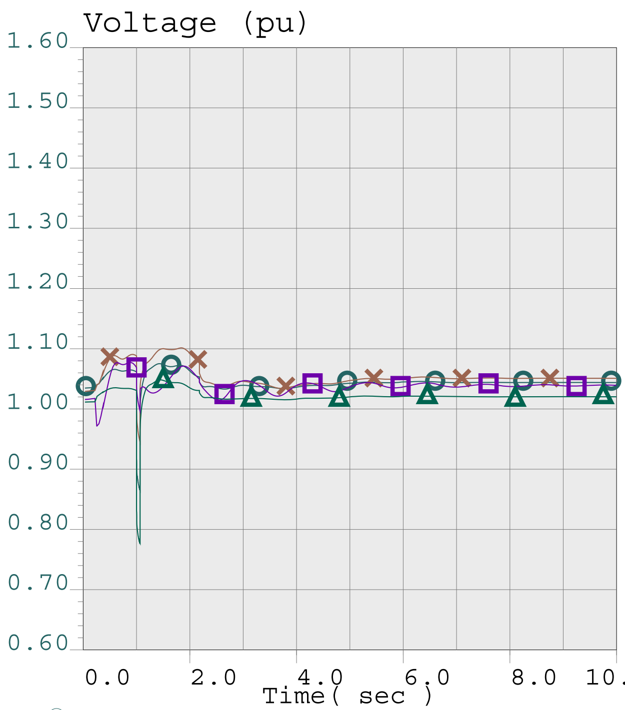

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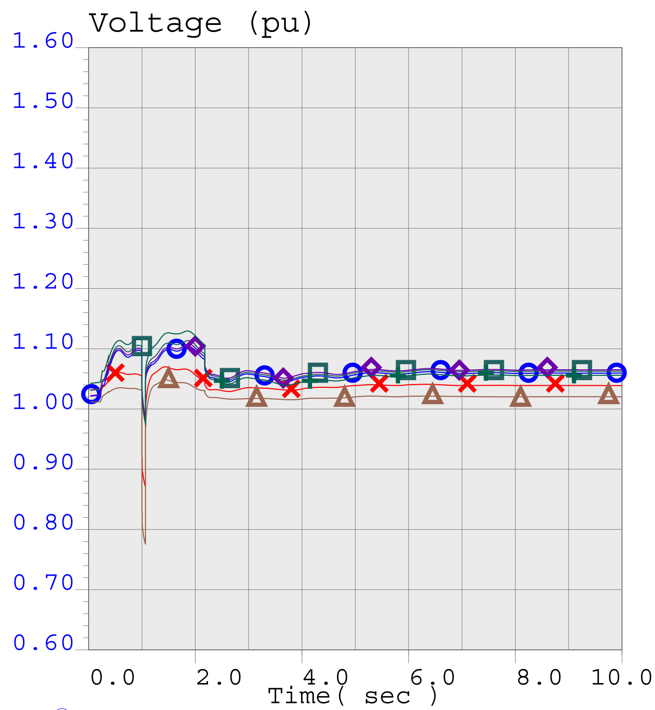

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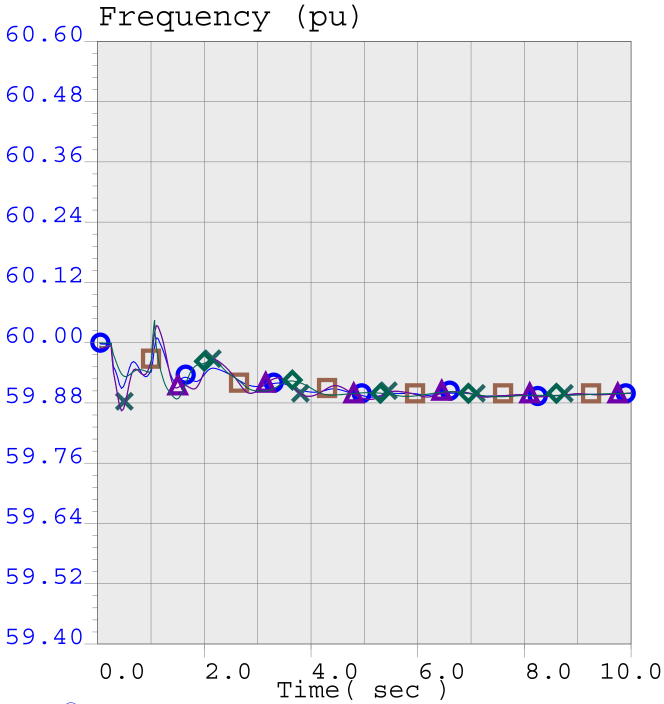
SYSTEM IMPACT STUDY (Frequency)



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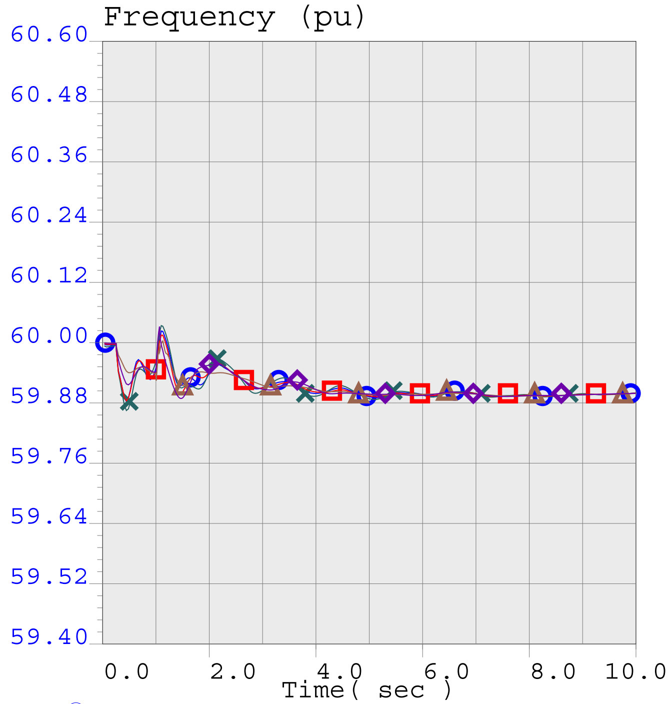

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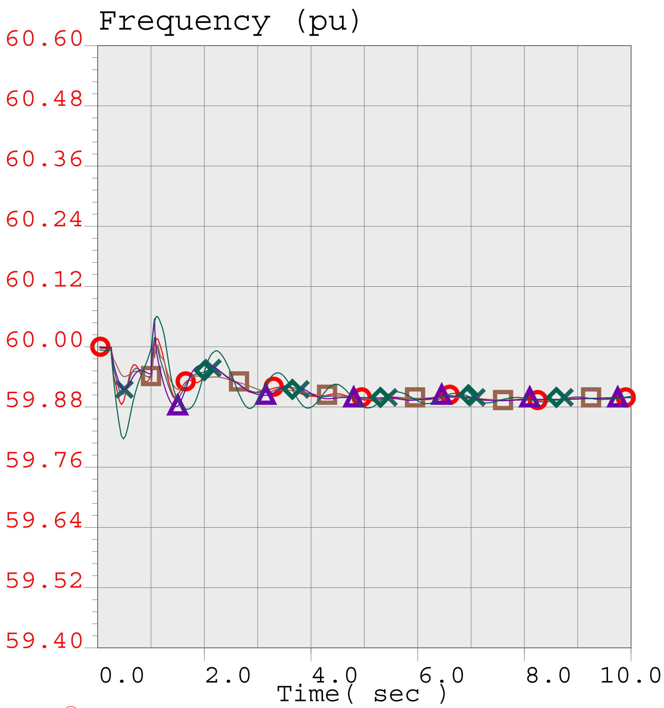

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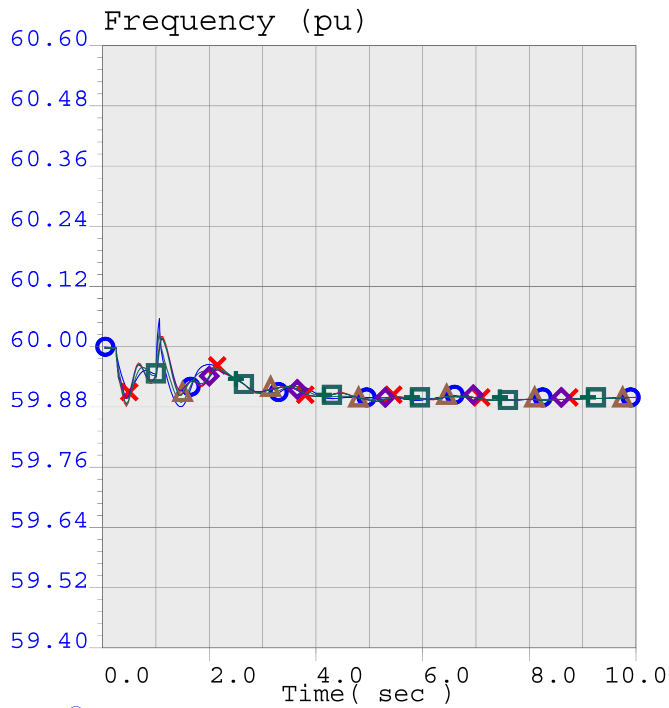

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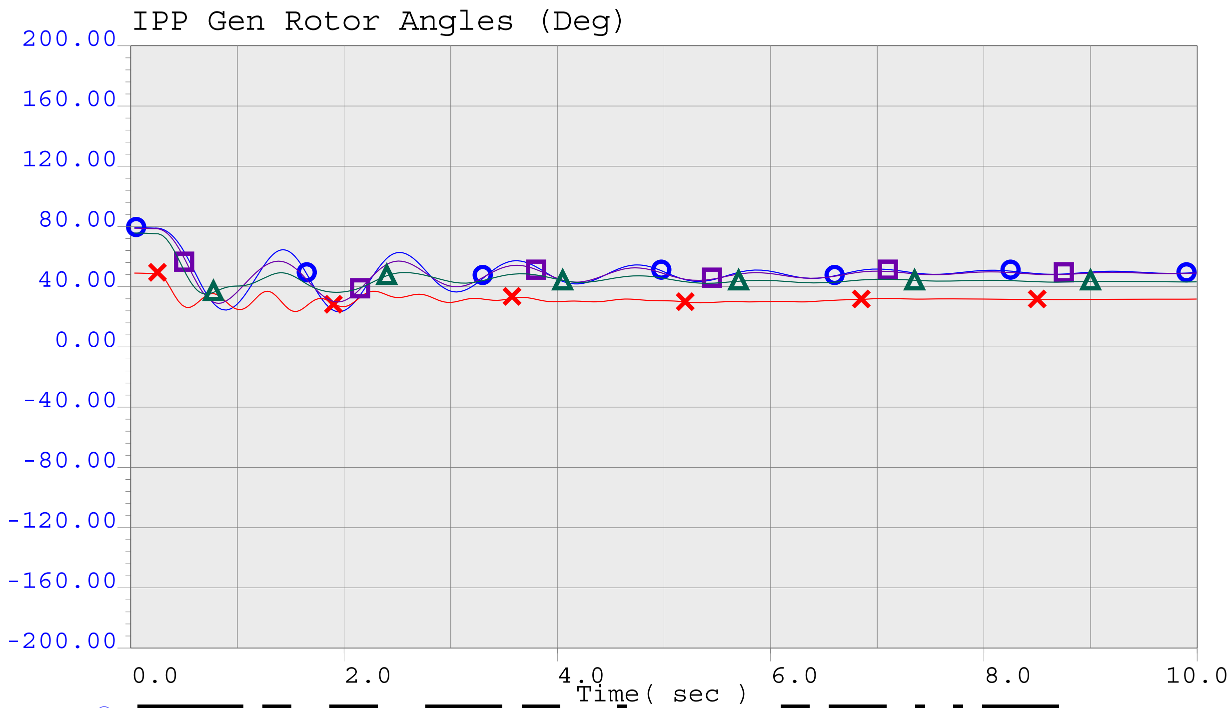
SYSTEM IMPACT STUDY (Rotor Angles)



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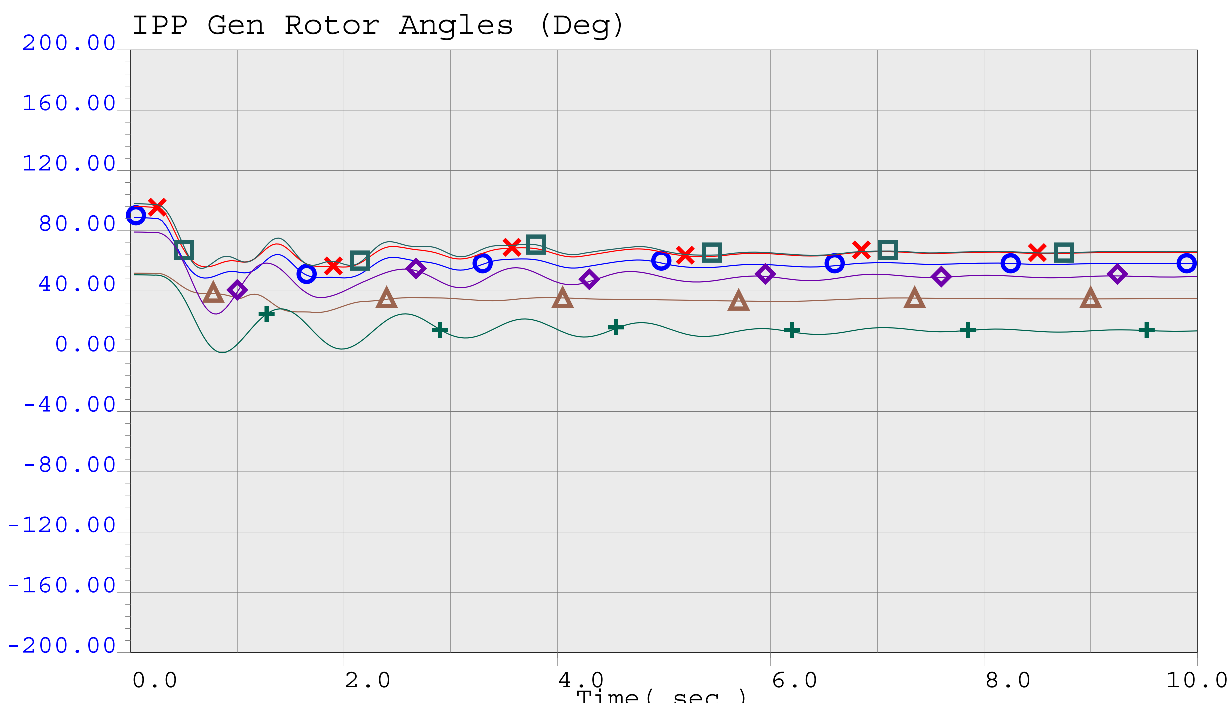

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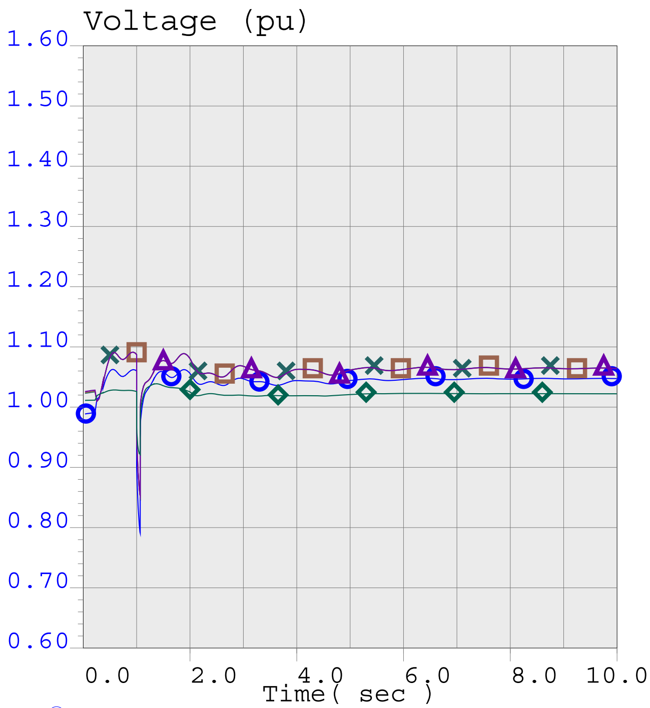

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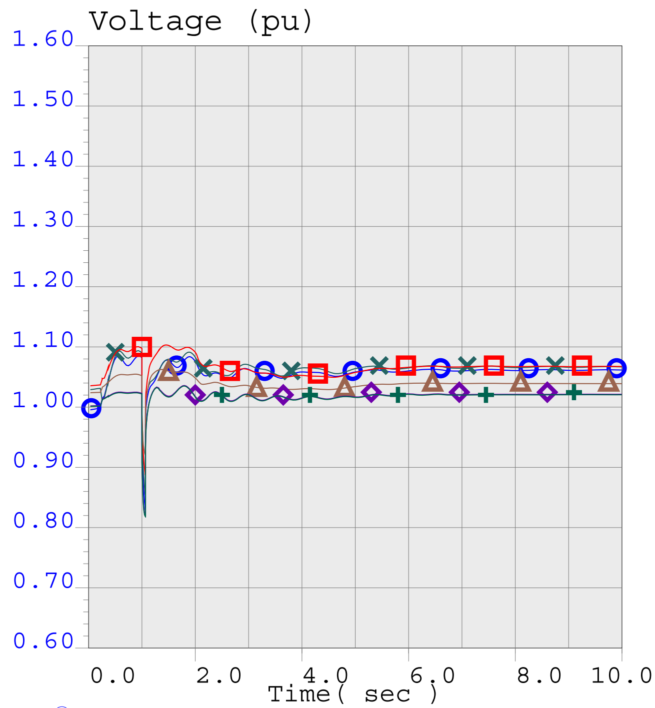

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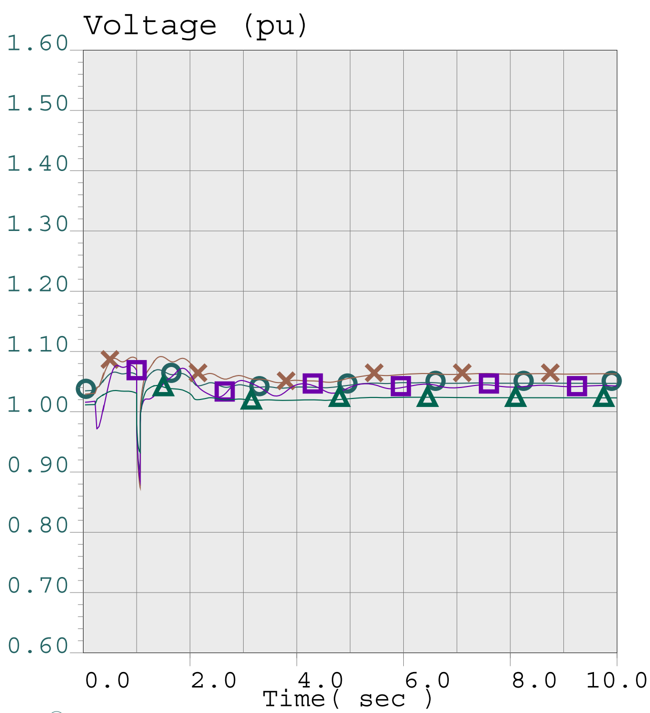

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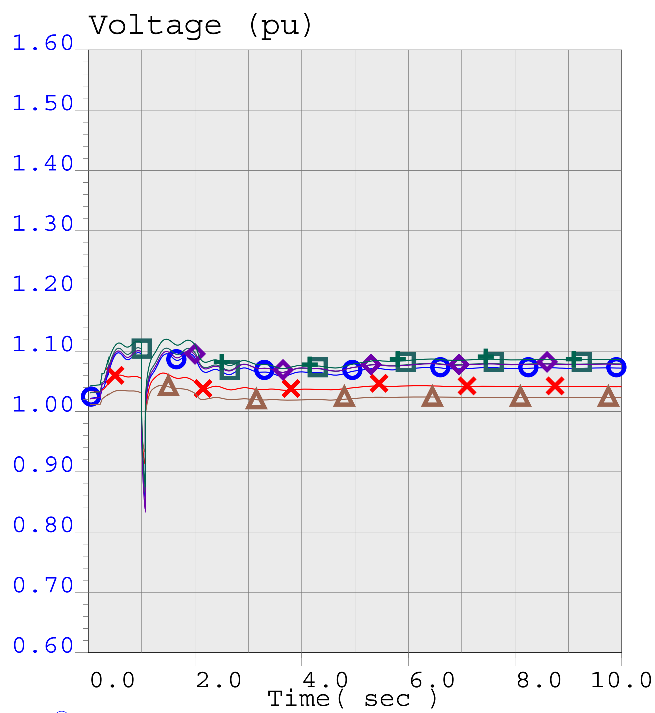

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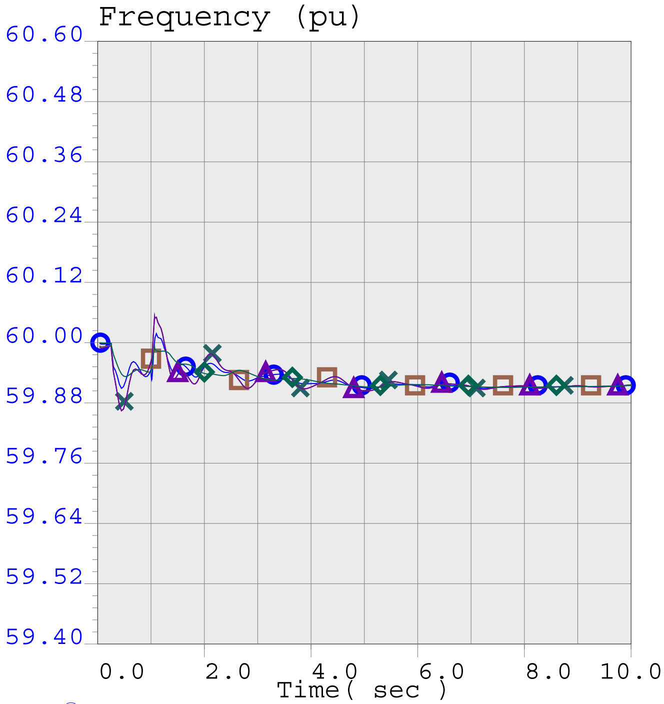
Fri Aug 26 08:40:55 2022

SYSTEM IMPACT STUDY (Frequency)



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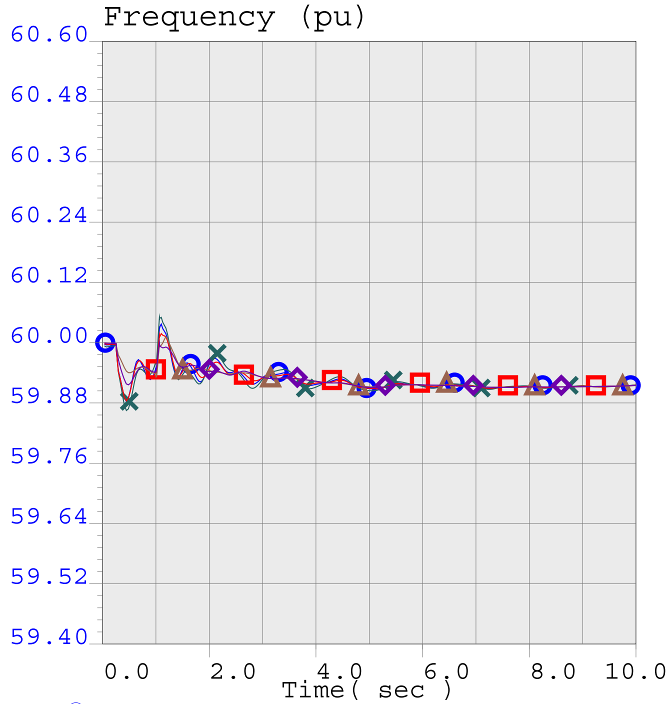

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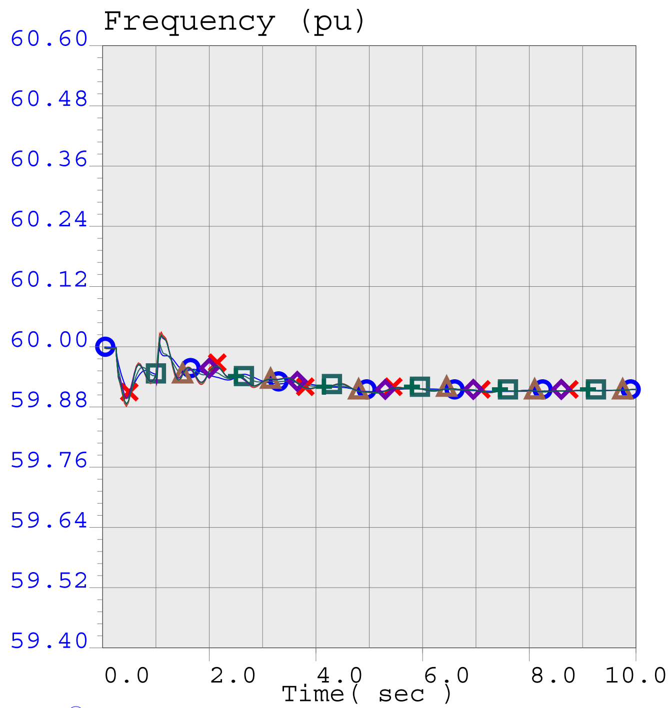

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Fri Aug 26 08:40:55 2022

SYSTEM IMPACT STUDY (Rotor Angles)

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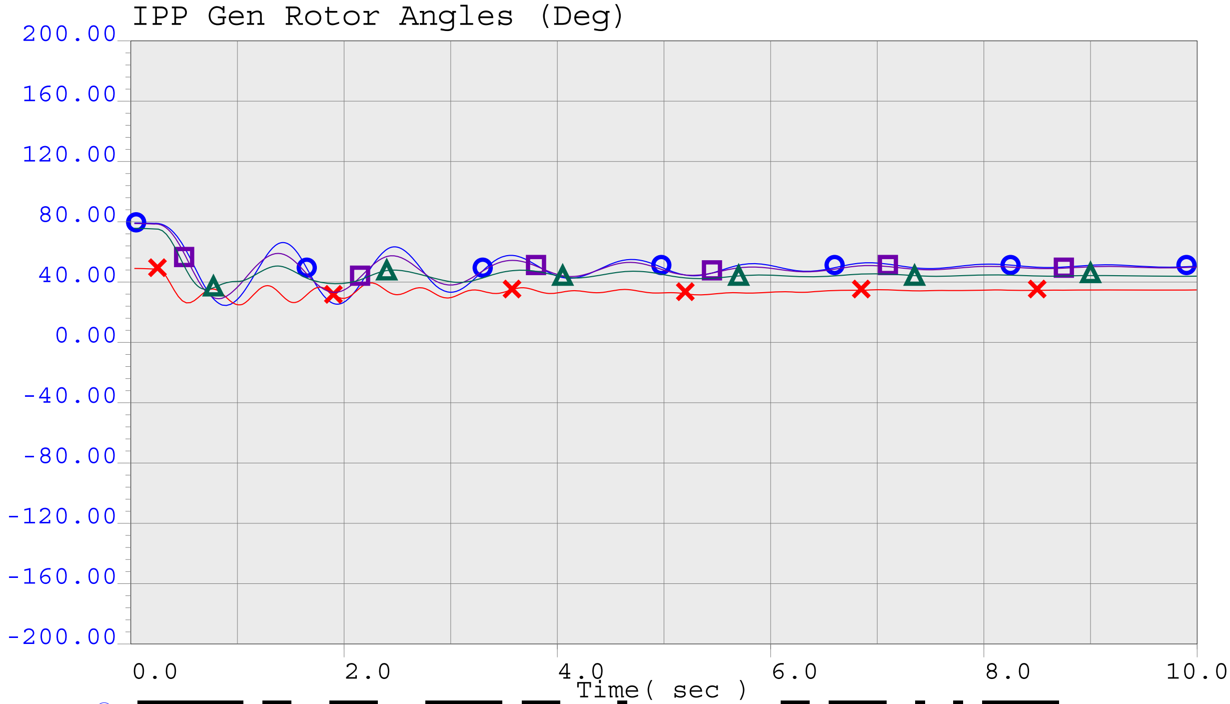

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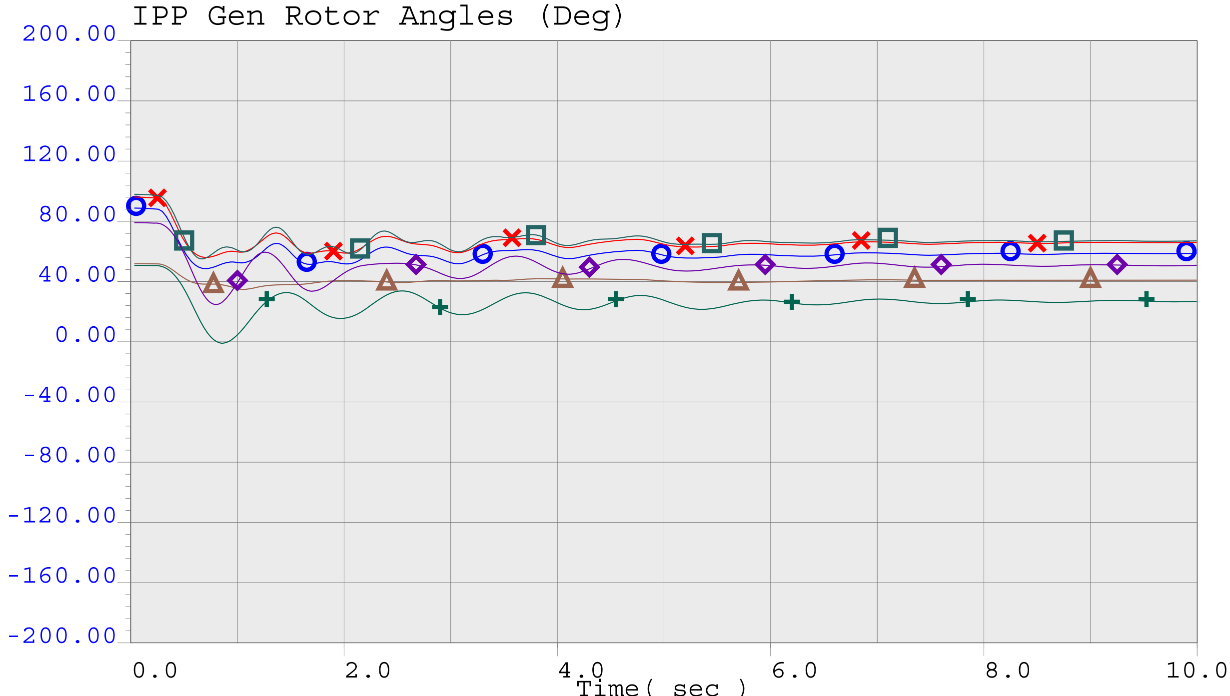
IPP Gen Rotor Angles (Deg)



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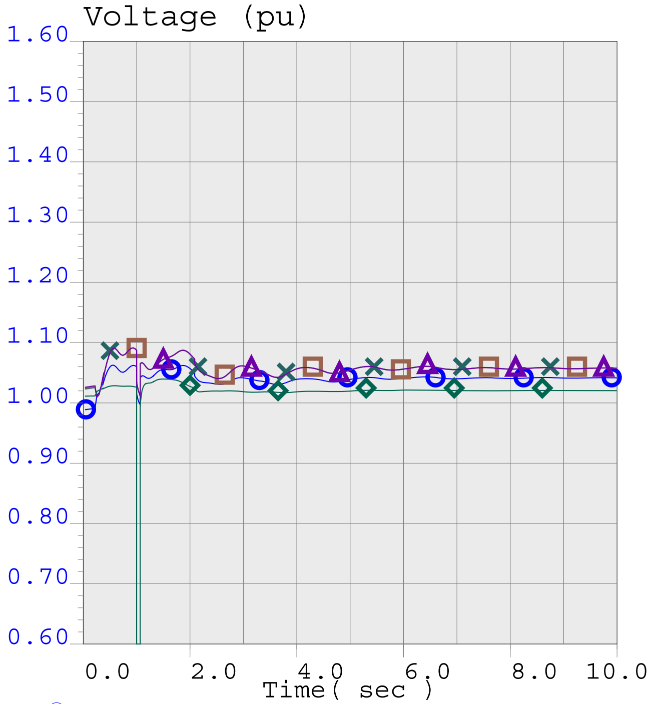
Fri Aug 26 08:40:55 2022

SYSTEM IMPACT STUDY (Voltage)



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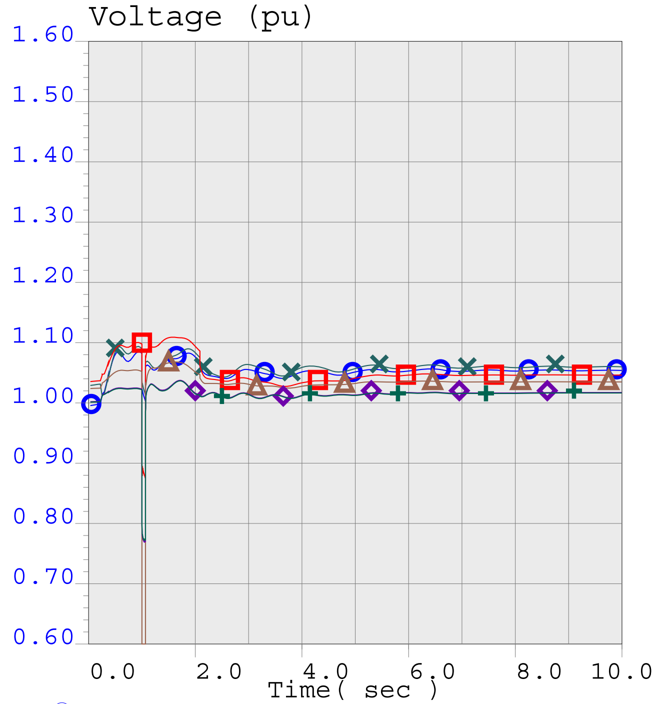

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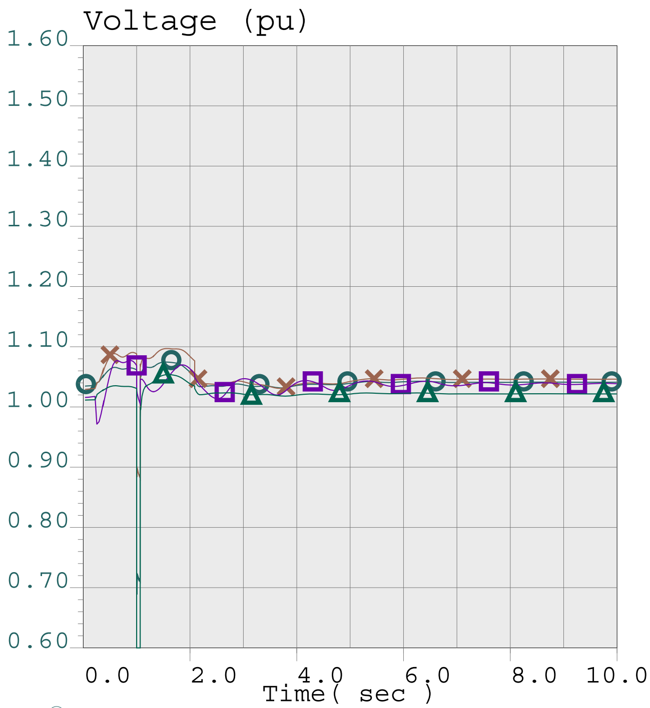

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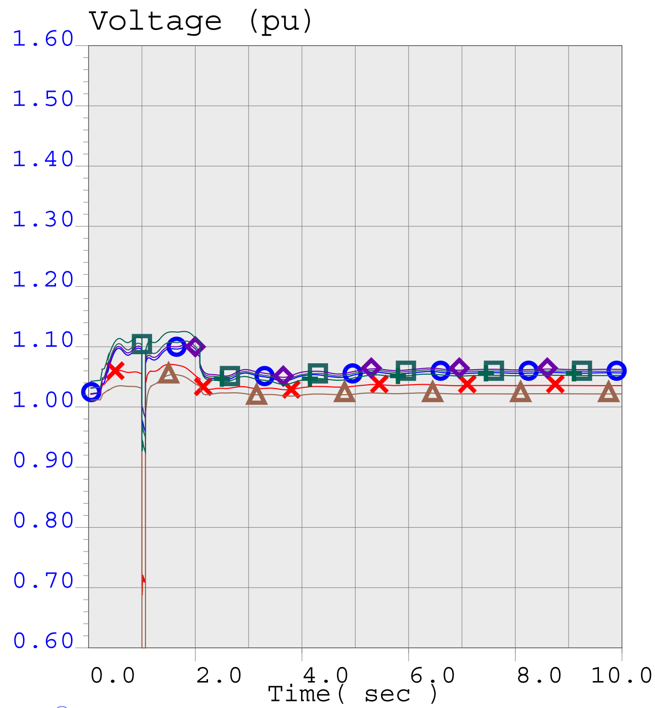

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Fri Aug 26 08:40:58 2022

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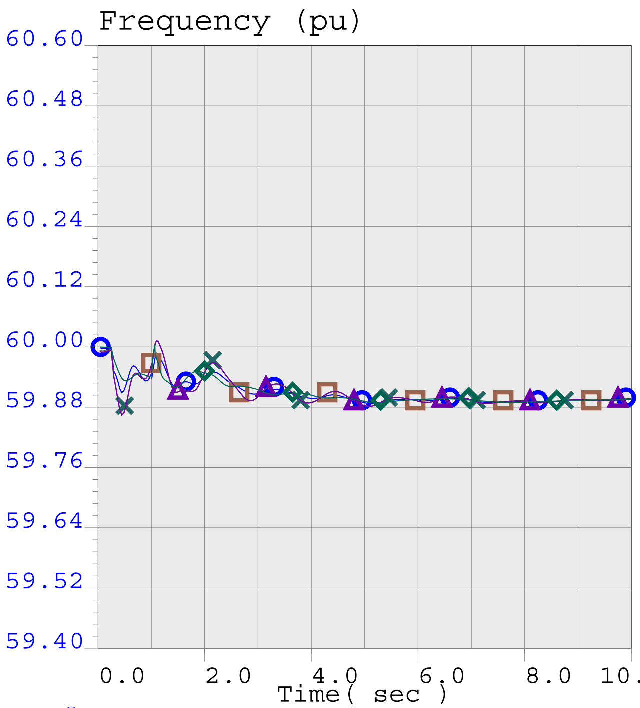

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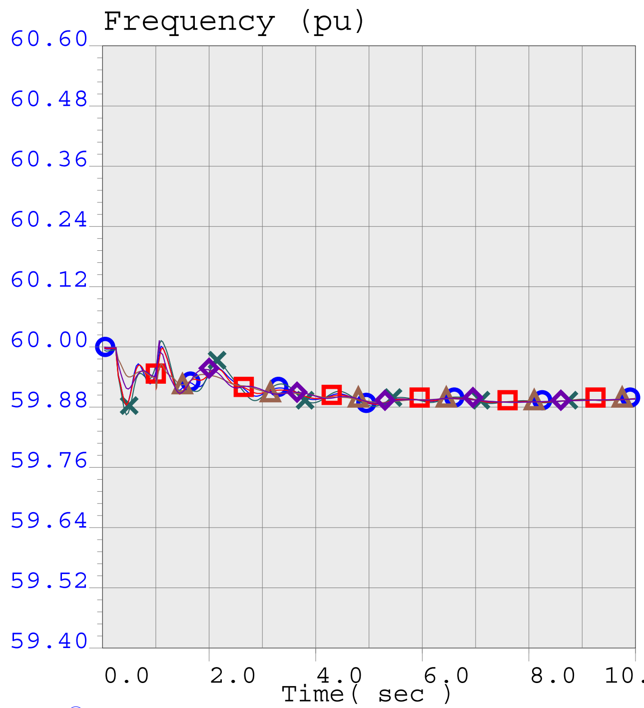

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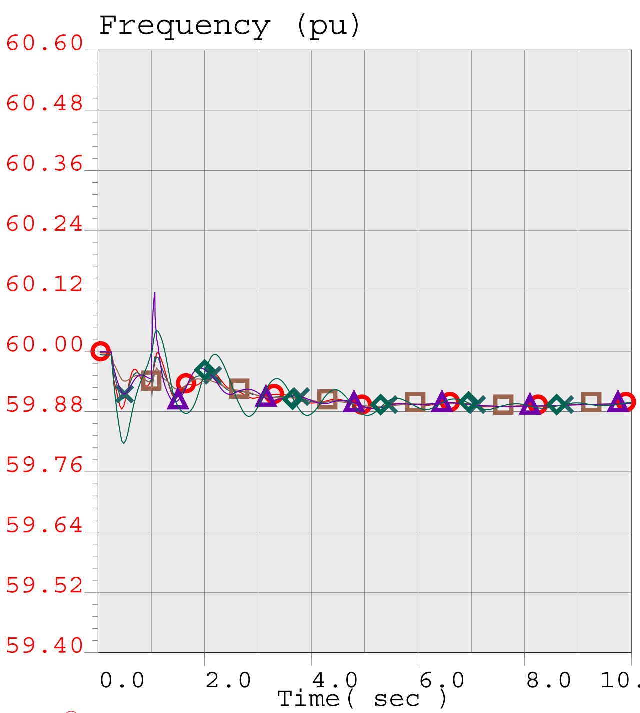

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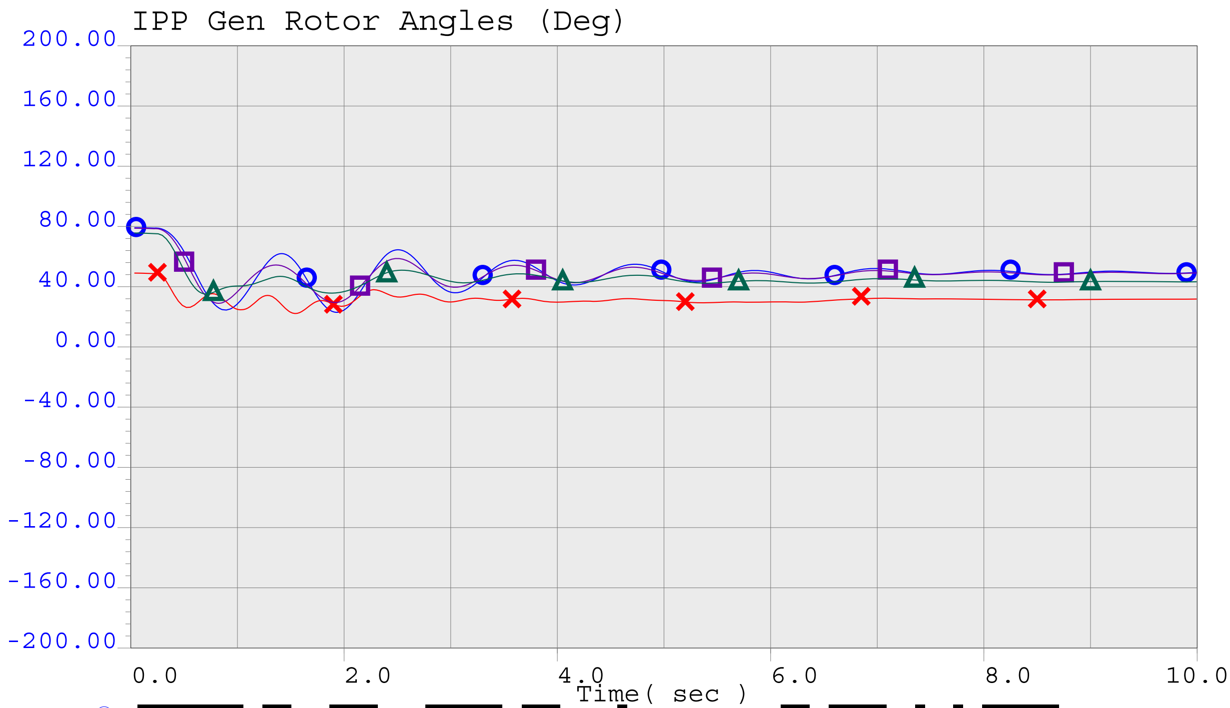

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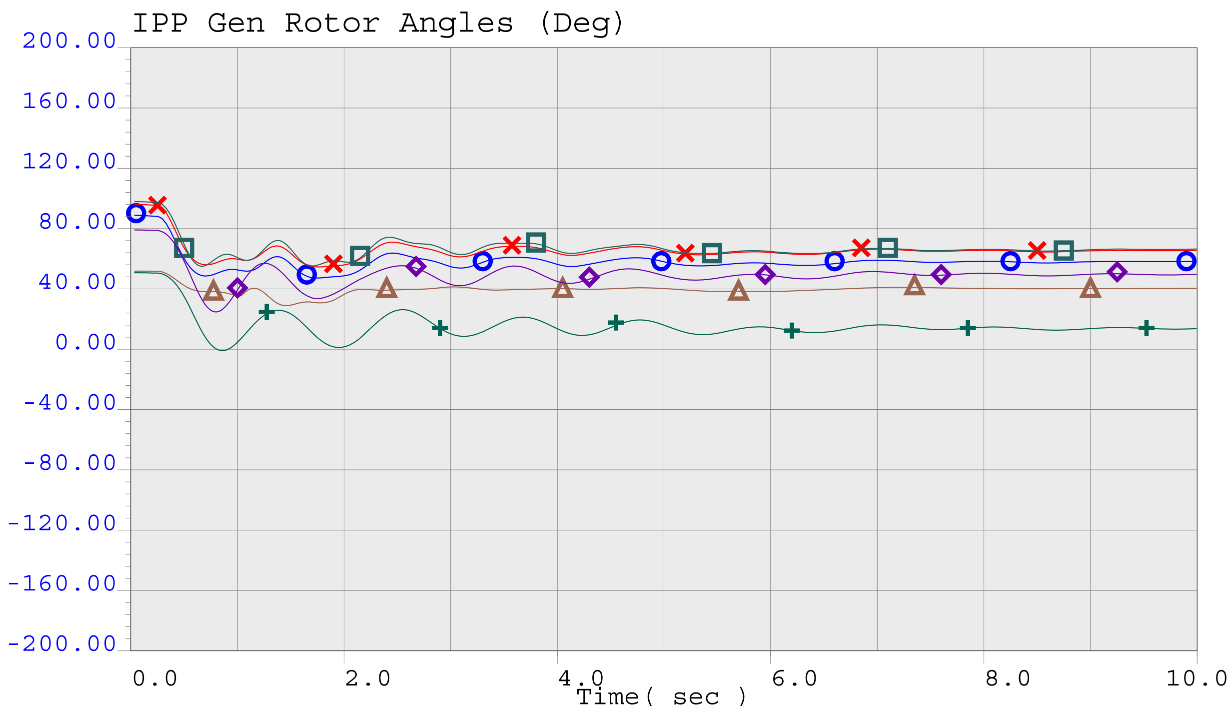

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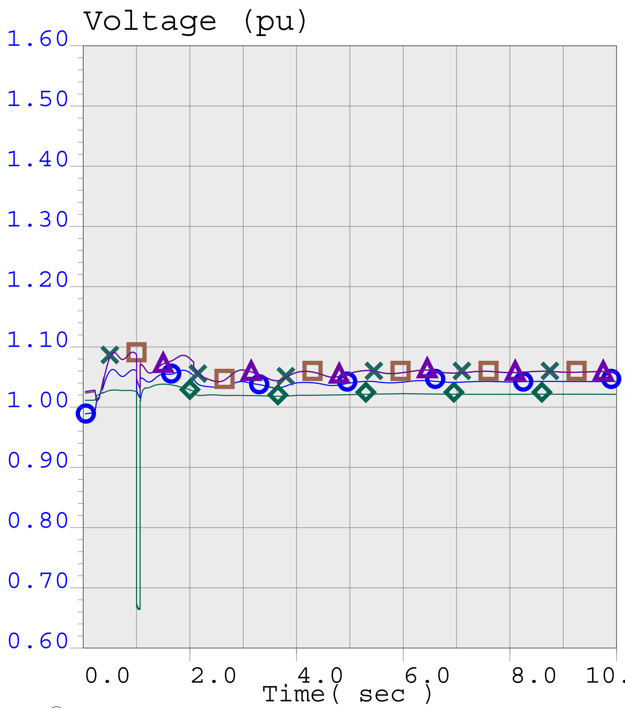
Fri Aug 26 08:40:58 2022

SYSTEM IMPACT STUDY (Voltage)



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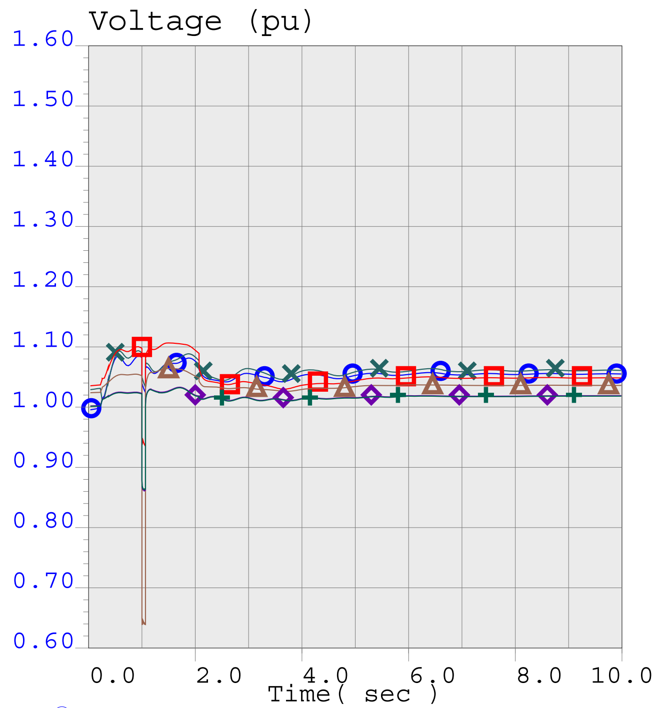

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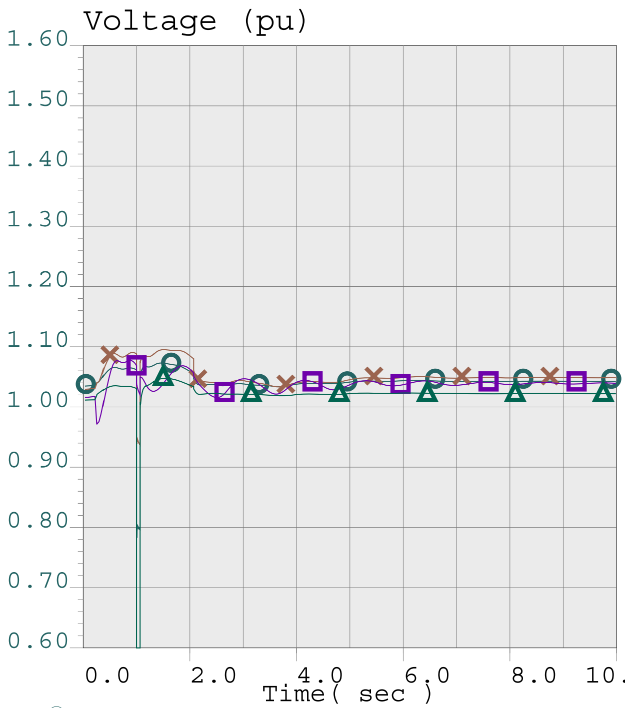

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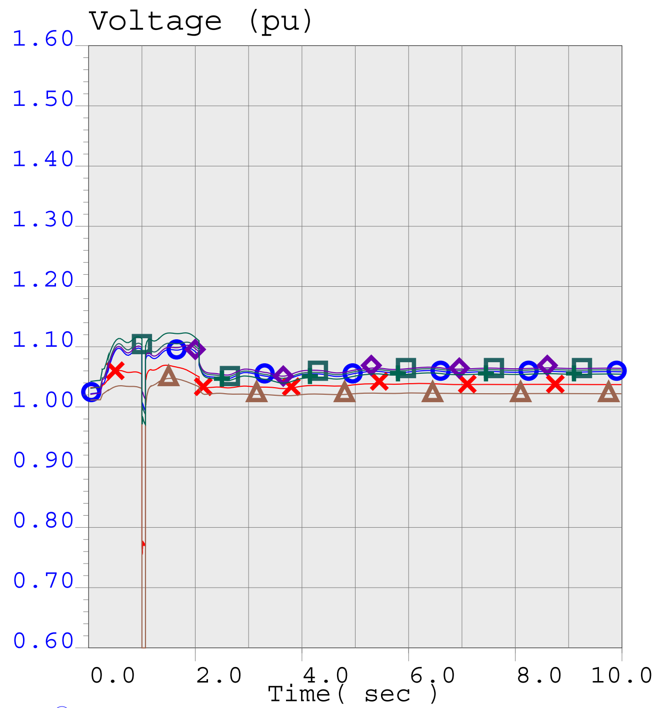

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Fri Aug 26 08:41:00 2022

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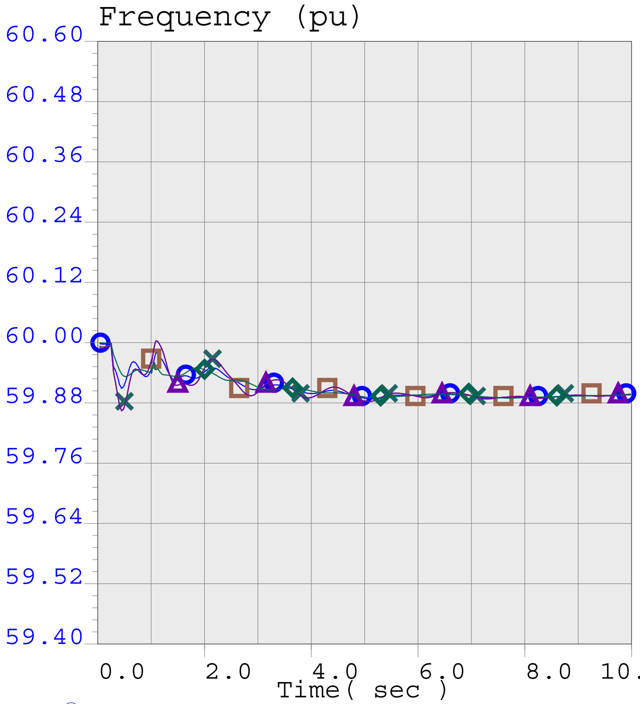

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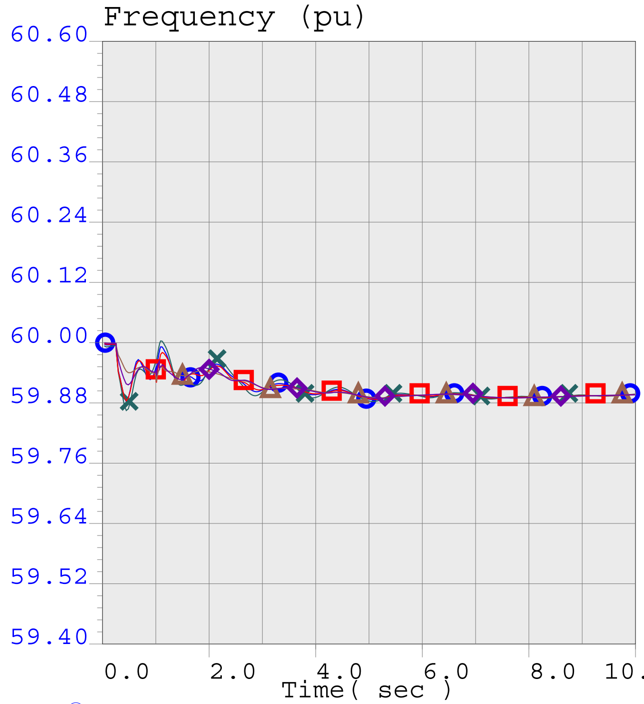

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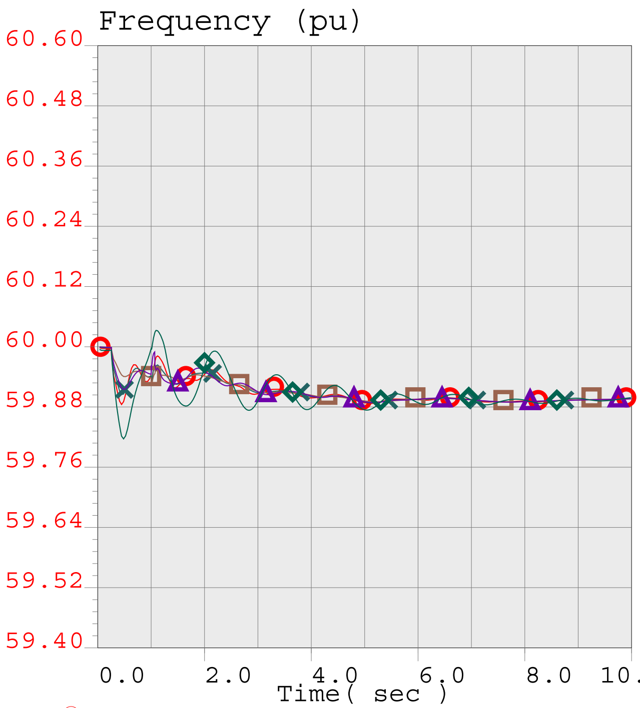

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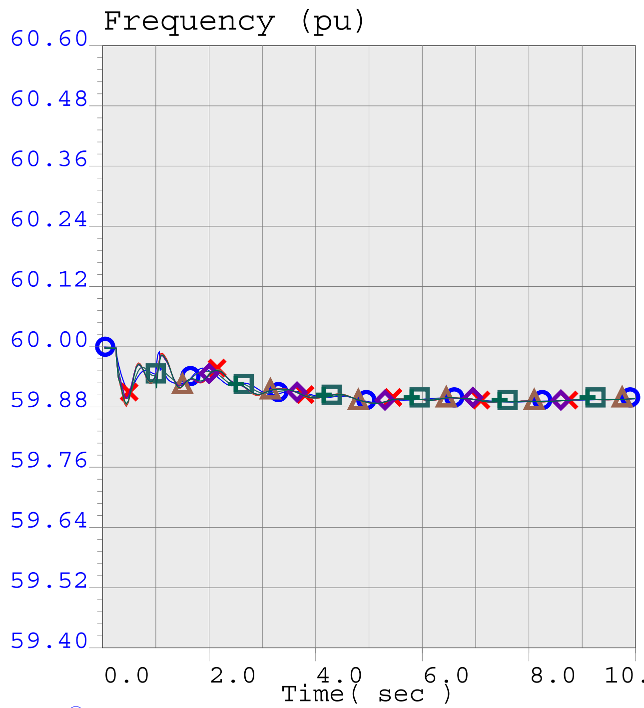

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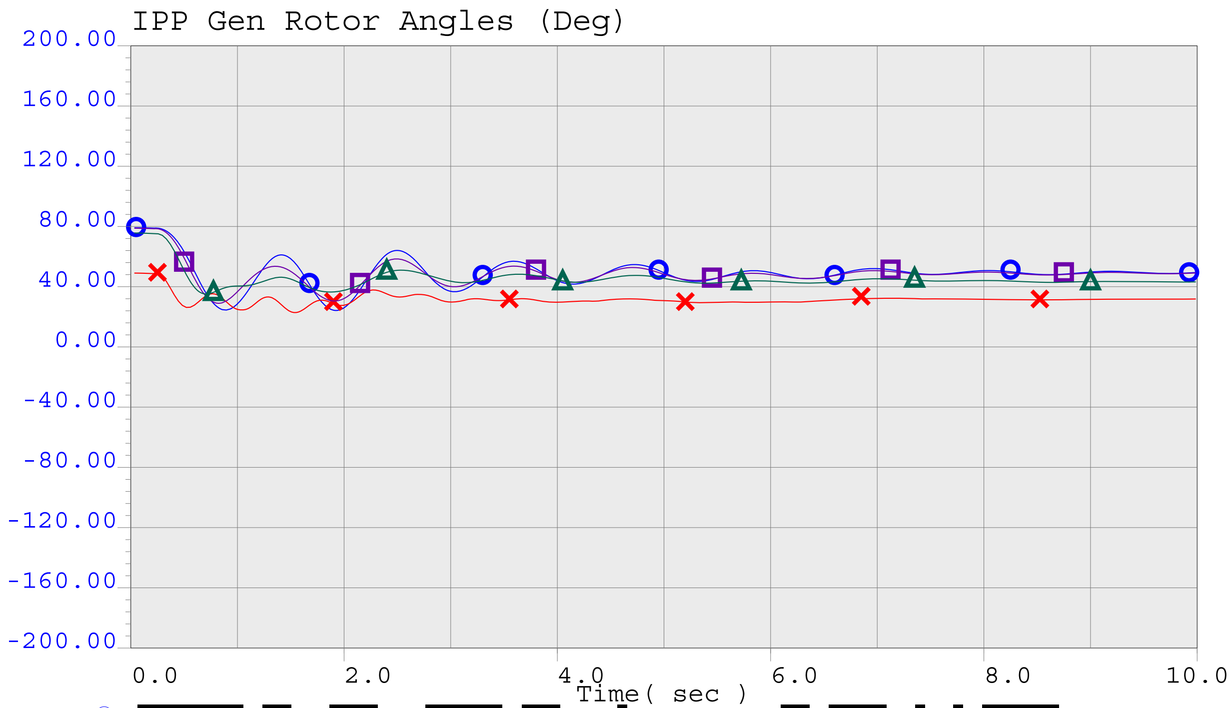

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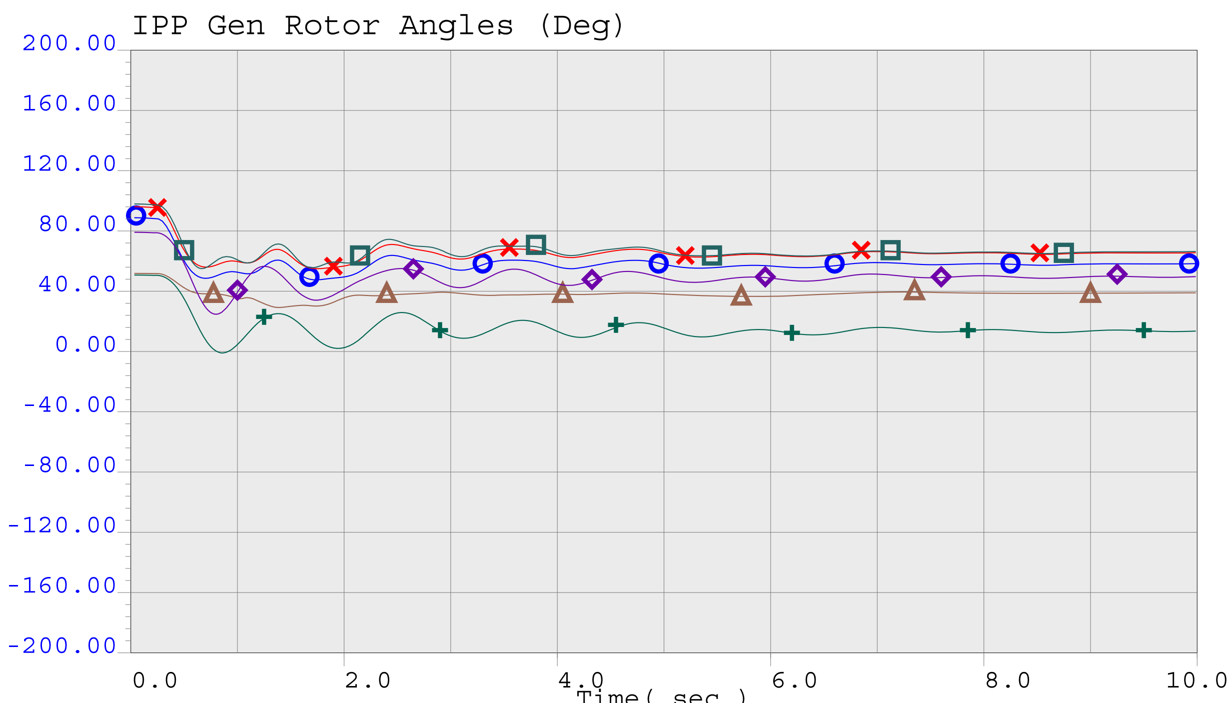

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Fri Aug 26 08:41:00 2022

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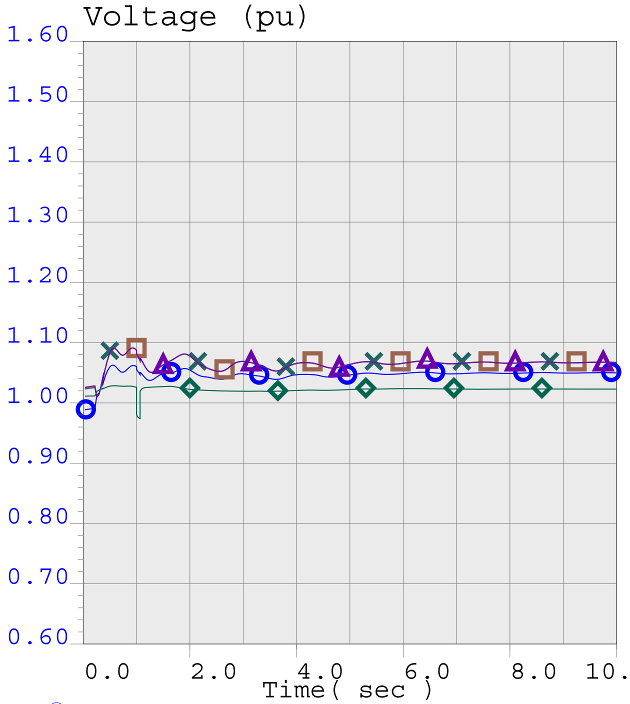

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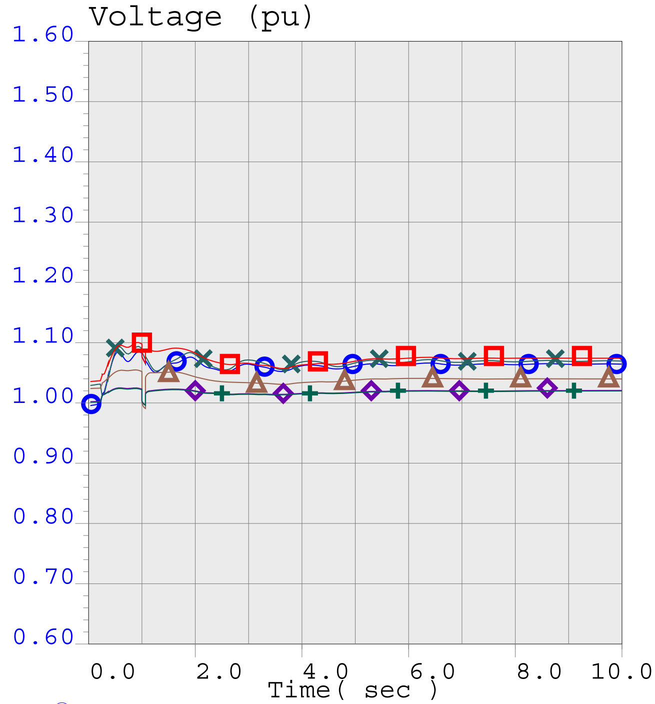

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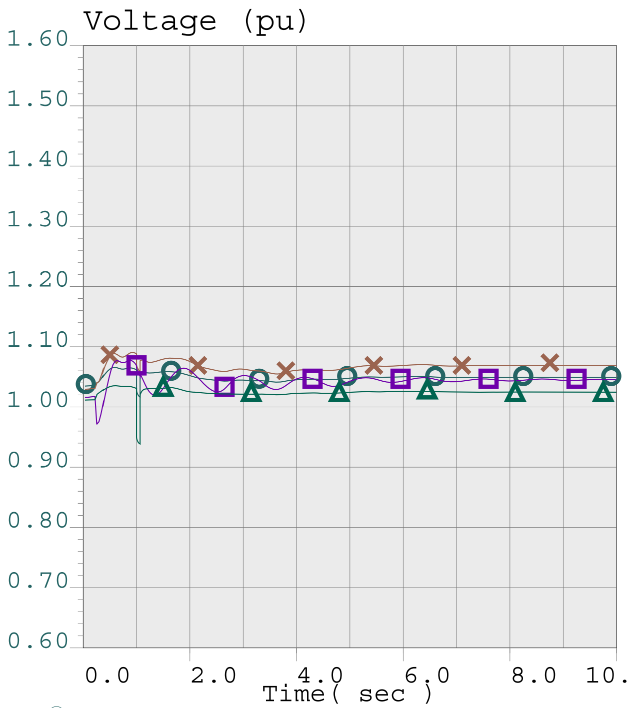

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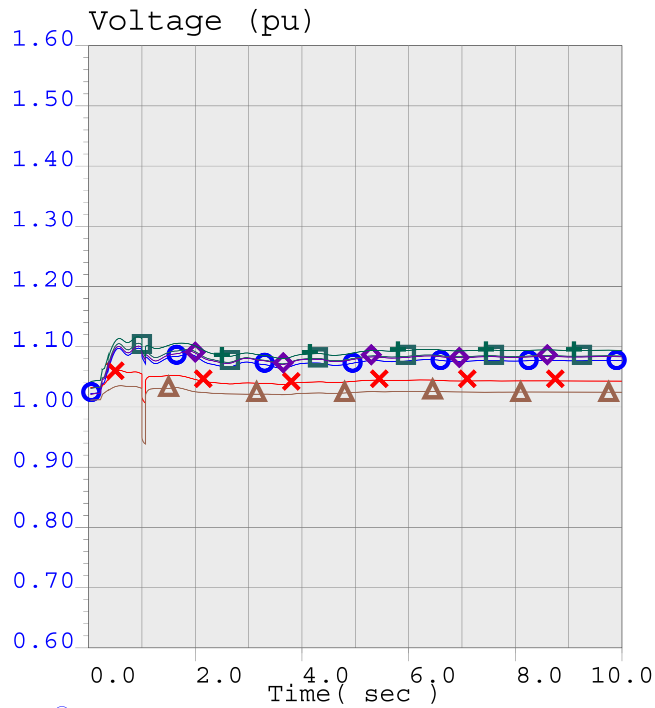

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Fri Aug 26 08:41:02 2022

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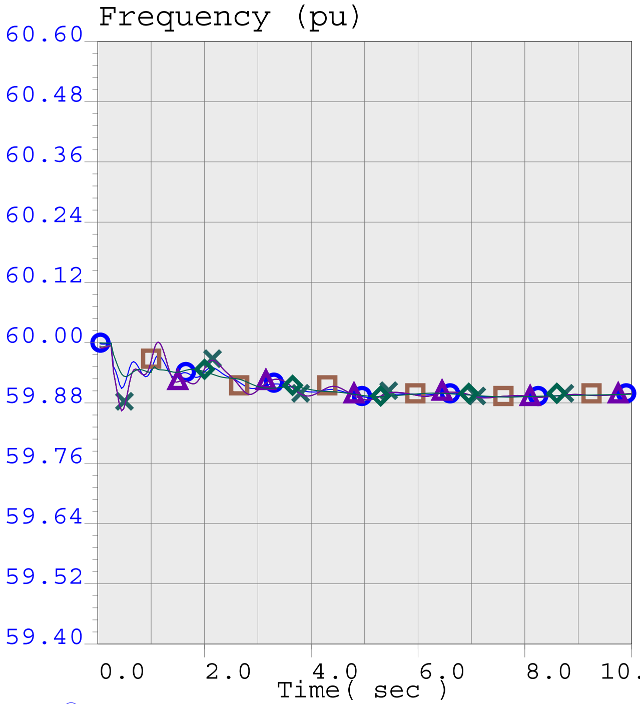

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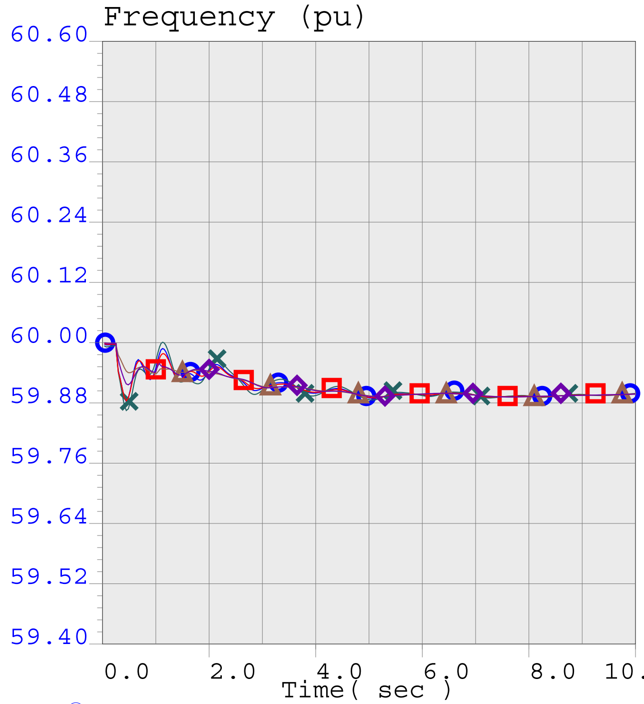

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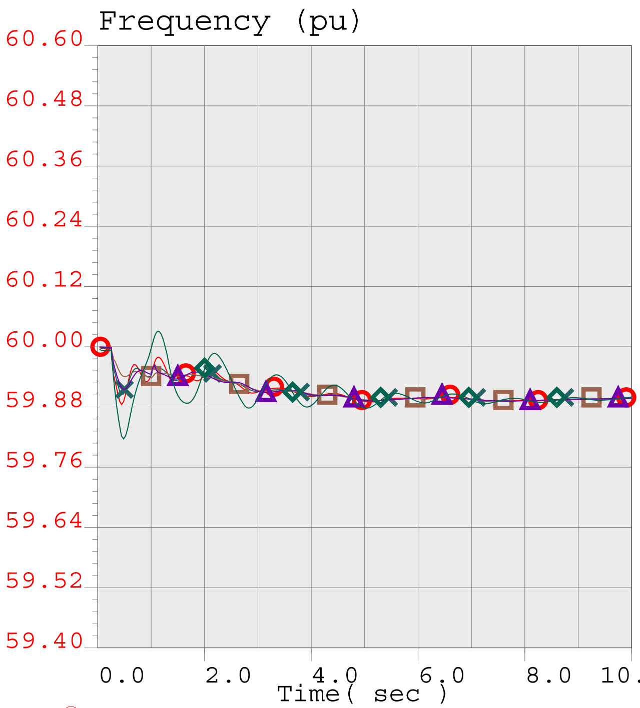

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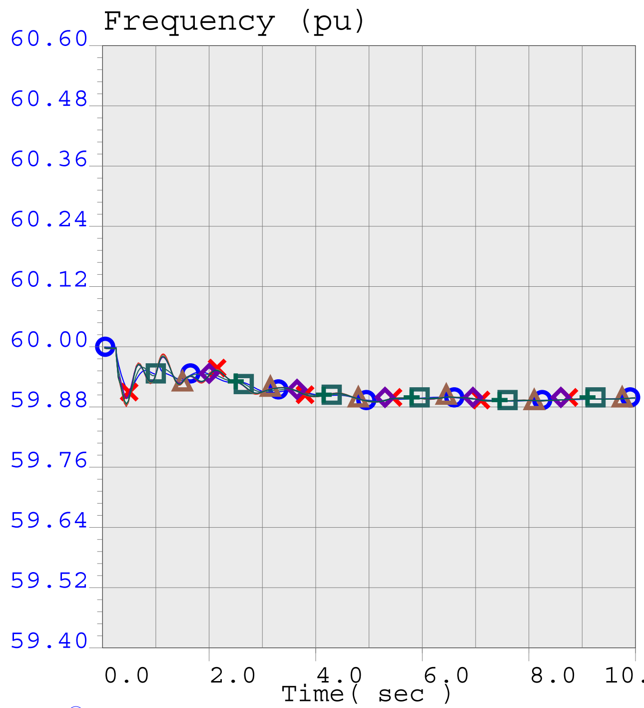

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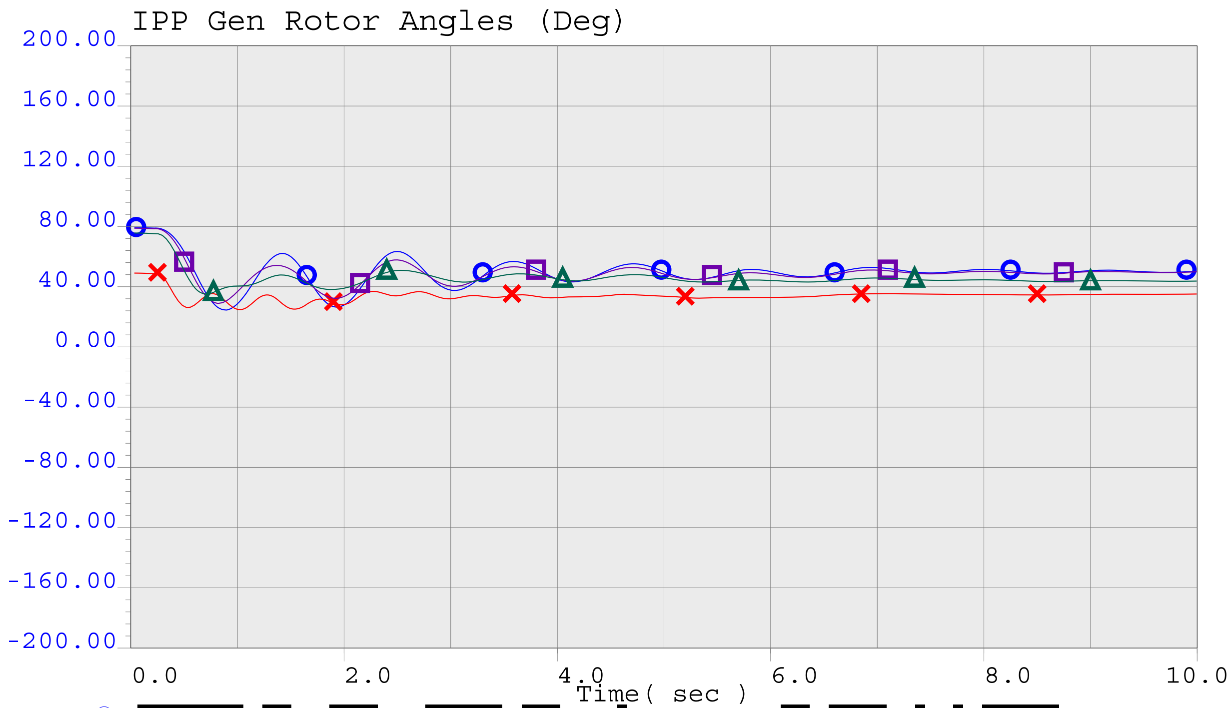
Fri Aug 26 08:41:02 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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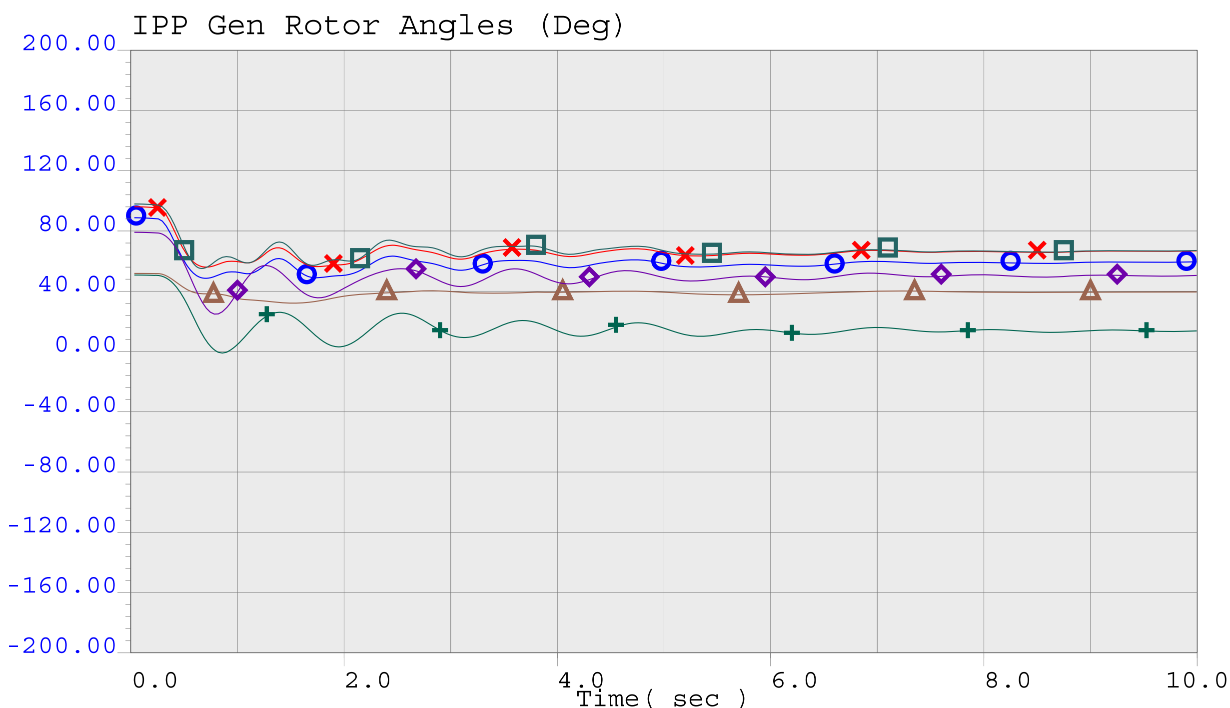

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Fri Aug 26 08:41:02 2022

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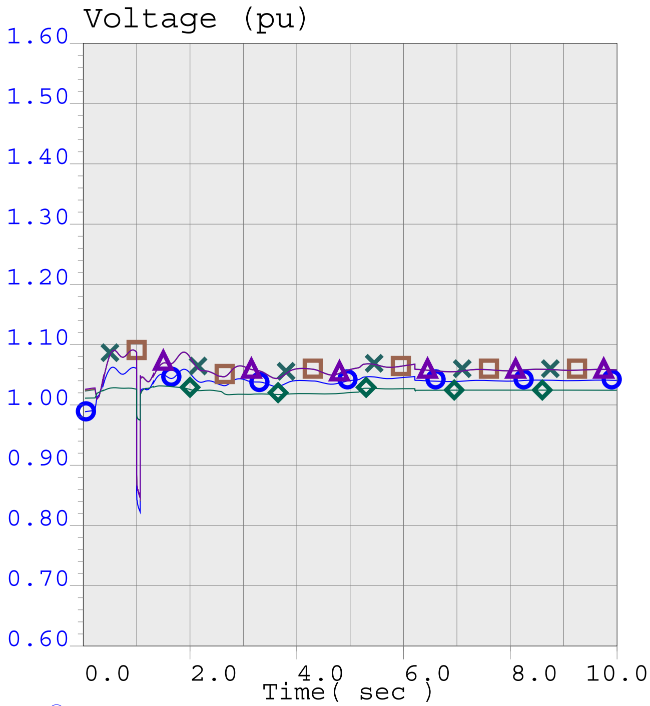

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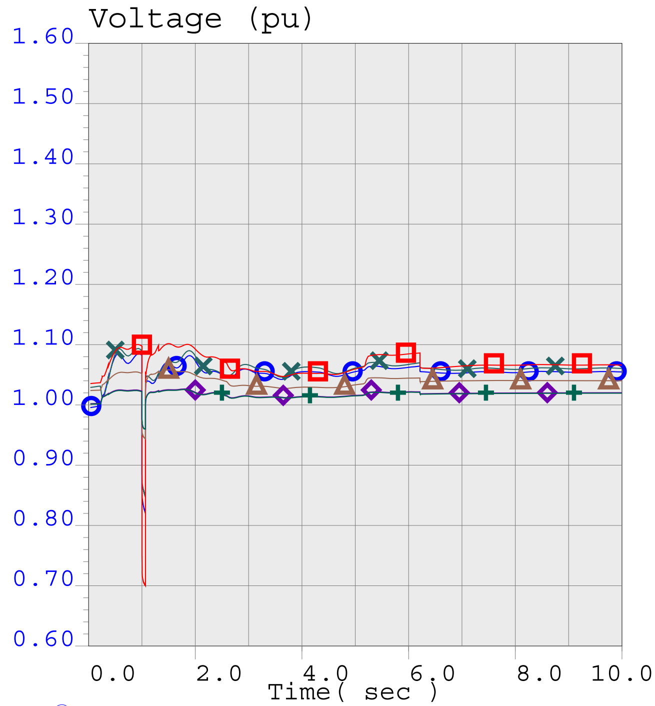

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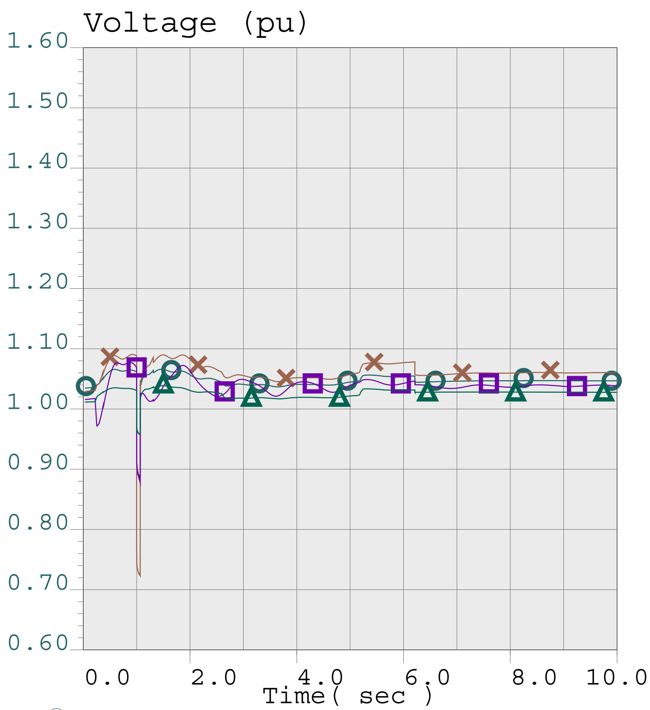

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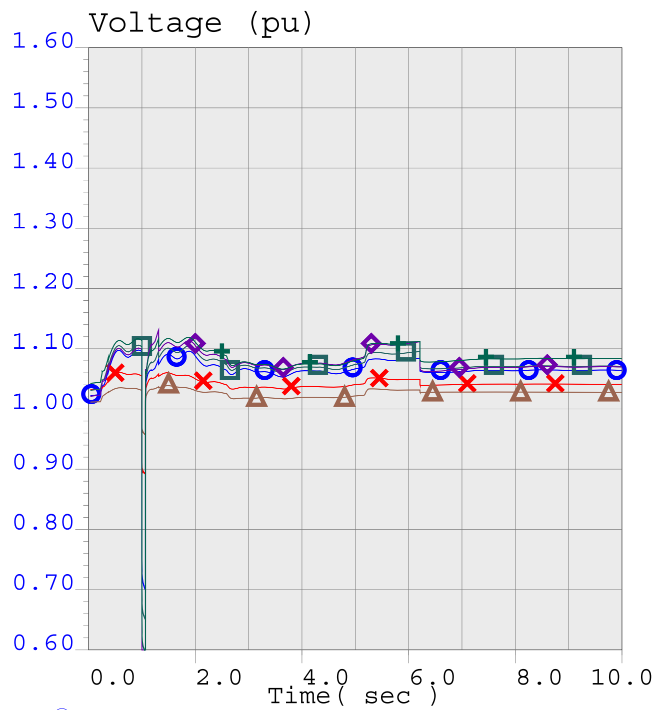

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Fri Aug 26 08:41:04 2022

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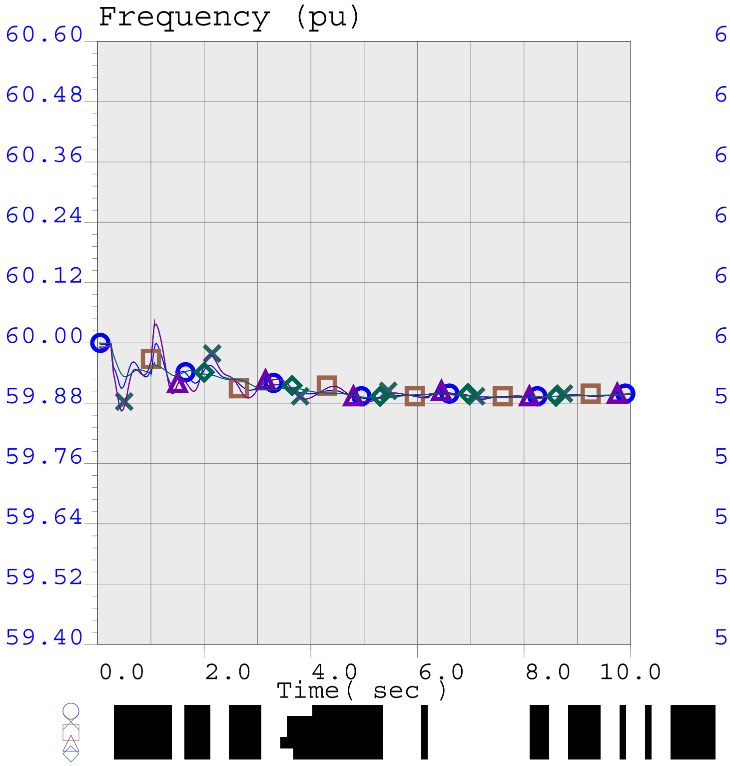

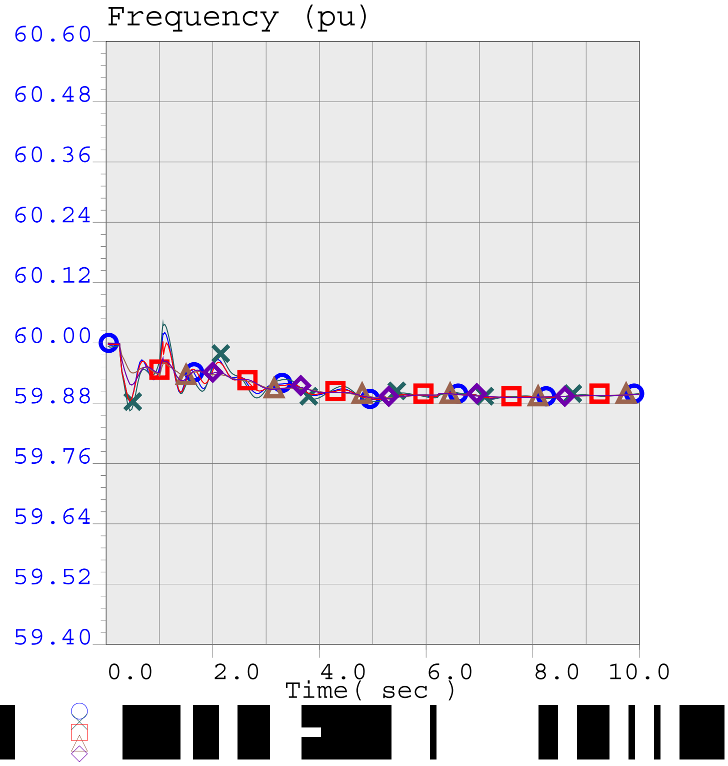

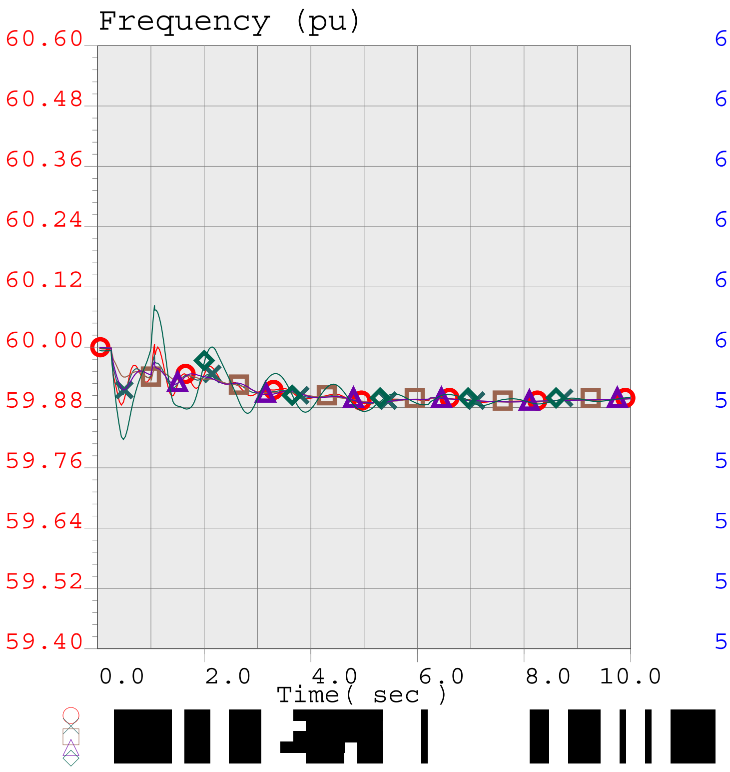

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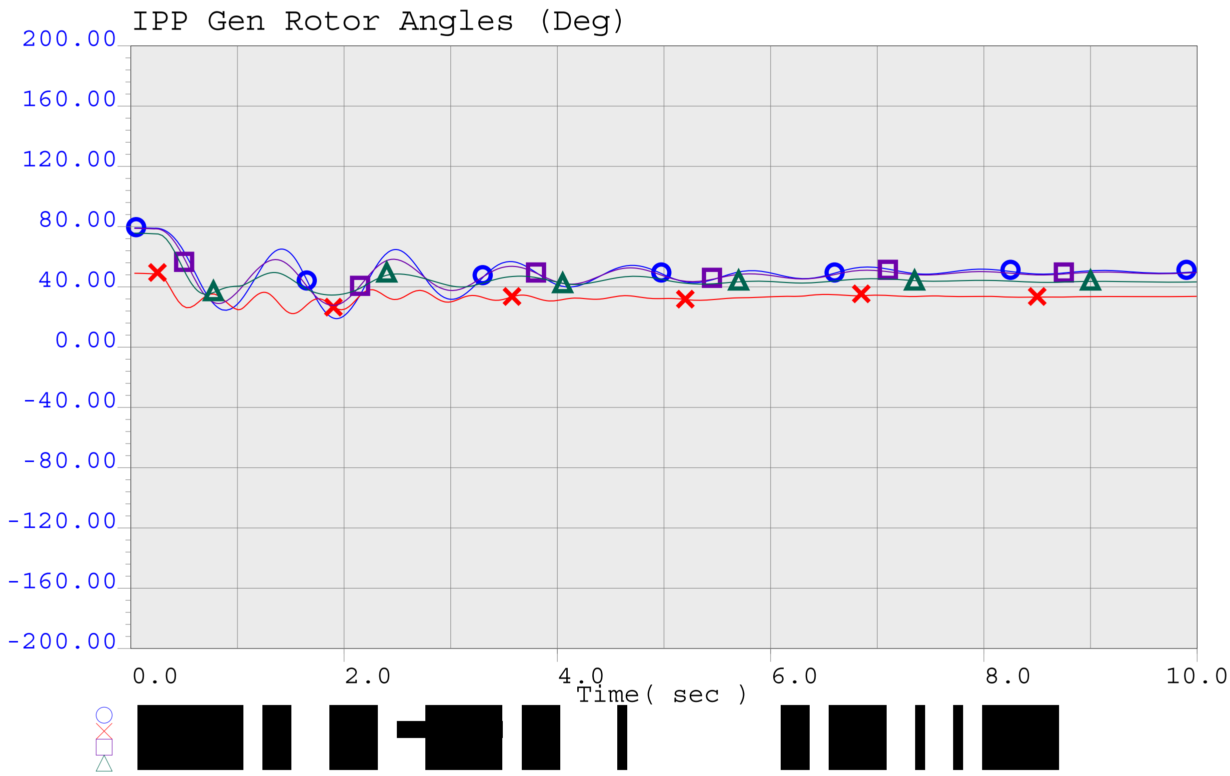
SYSTEM IMPACT STUDY (Rotor Angles)



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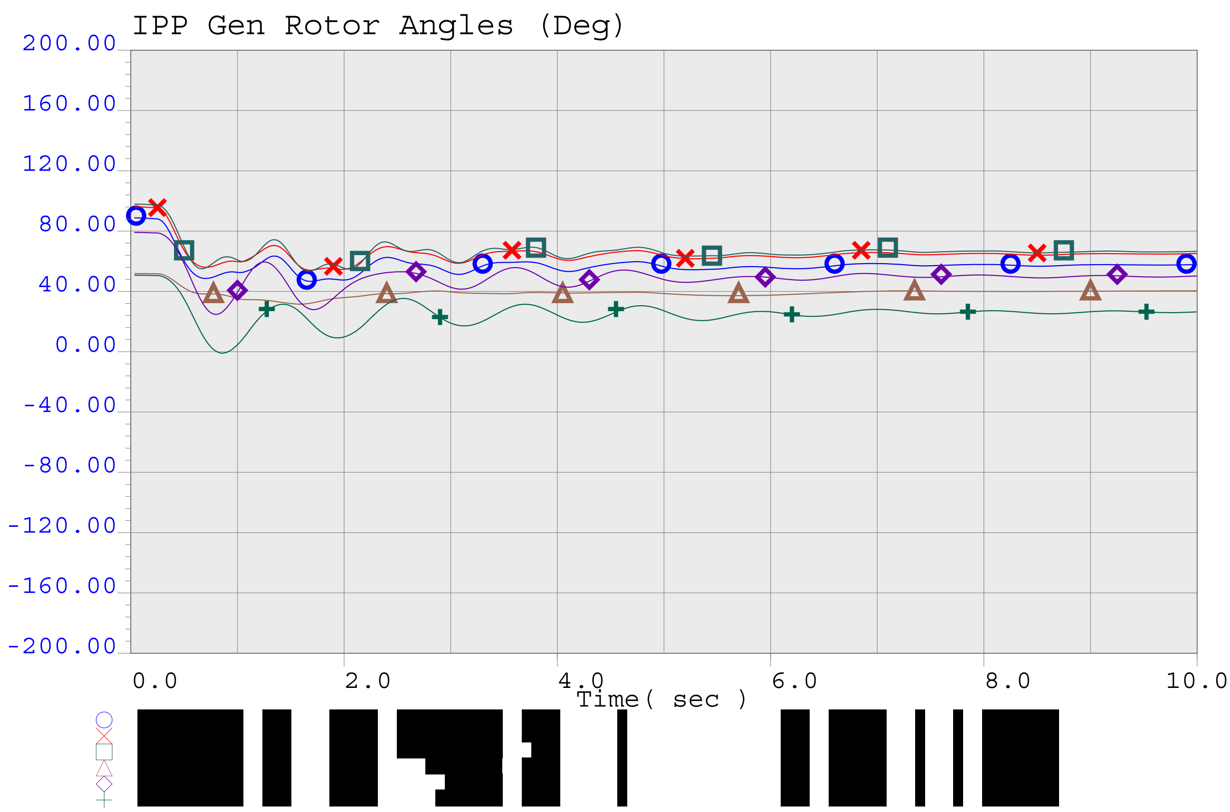

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Fri Aug 26 08:41:04 2022

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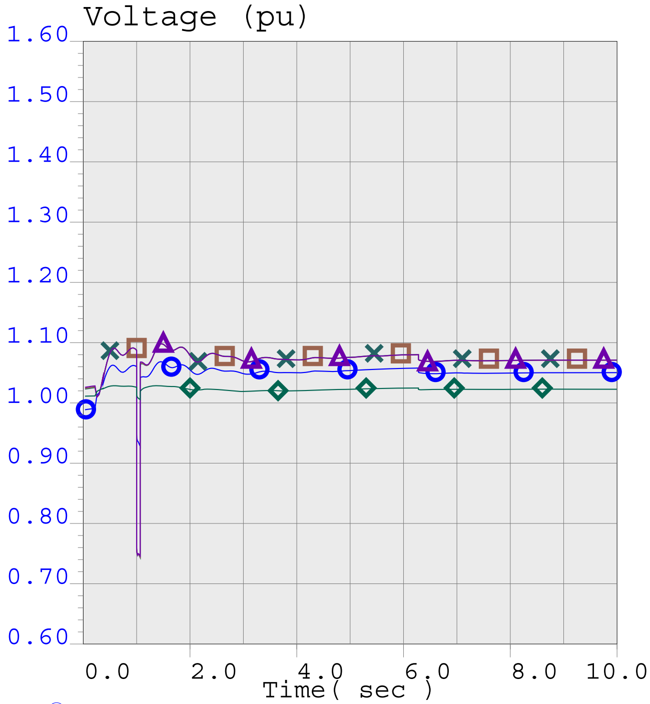

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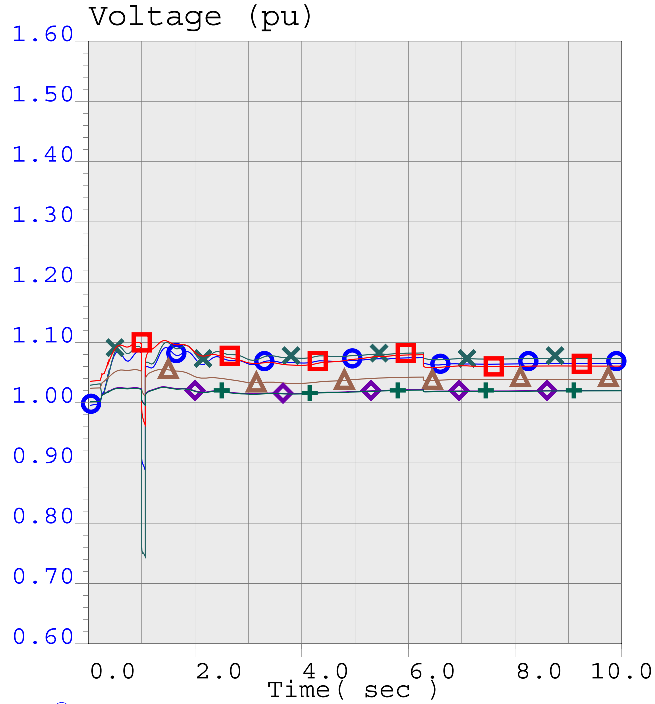

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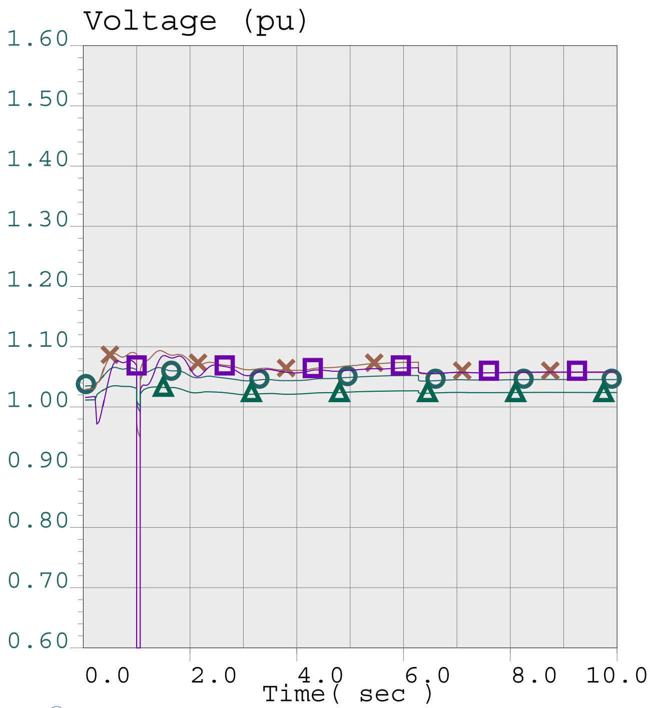

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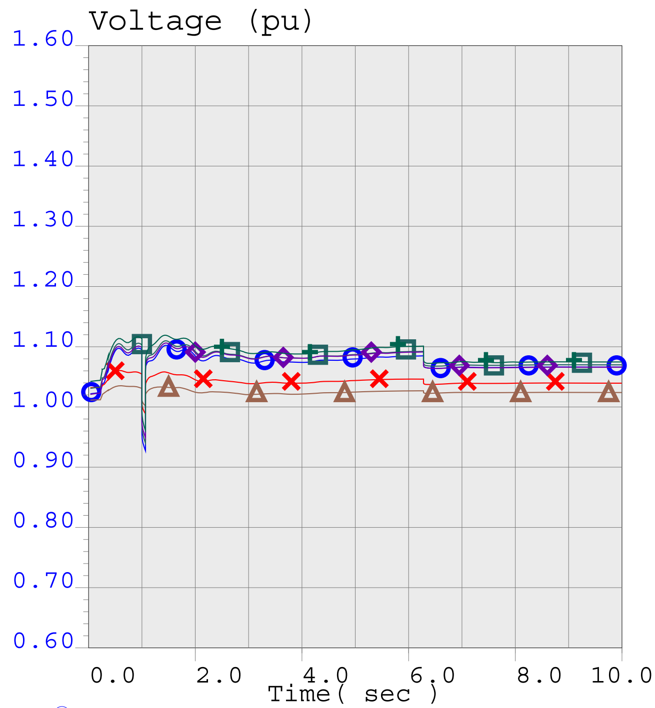

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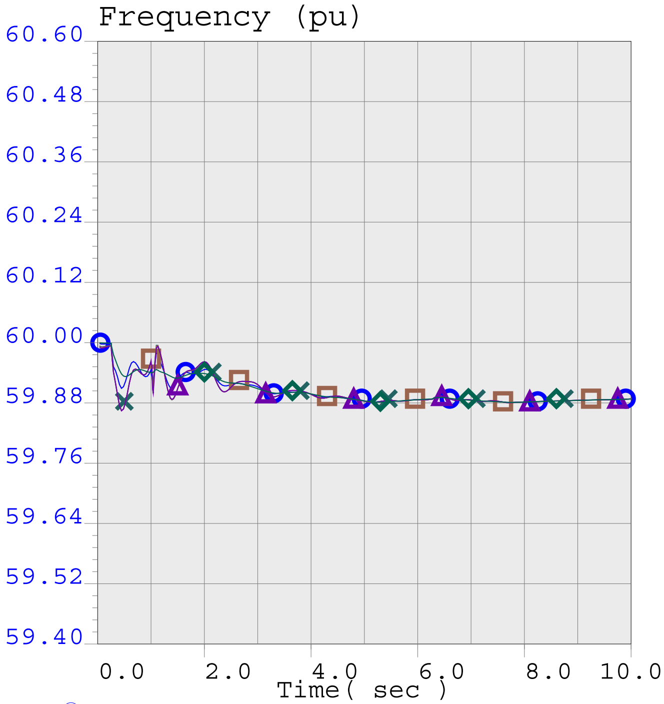

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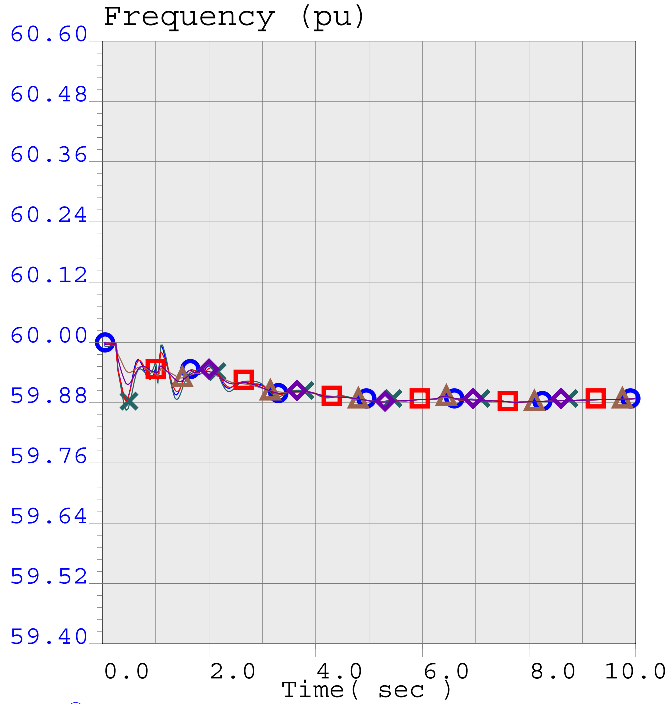

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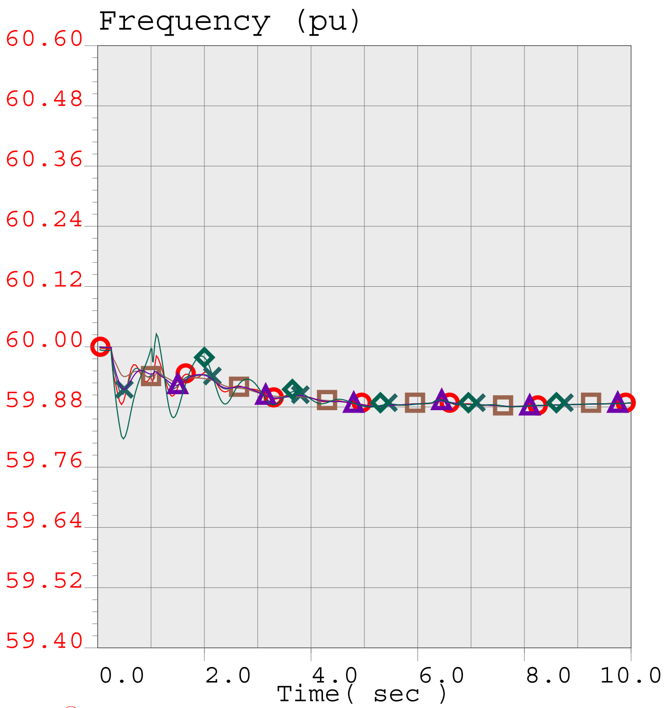

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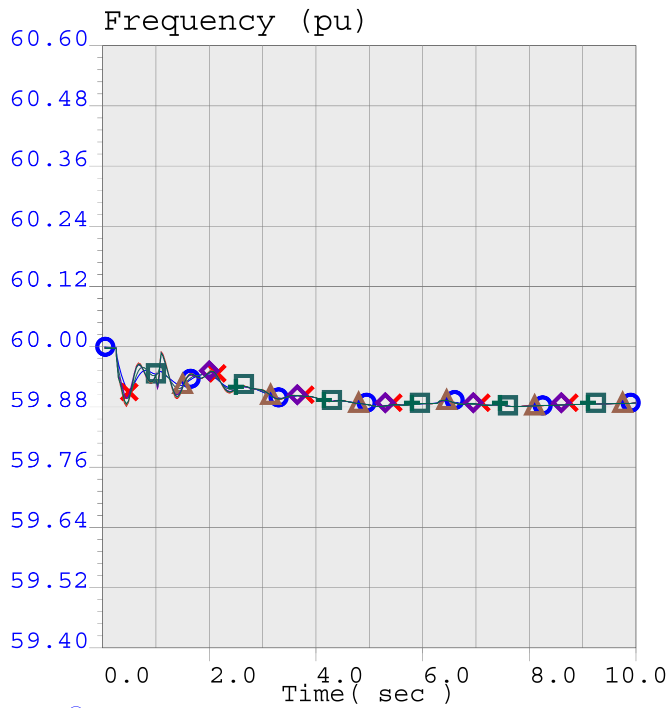

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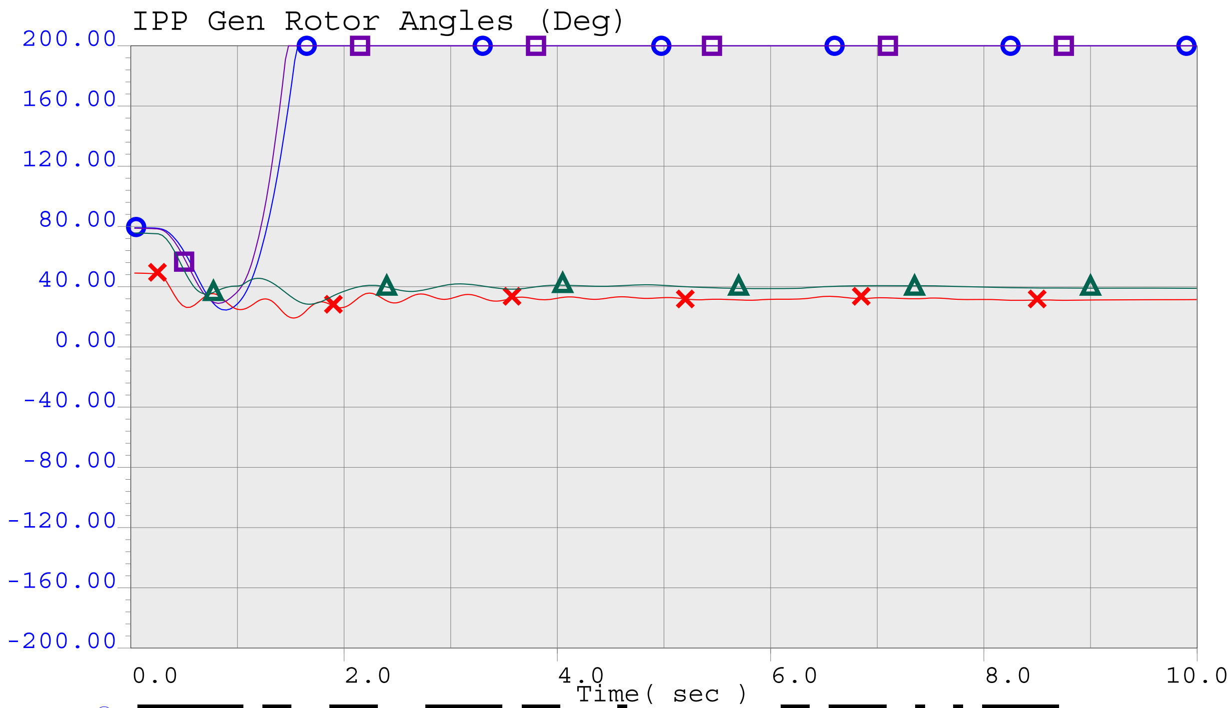
Fri Aug 26 08:41:06 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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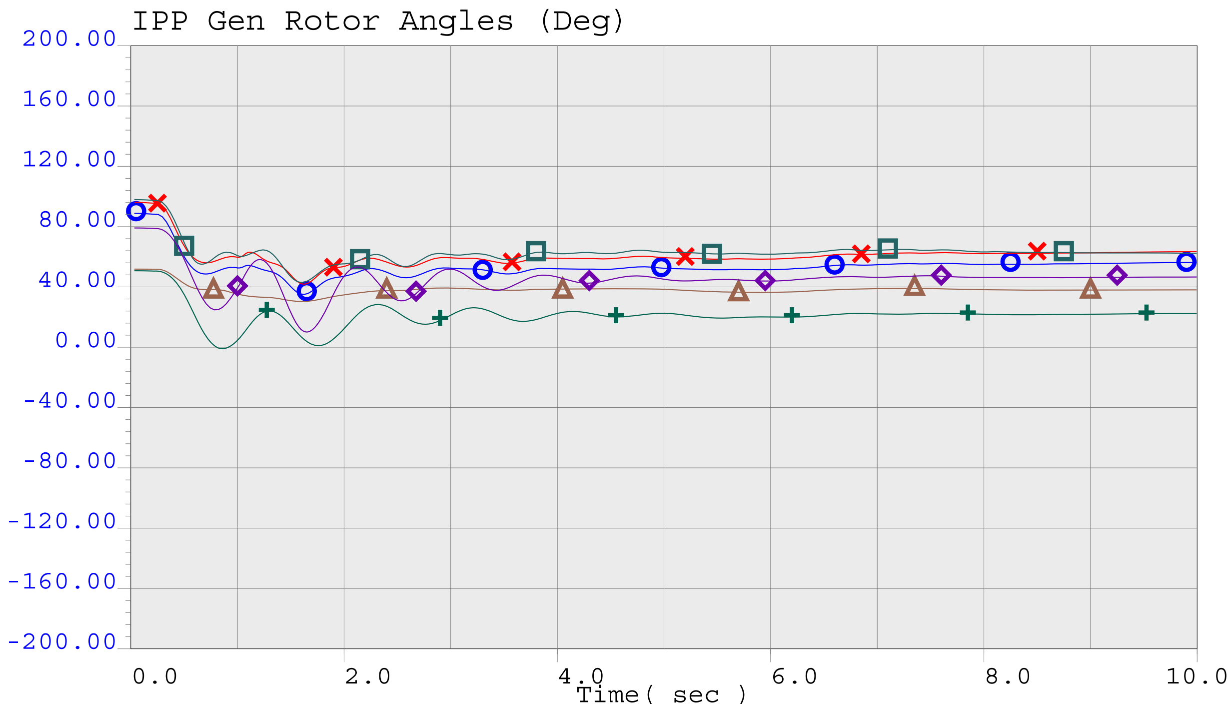

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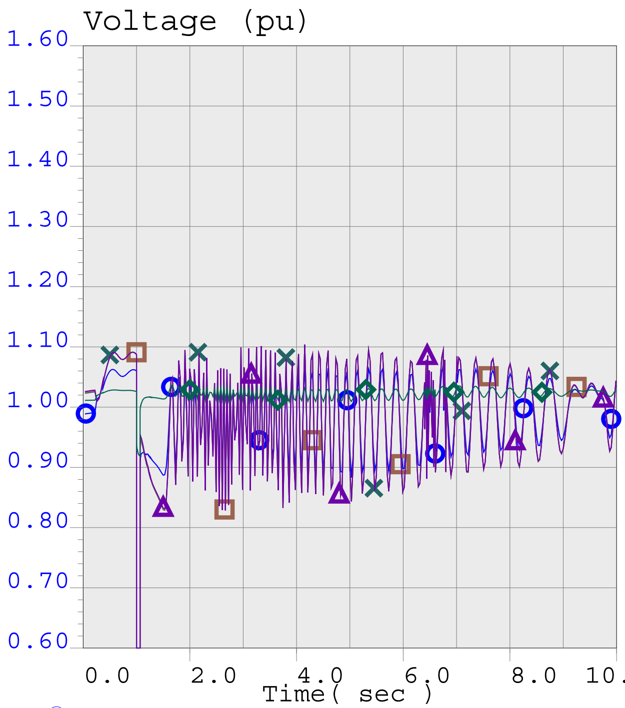

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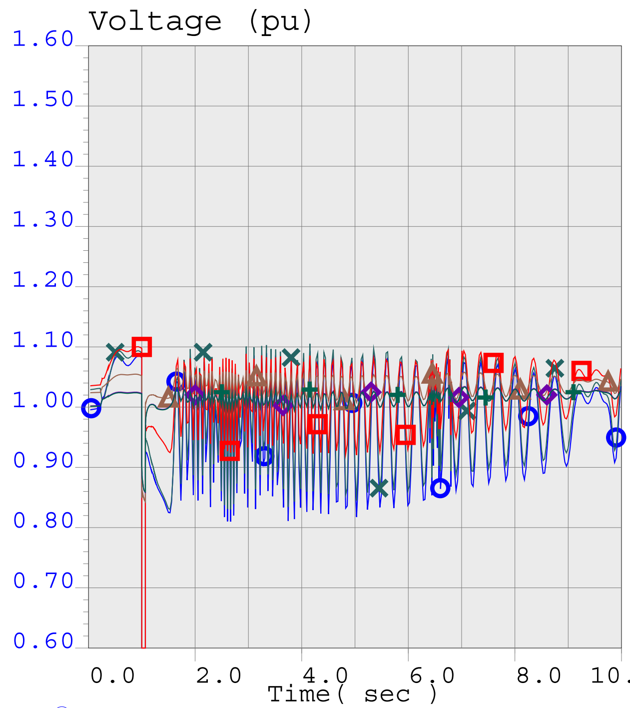

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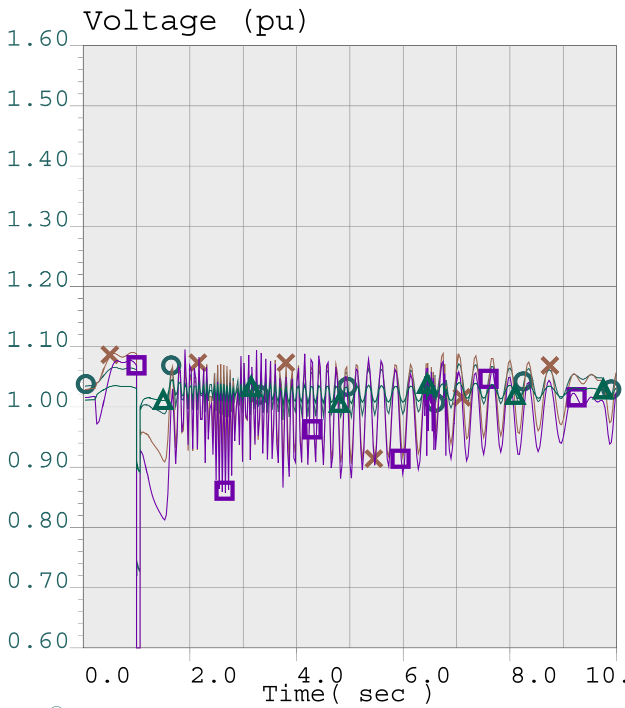

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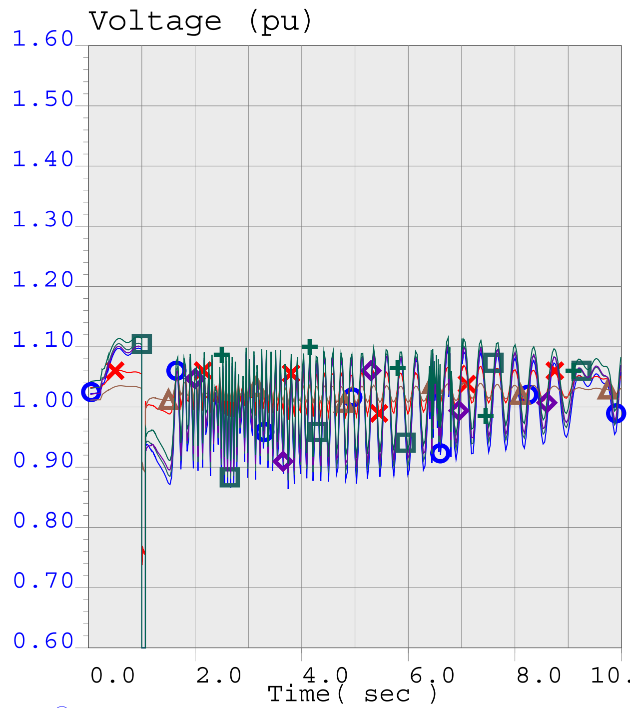

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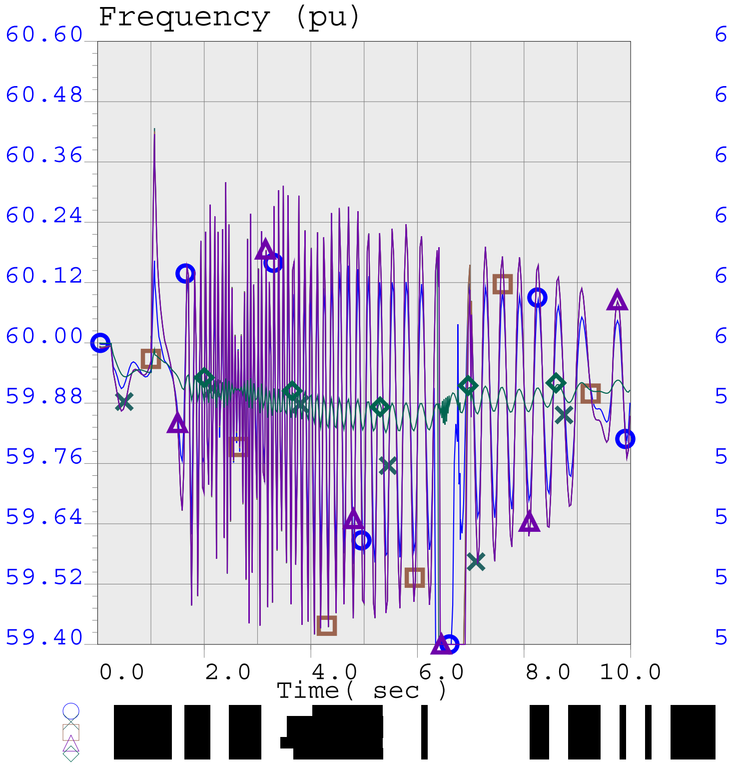

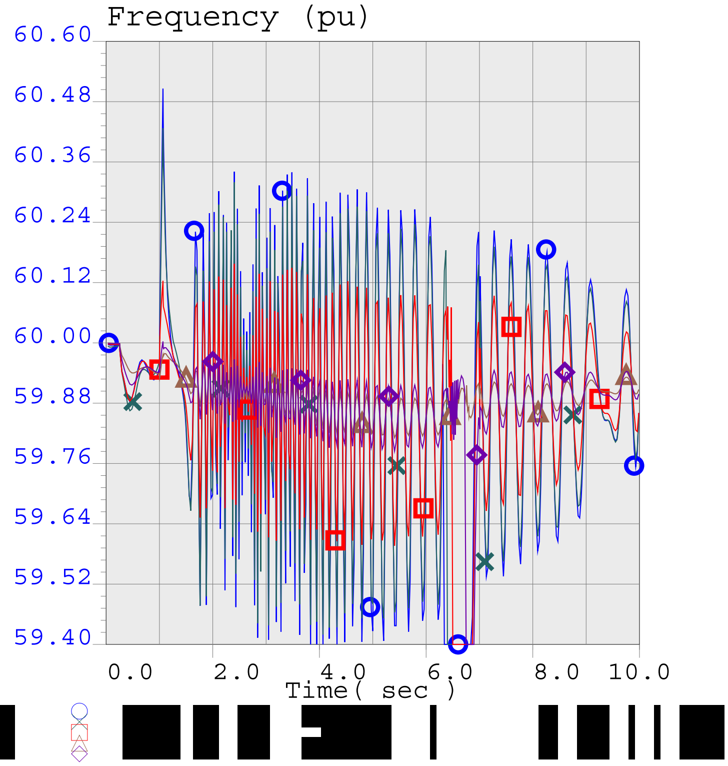

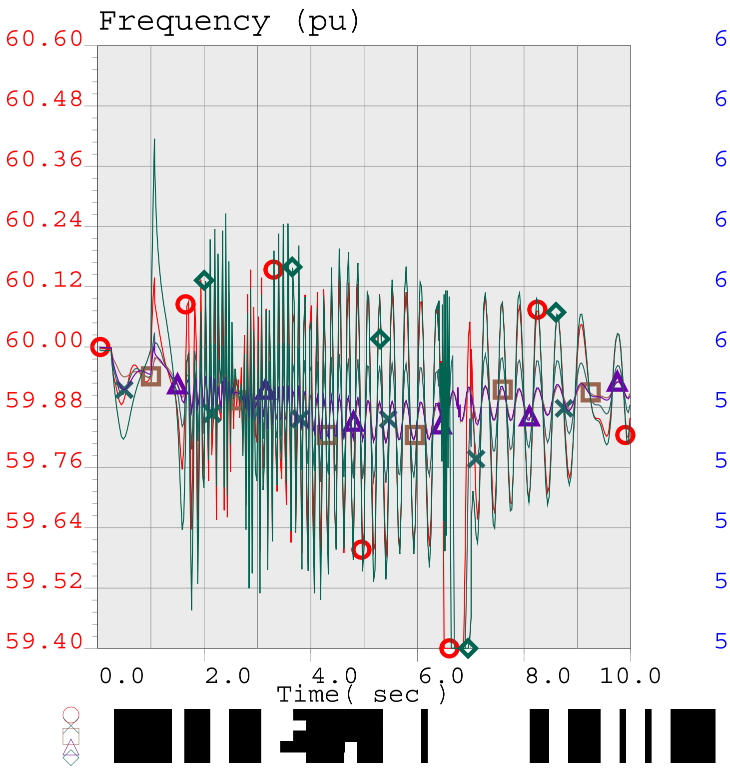

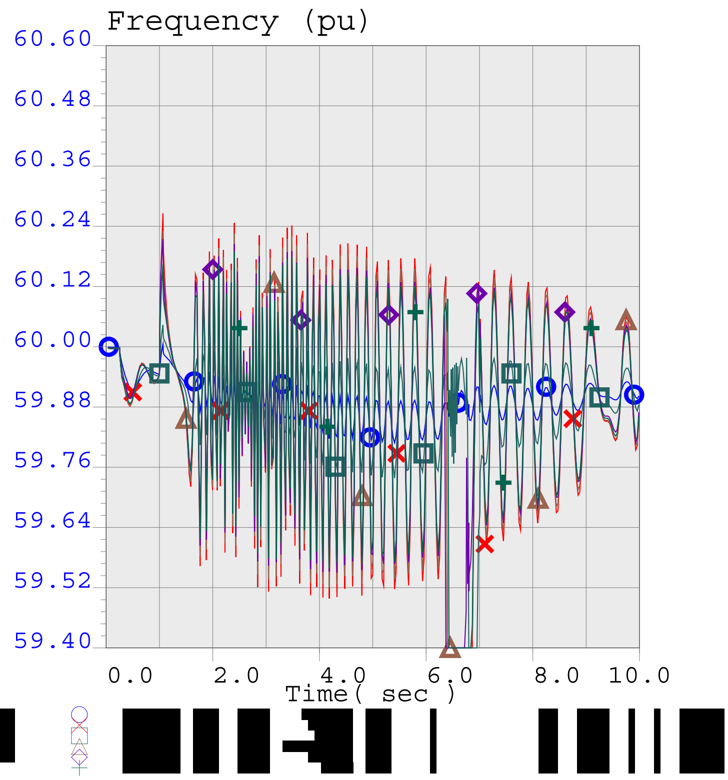

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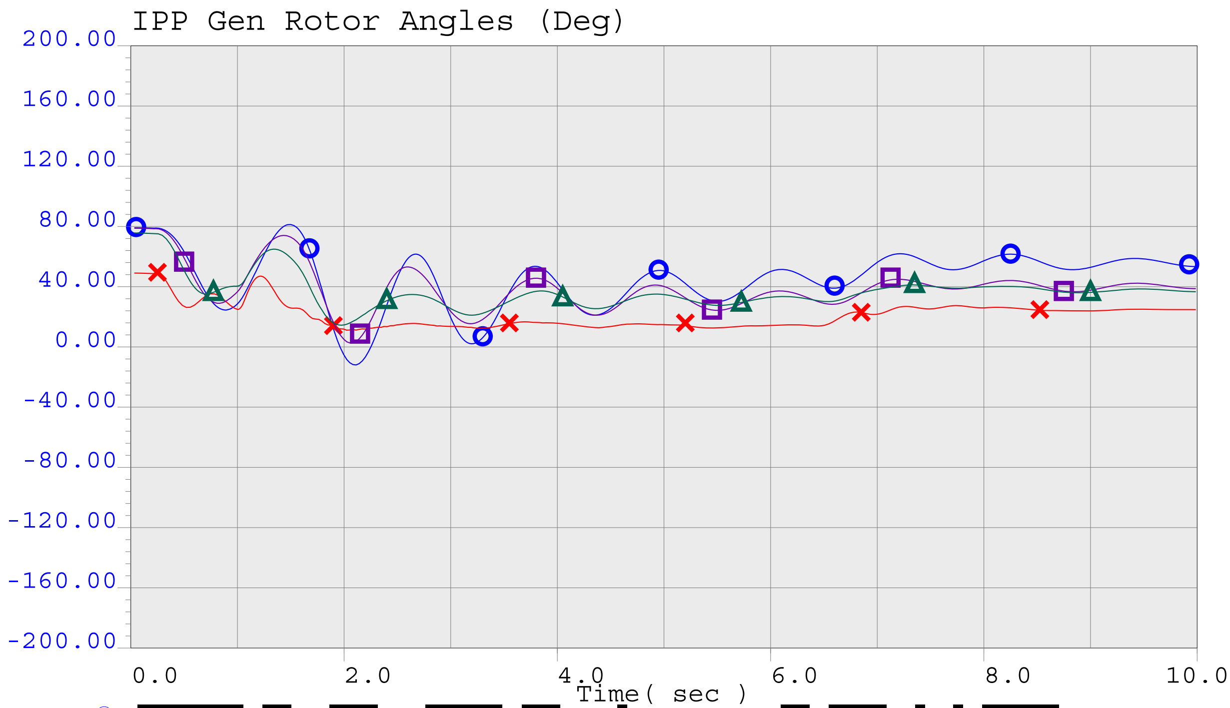

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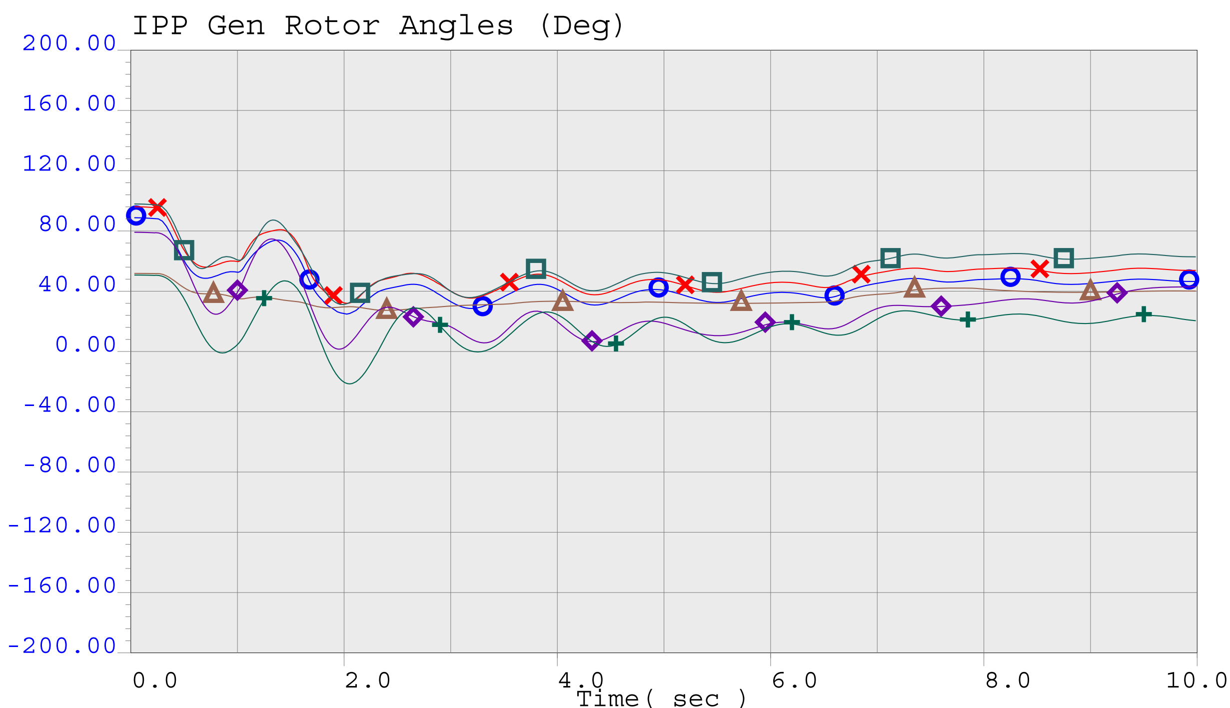

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Fri Aug 26 08:41:09 2022

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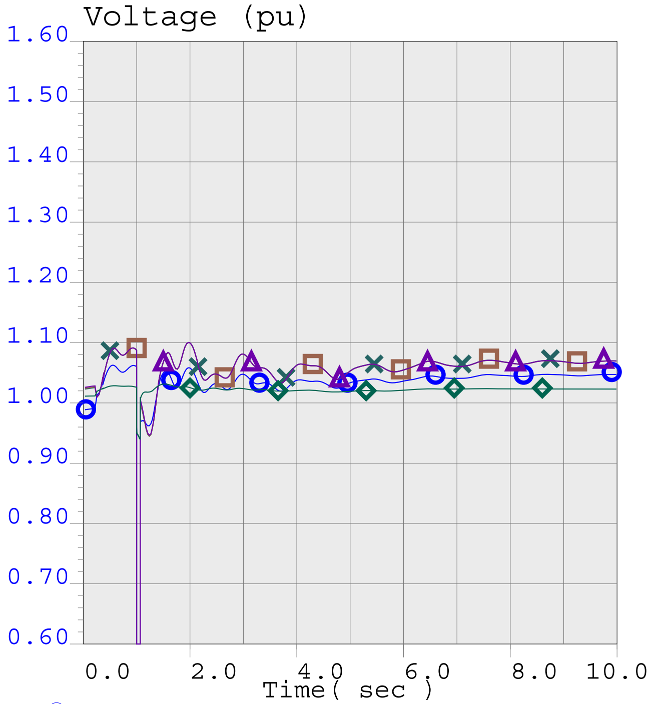

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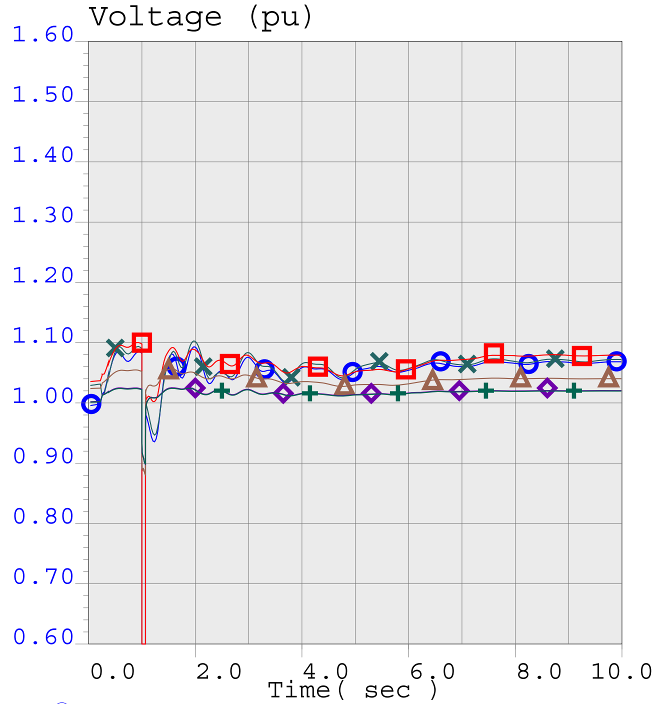

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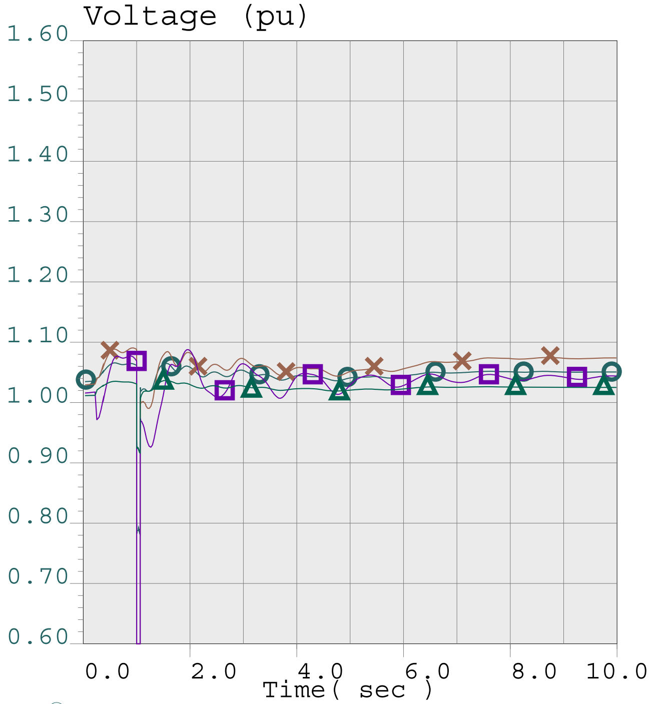

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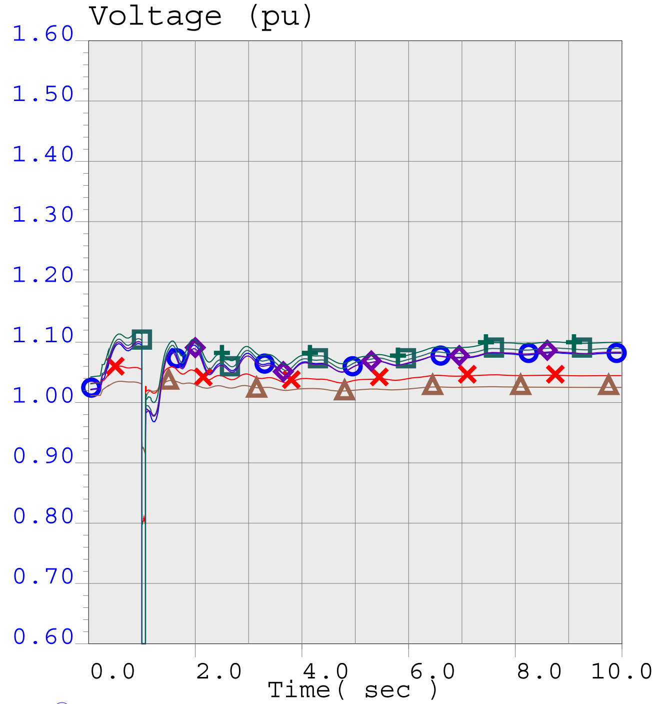

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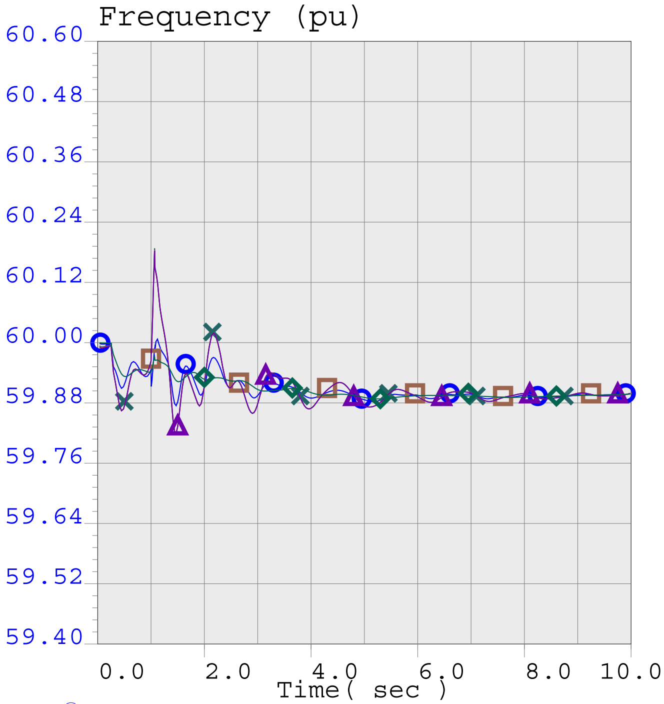

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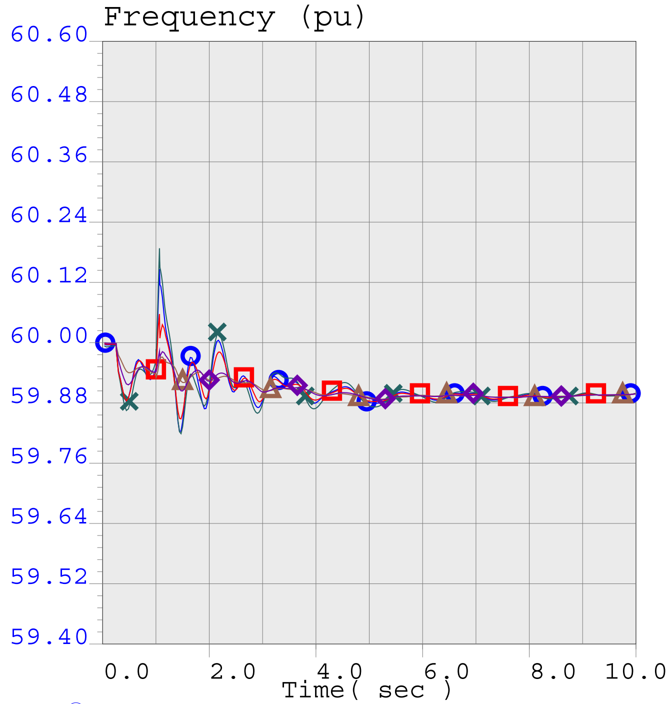

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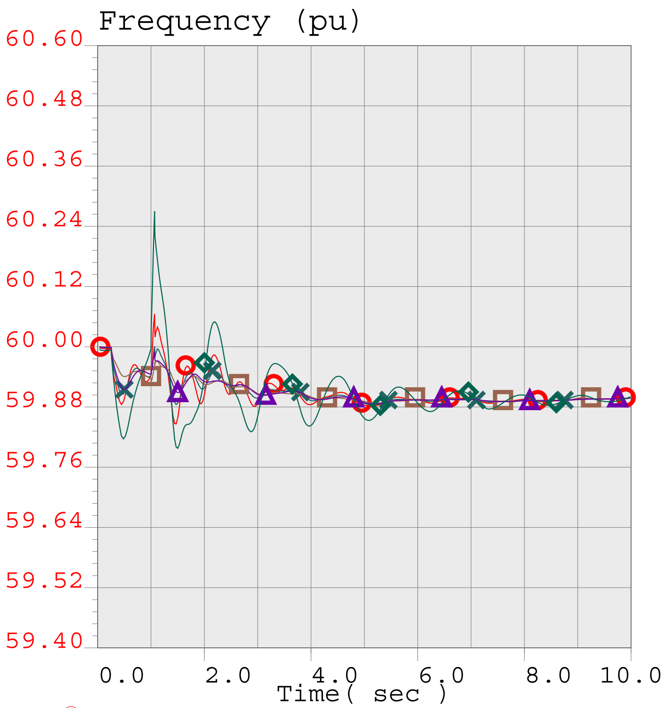

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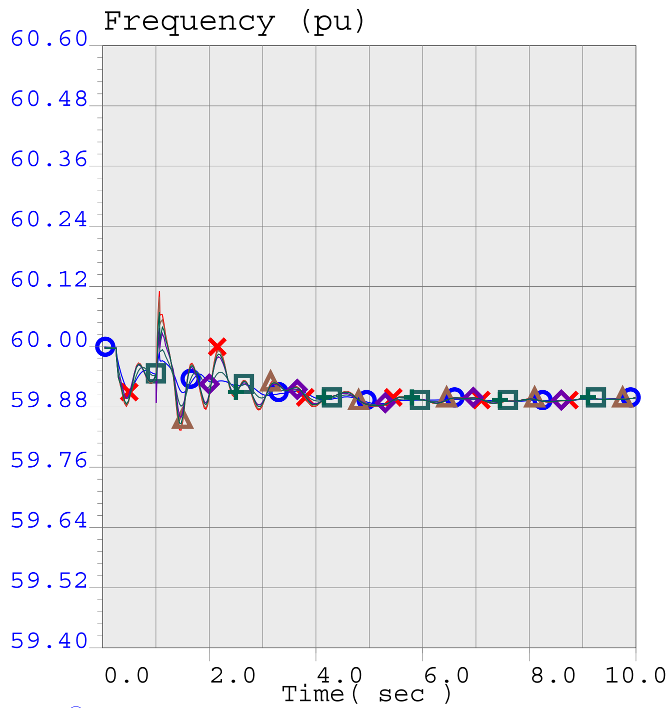

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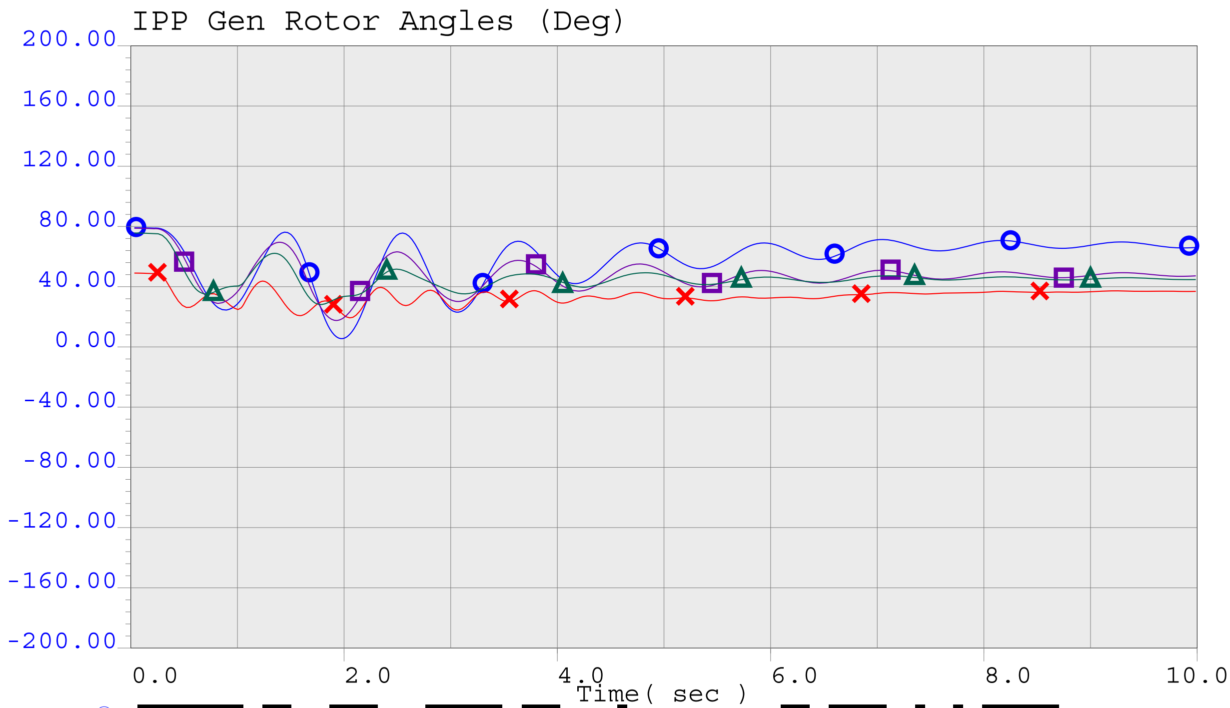

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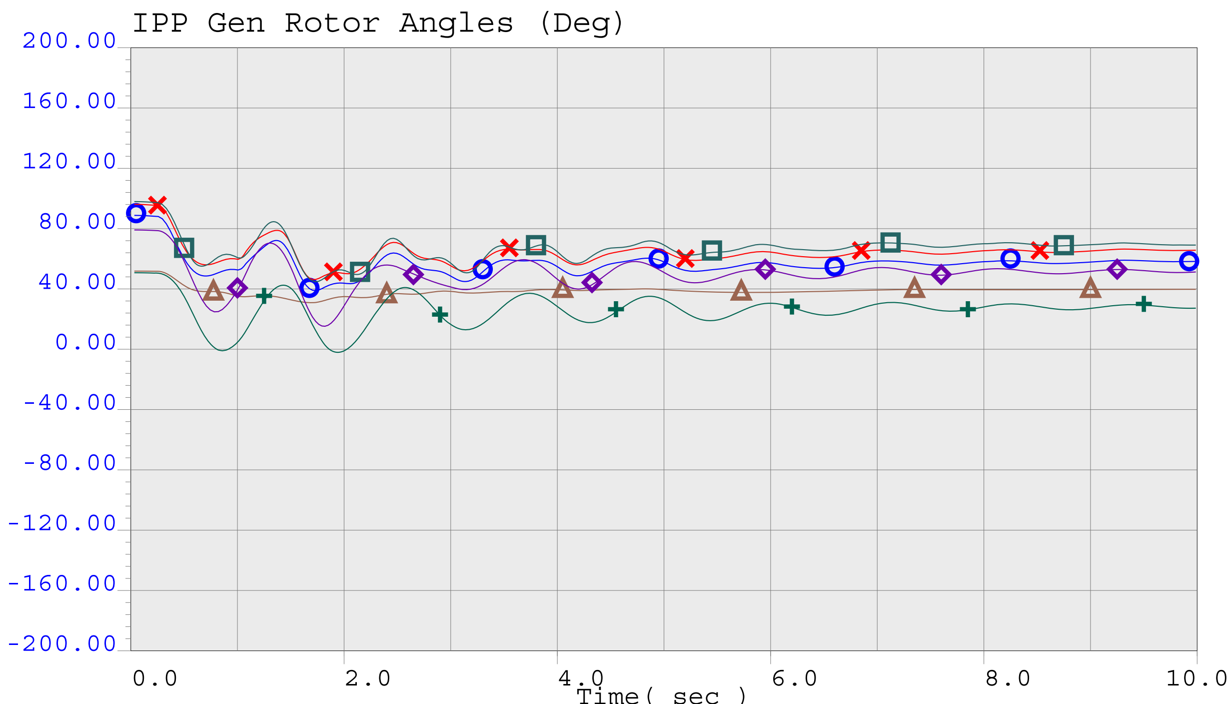

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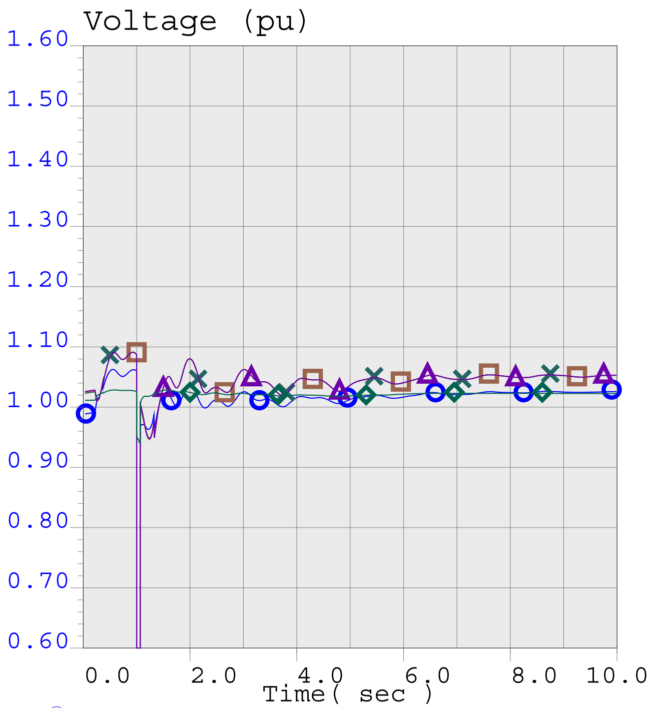

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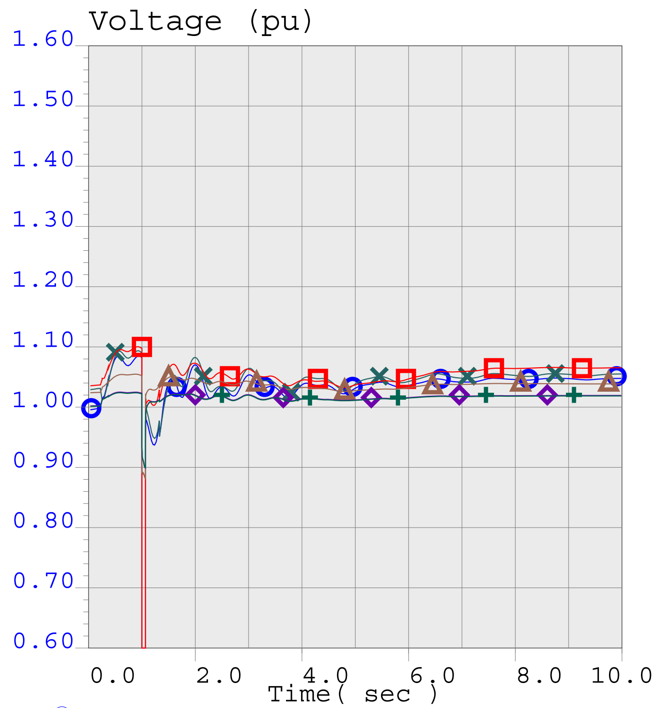

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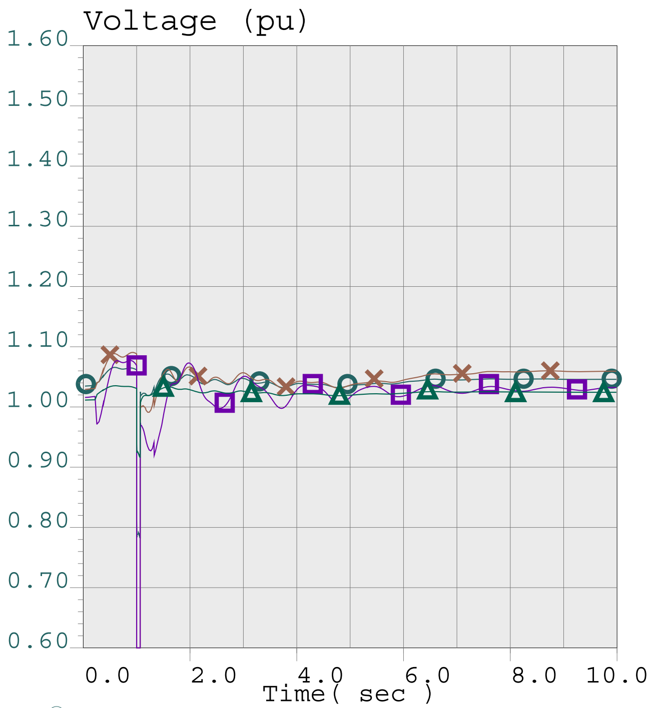

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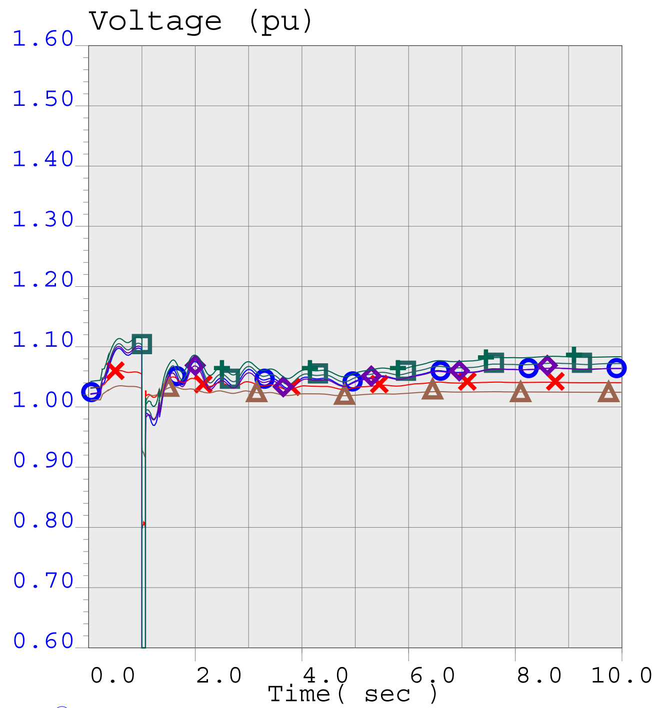

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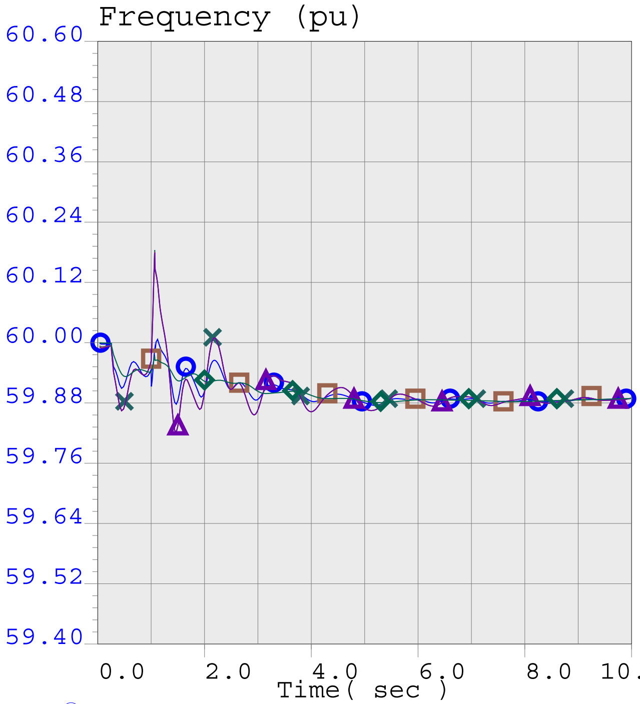

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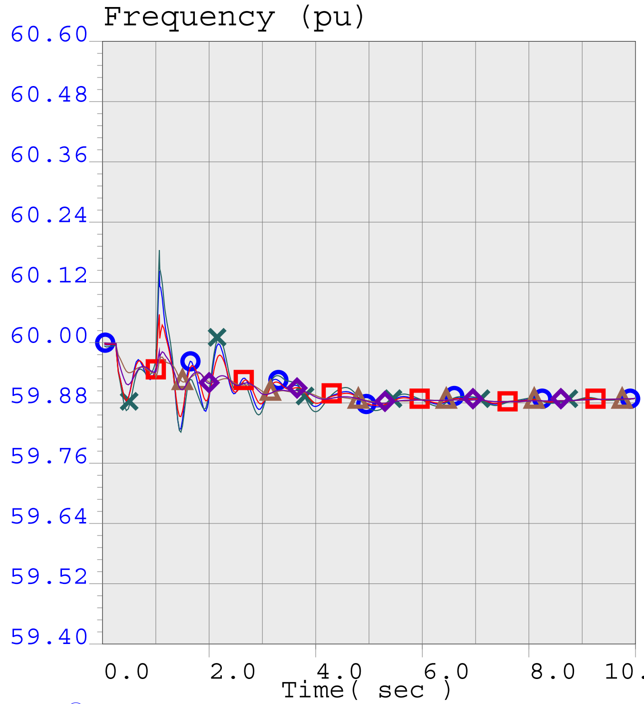

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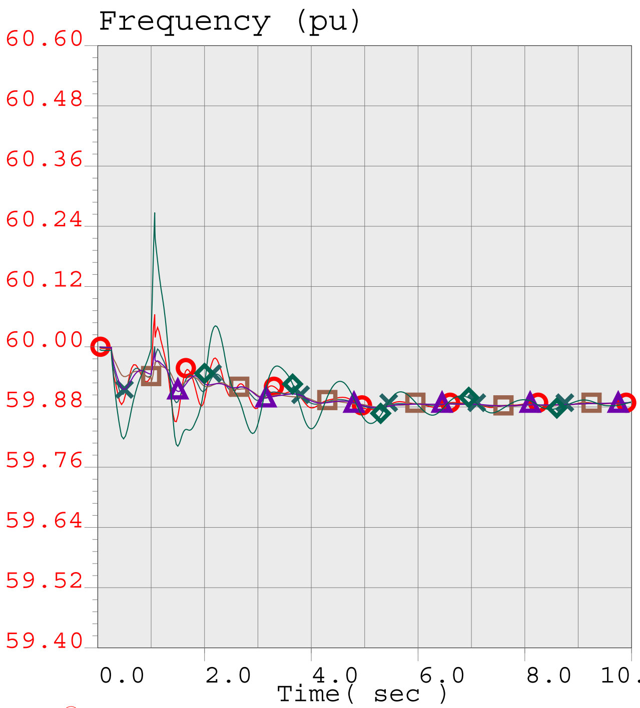

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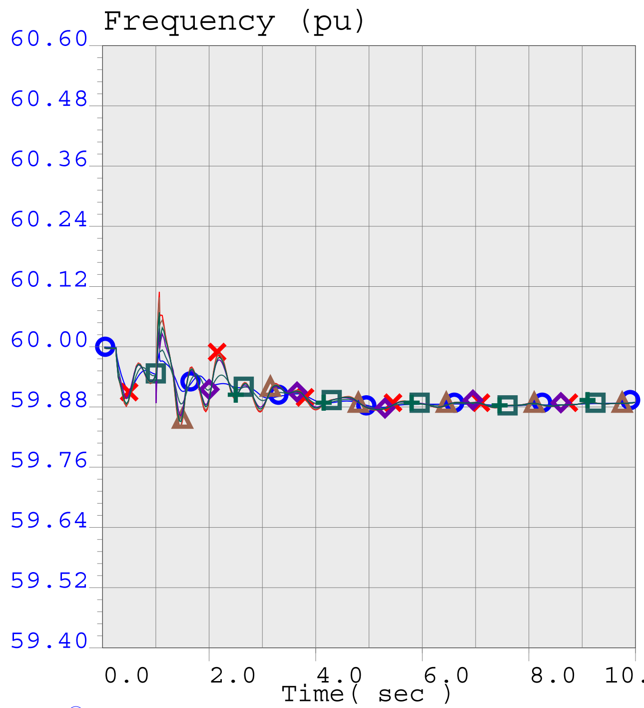

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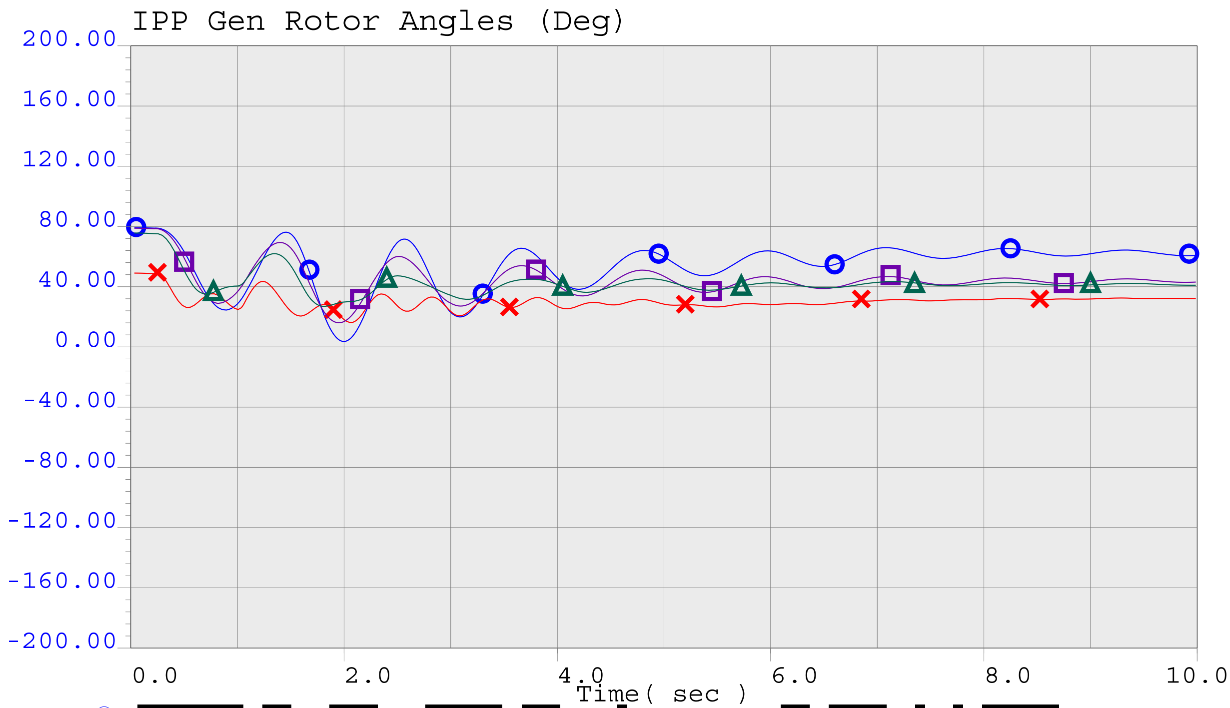

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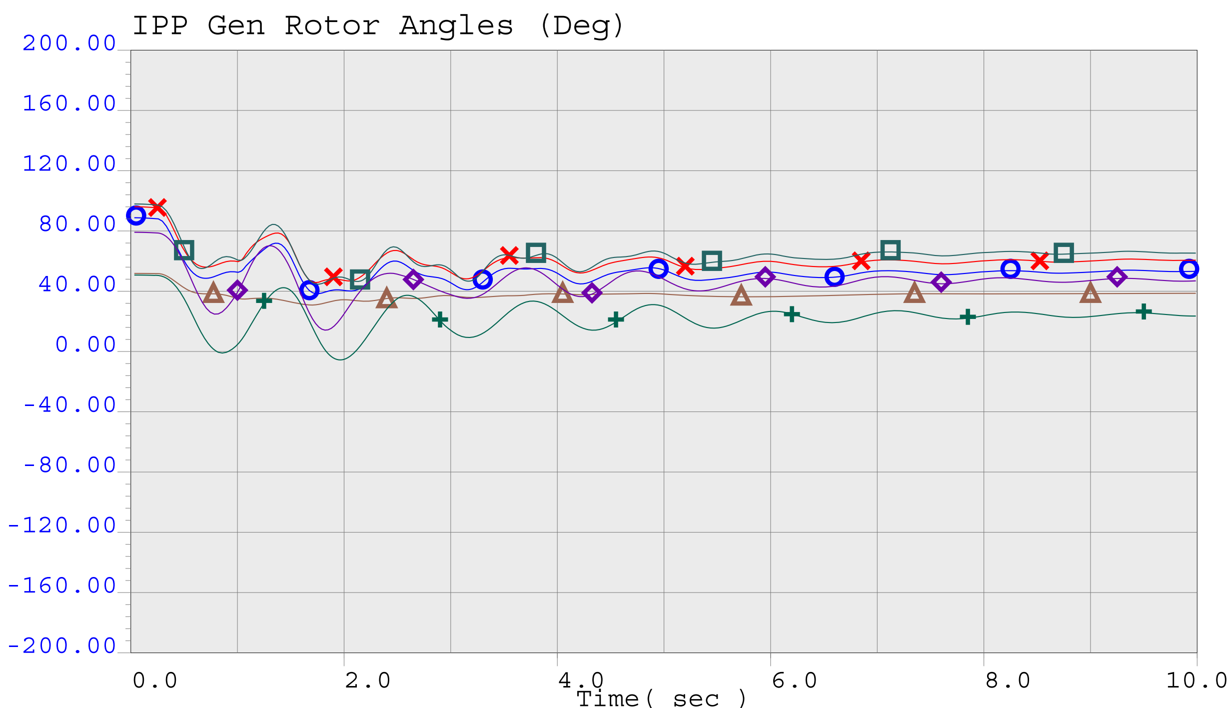

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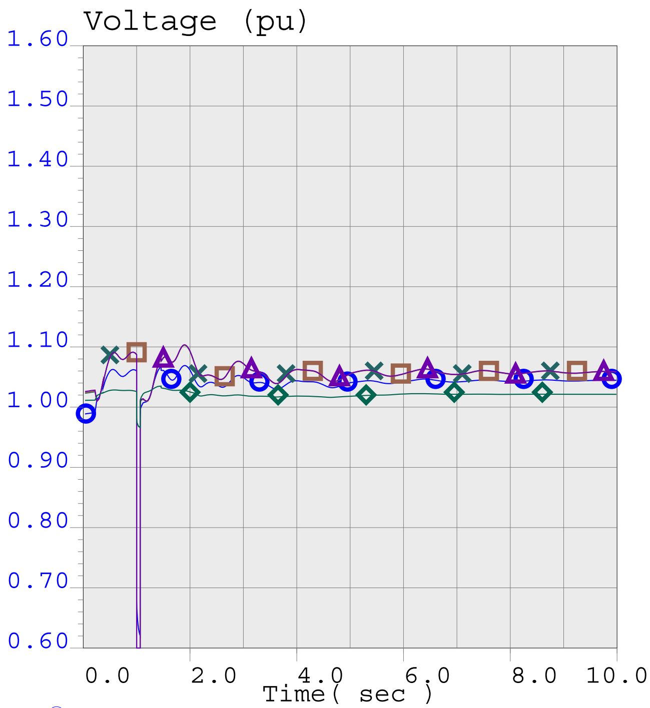

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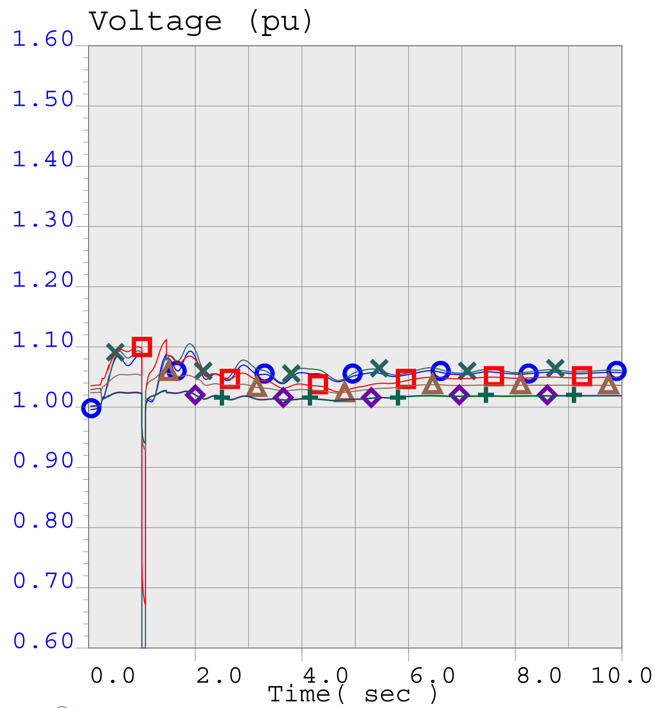

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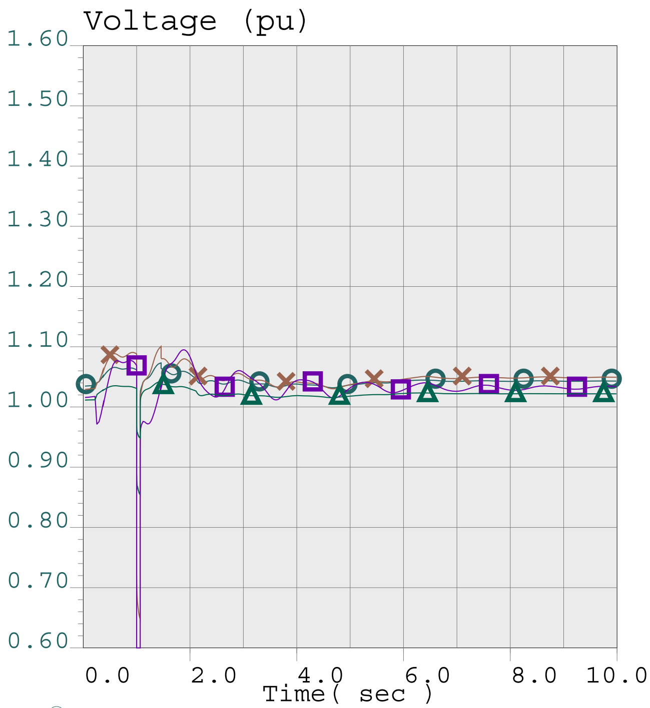

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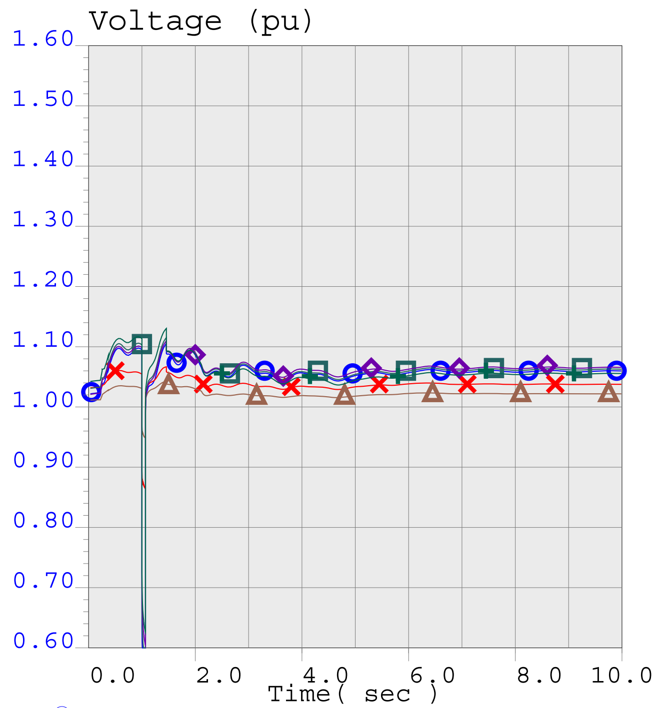

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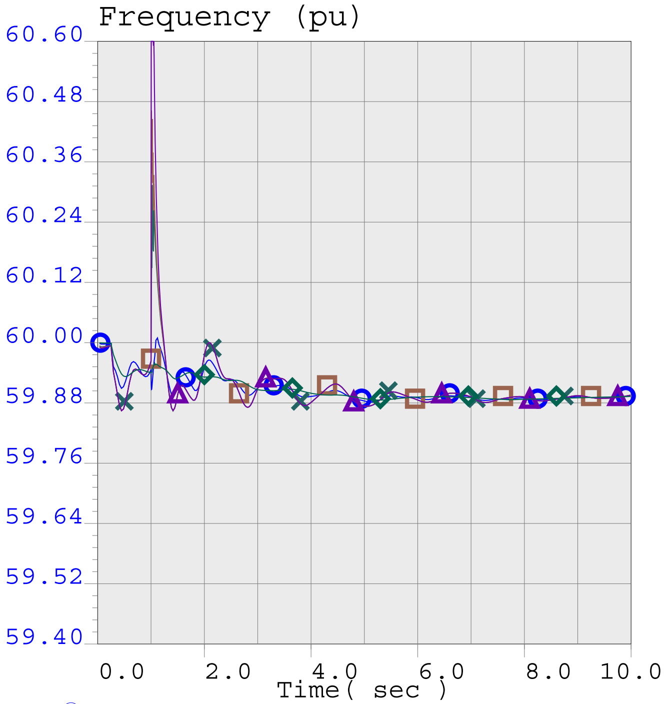

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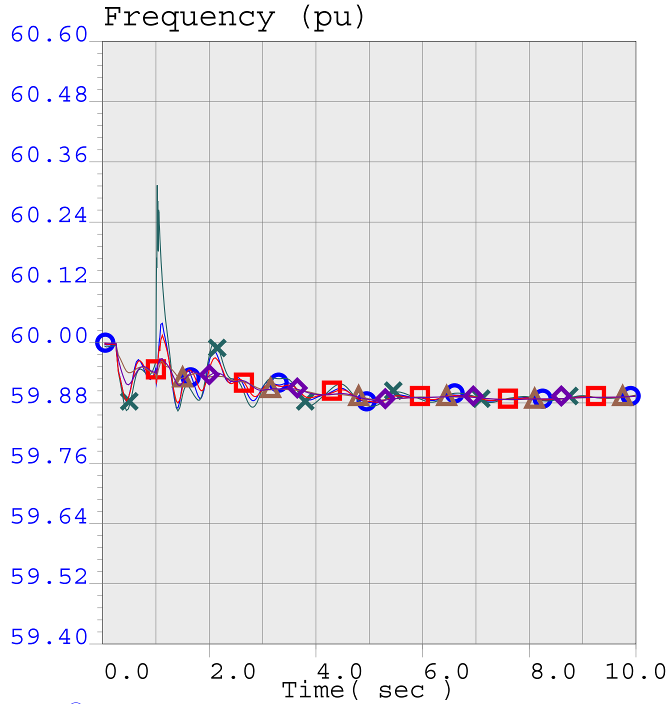

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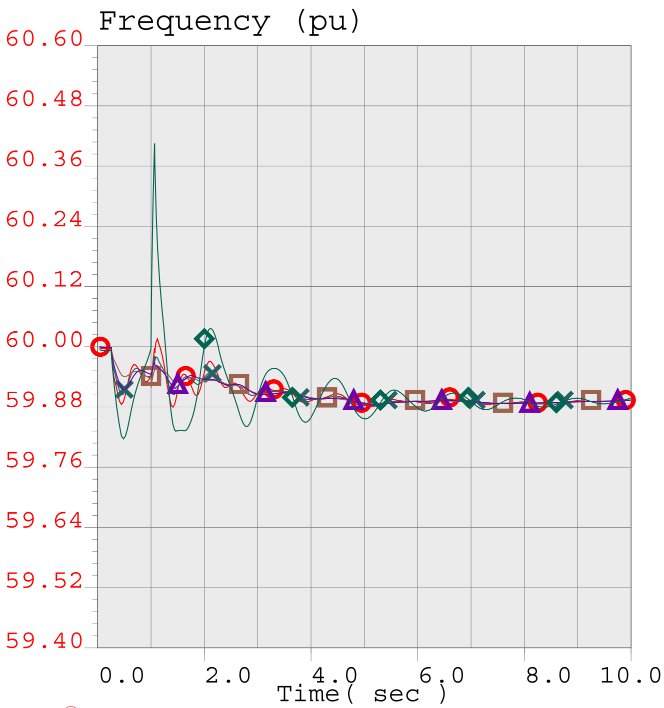

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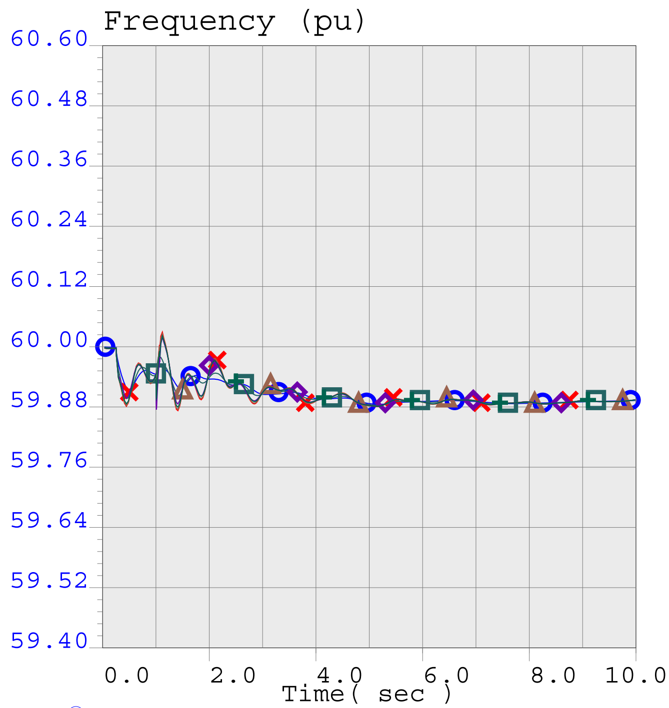

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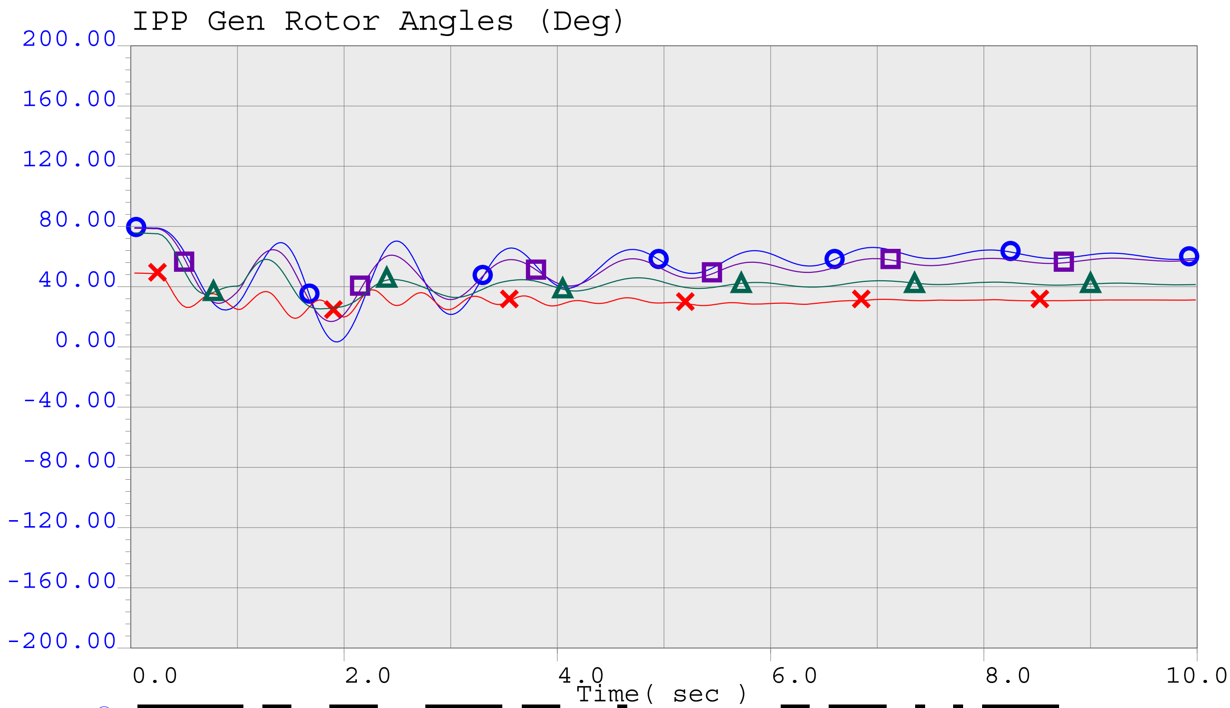

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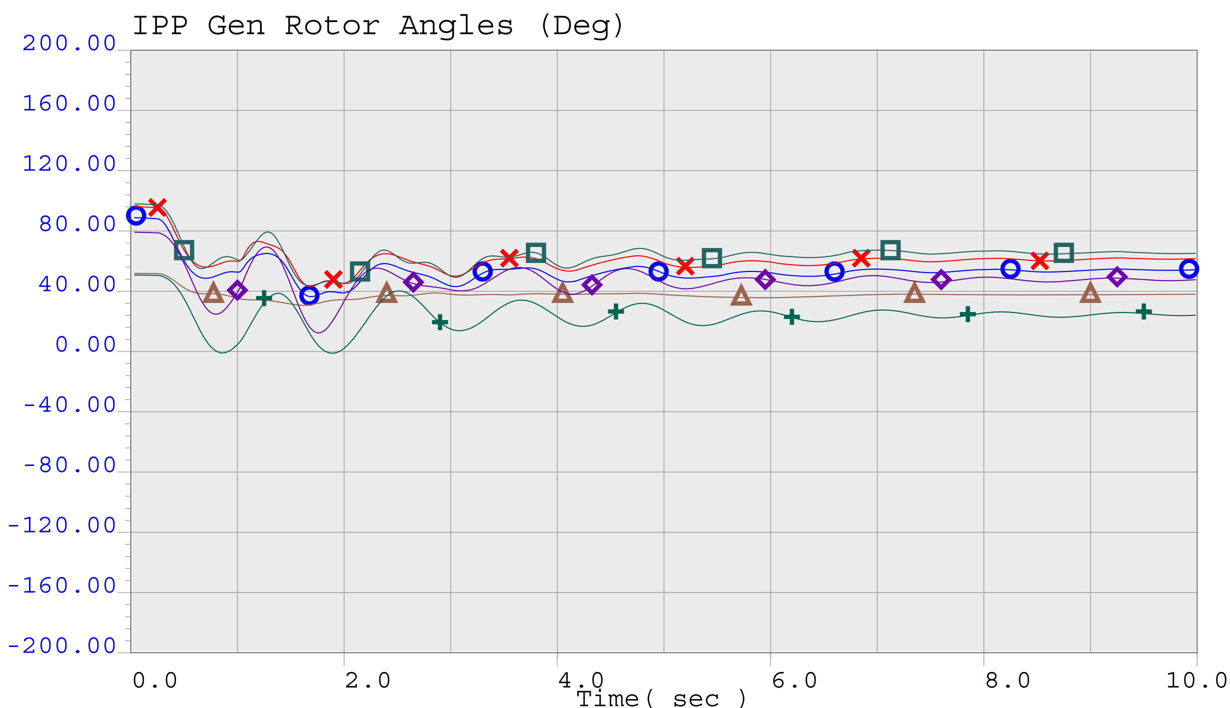

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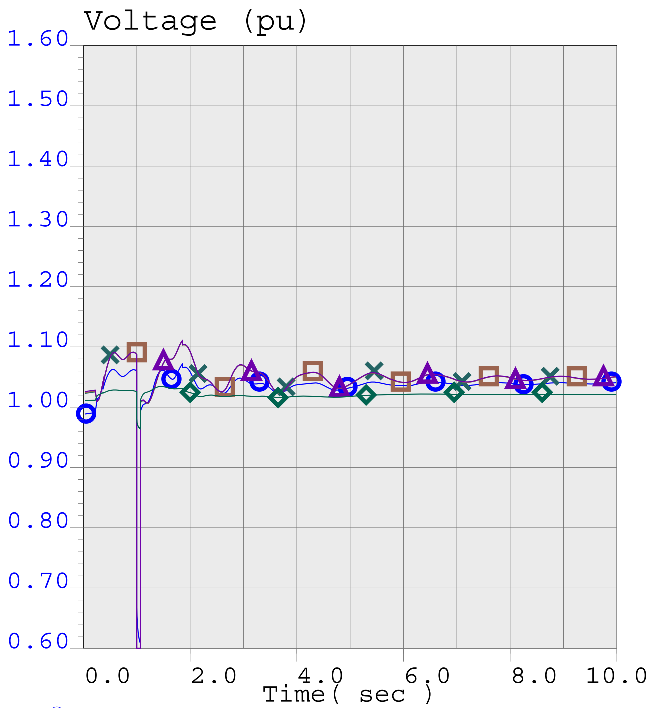

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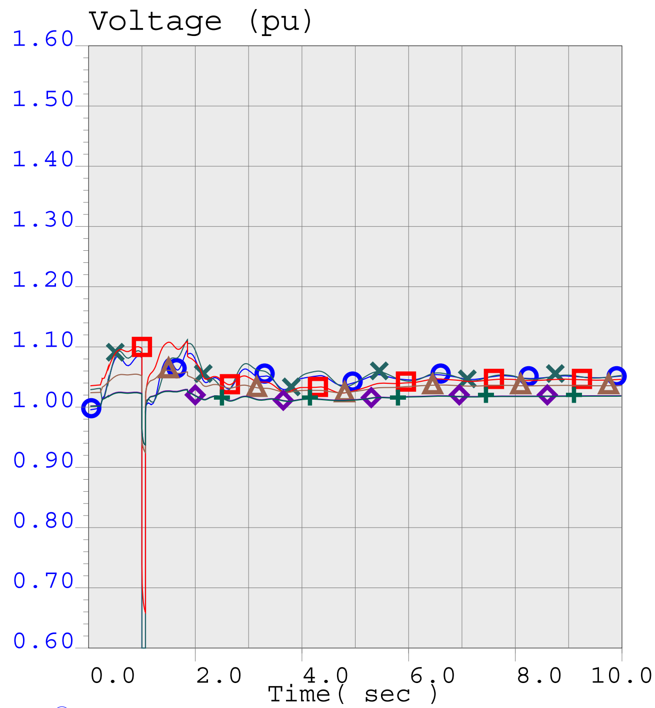

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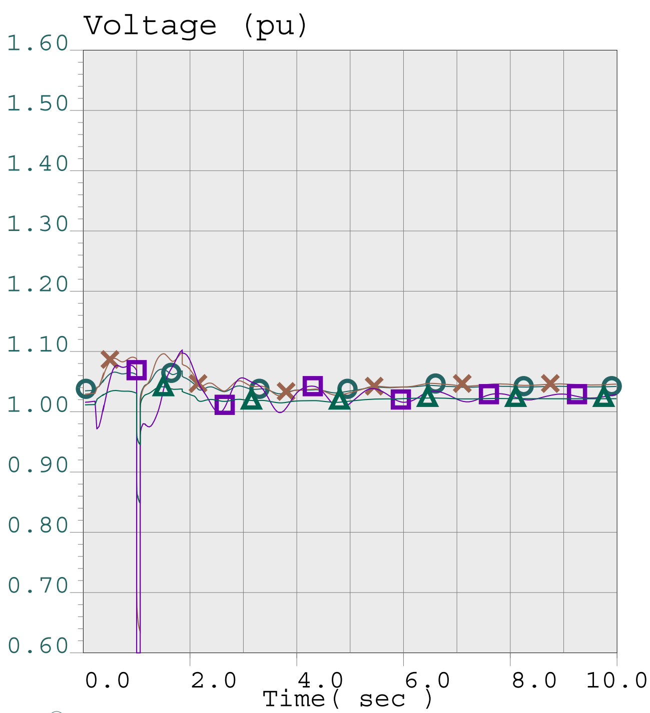

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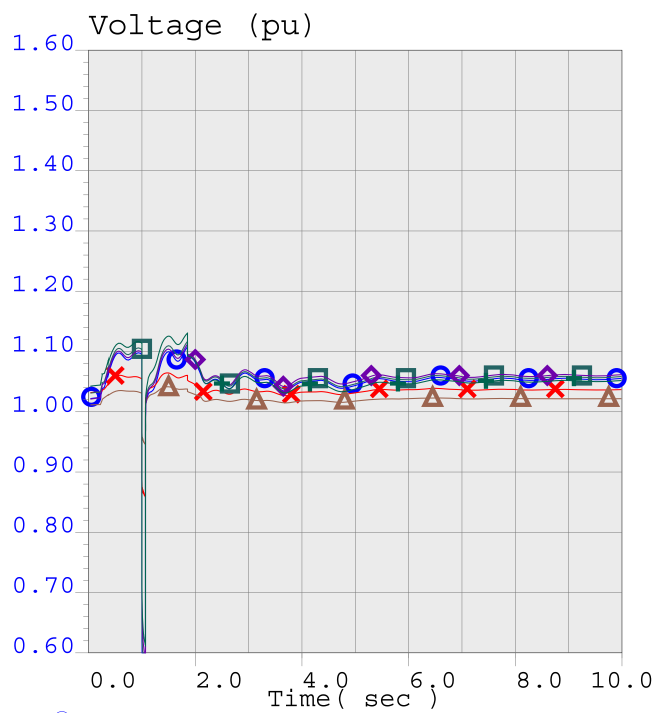

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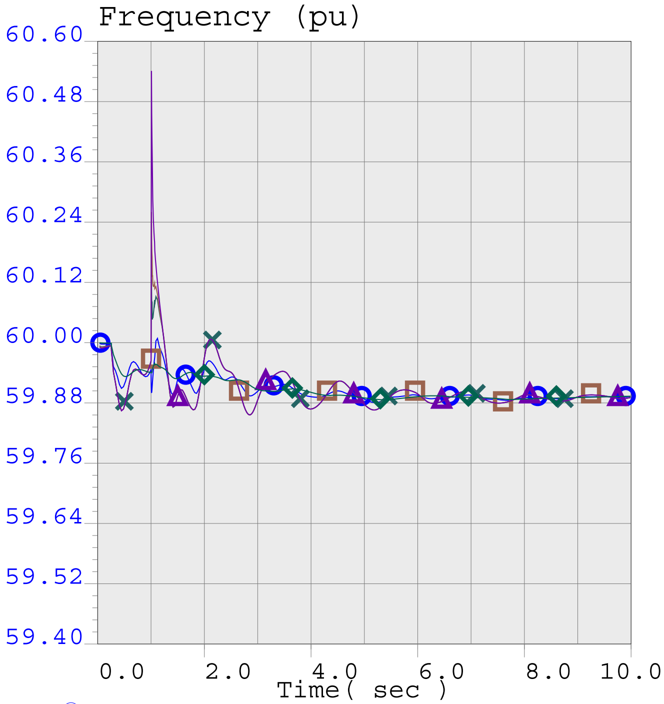

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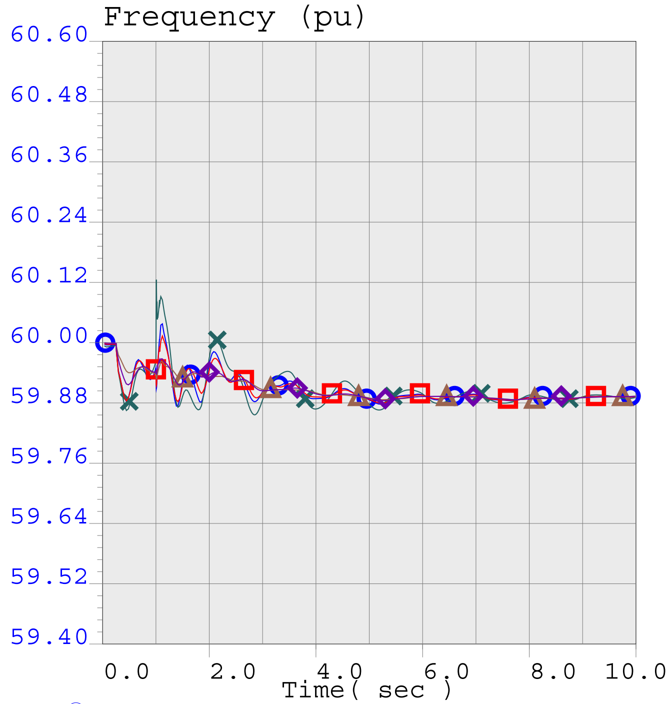

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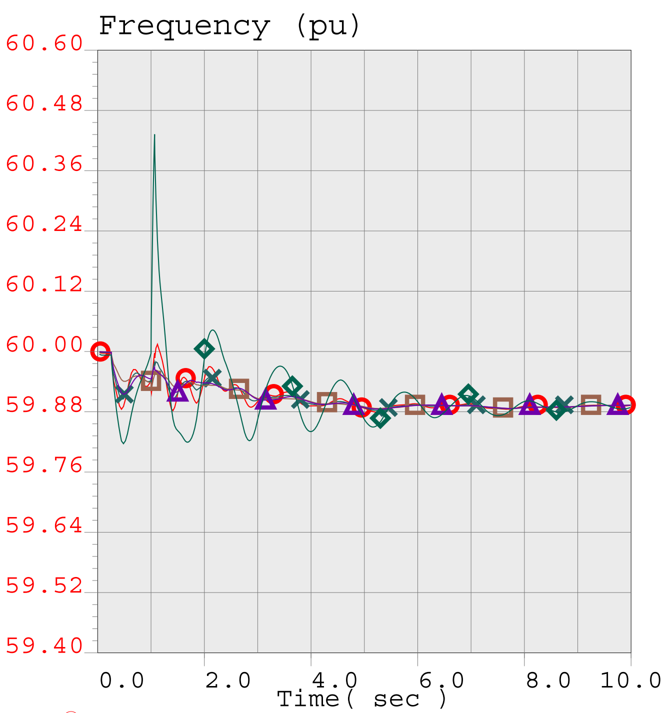

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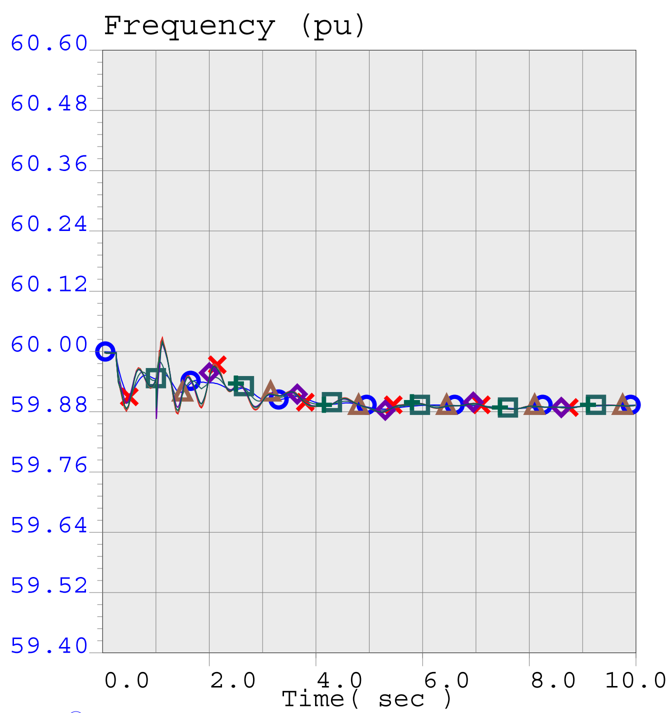

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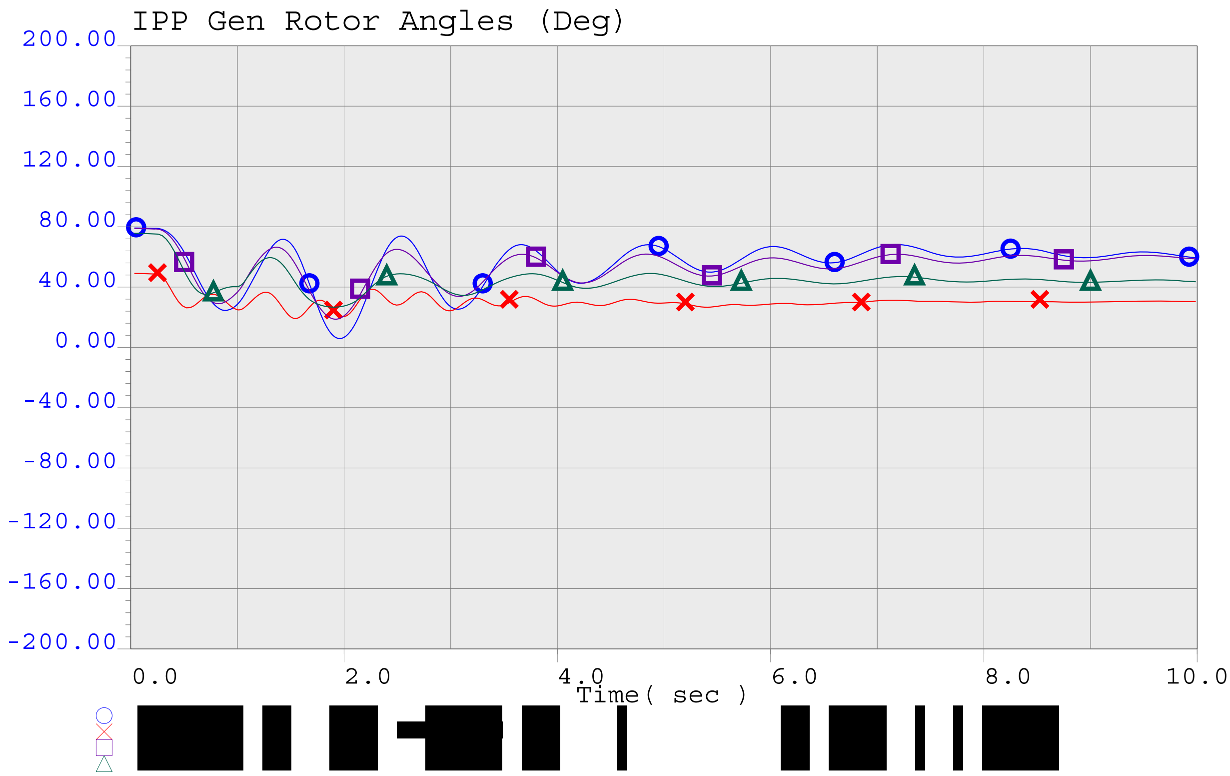

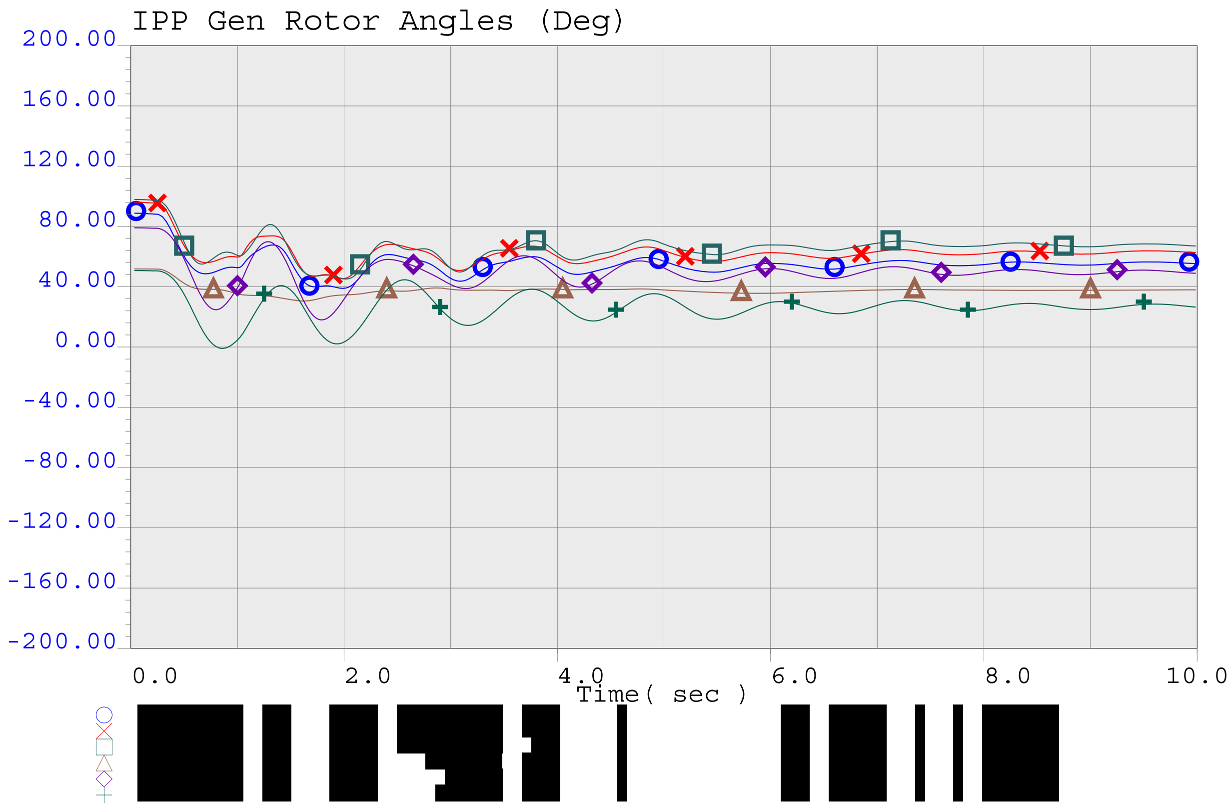

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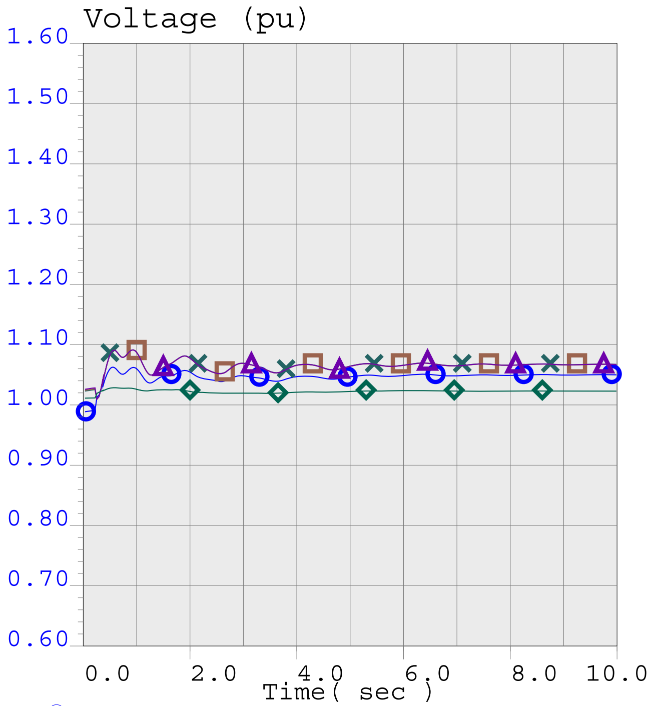

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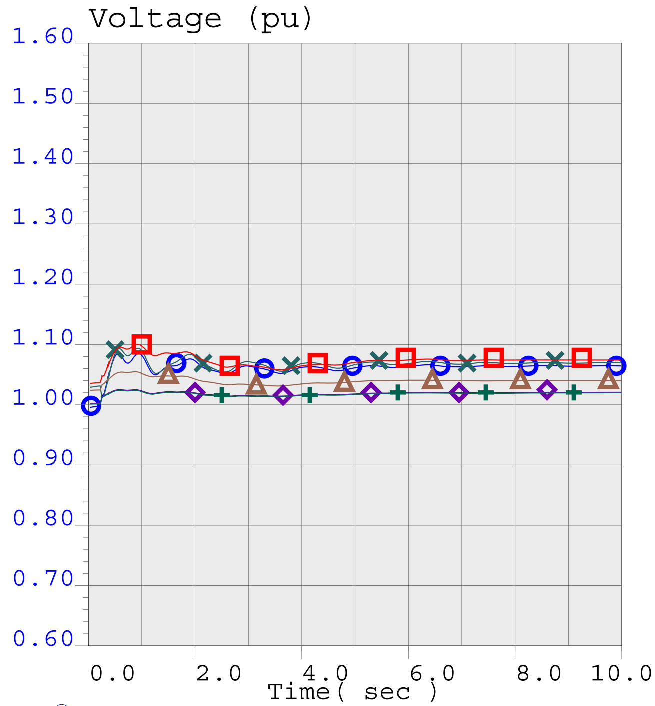

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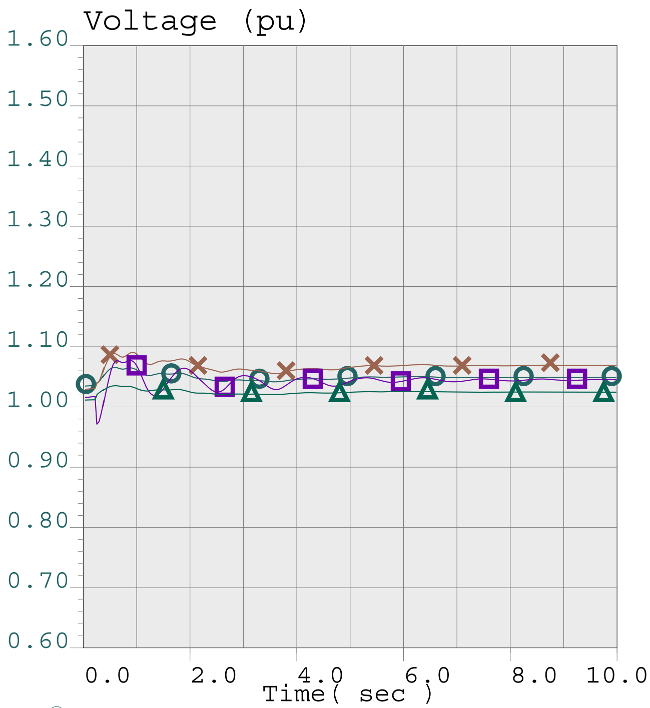

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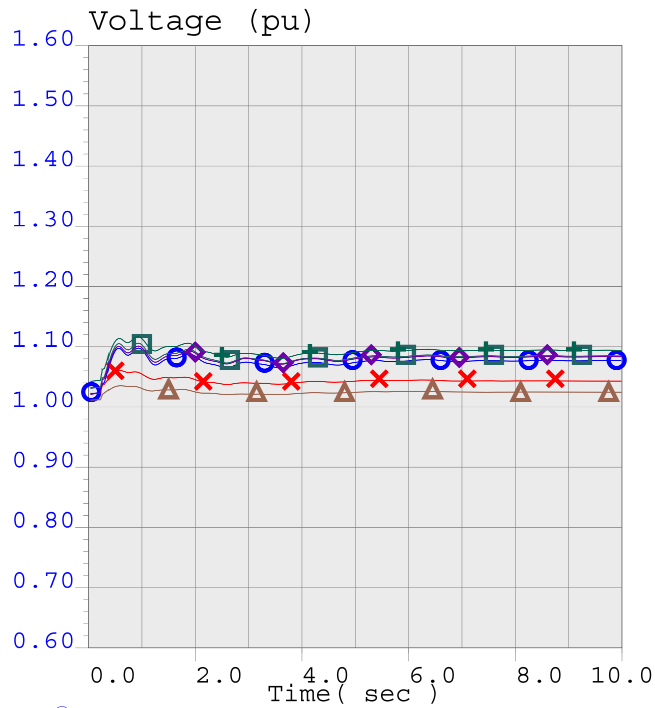

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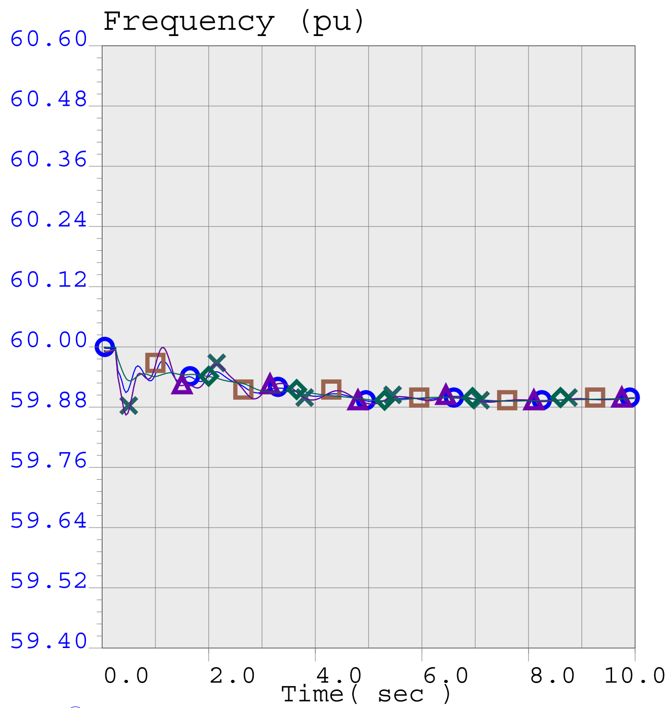

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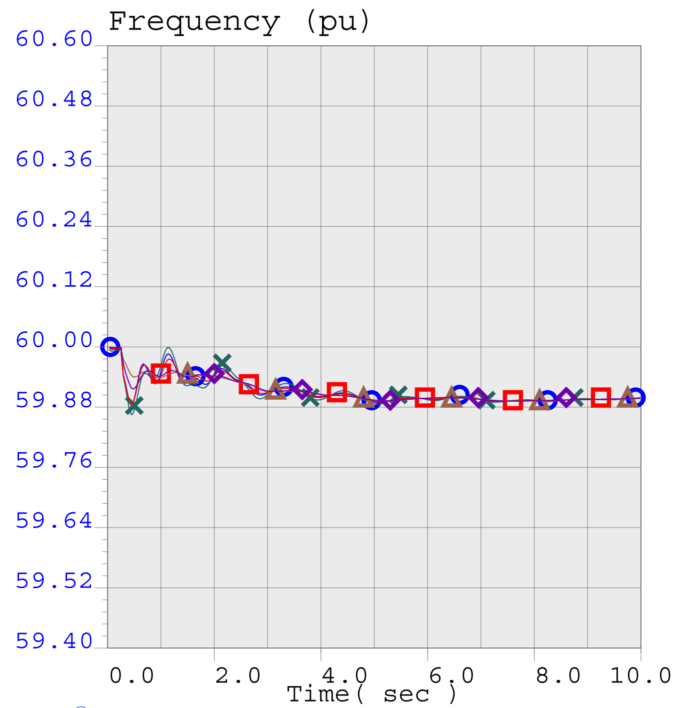

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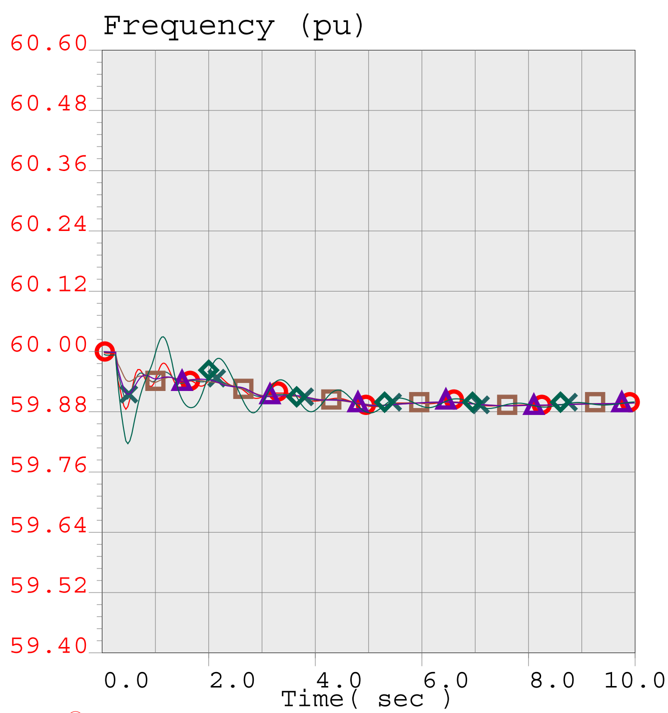

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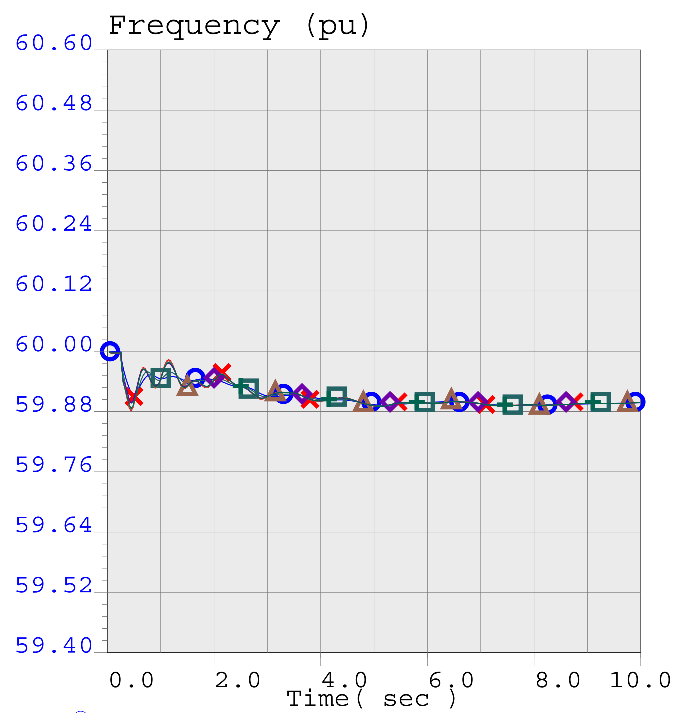

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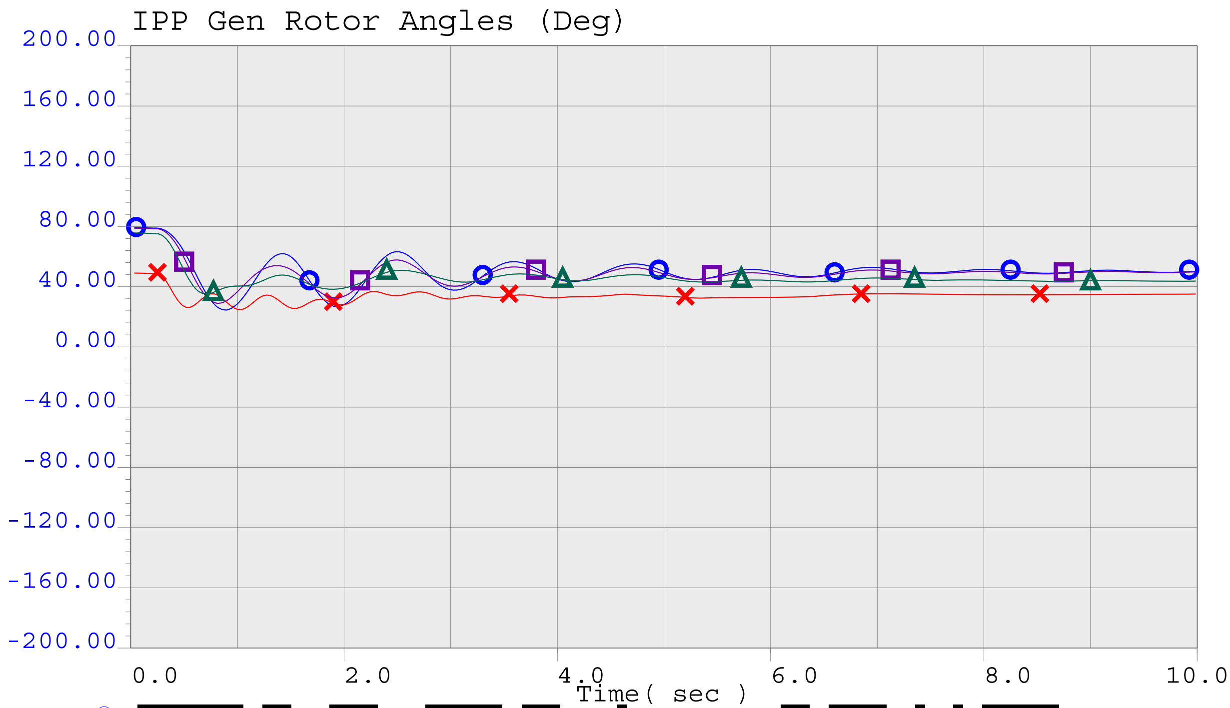

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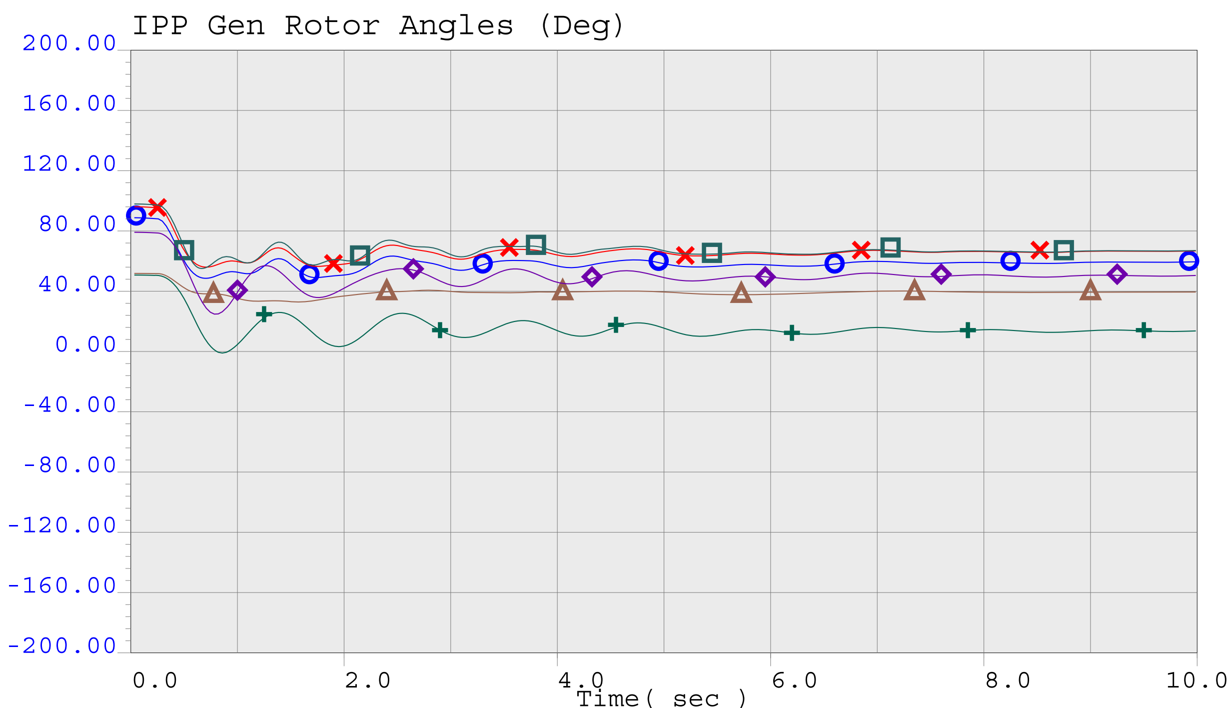

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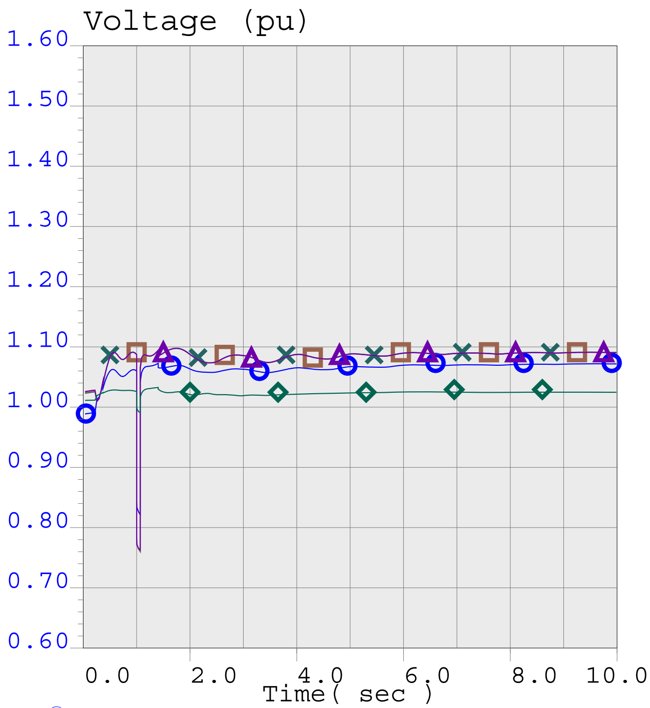

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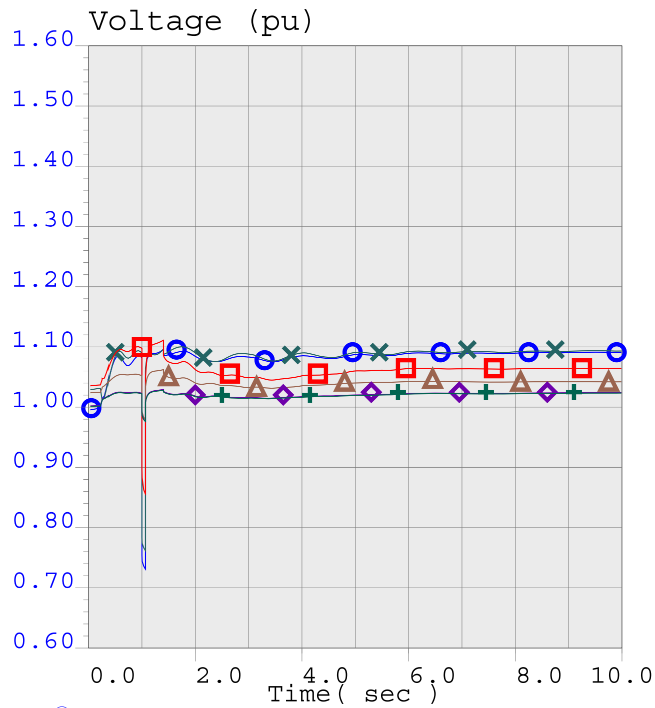

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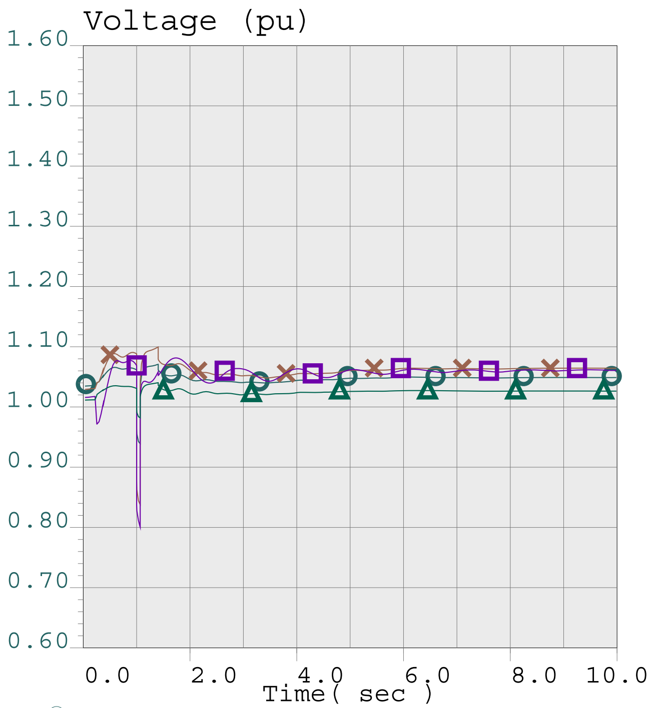

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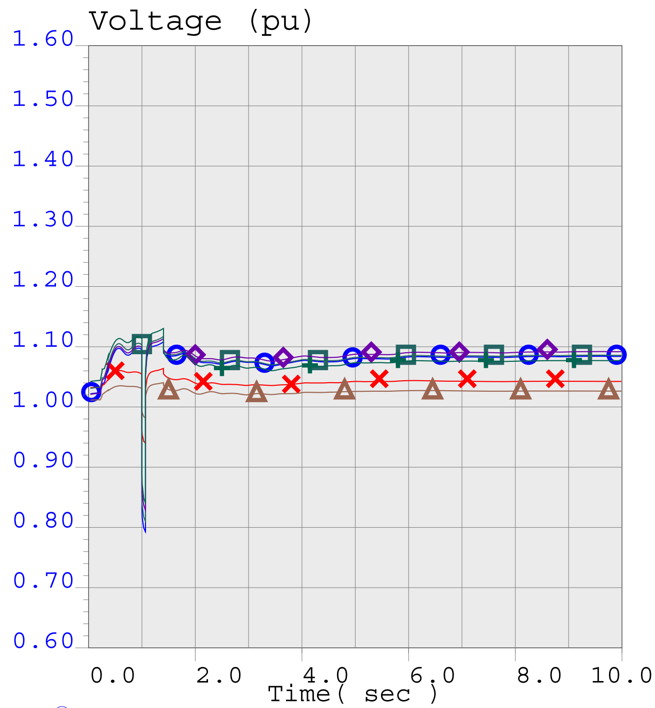

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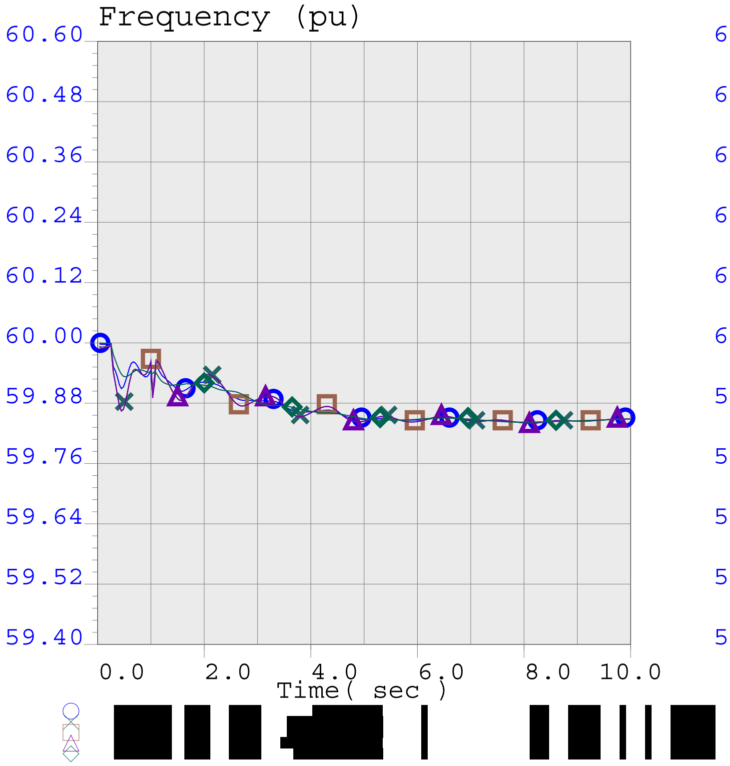

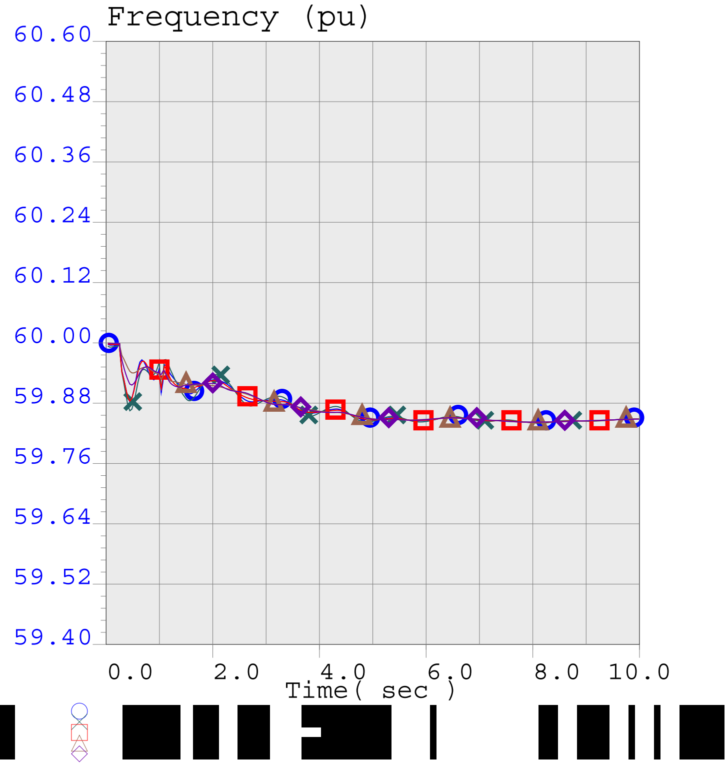

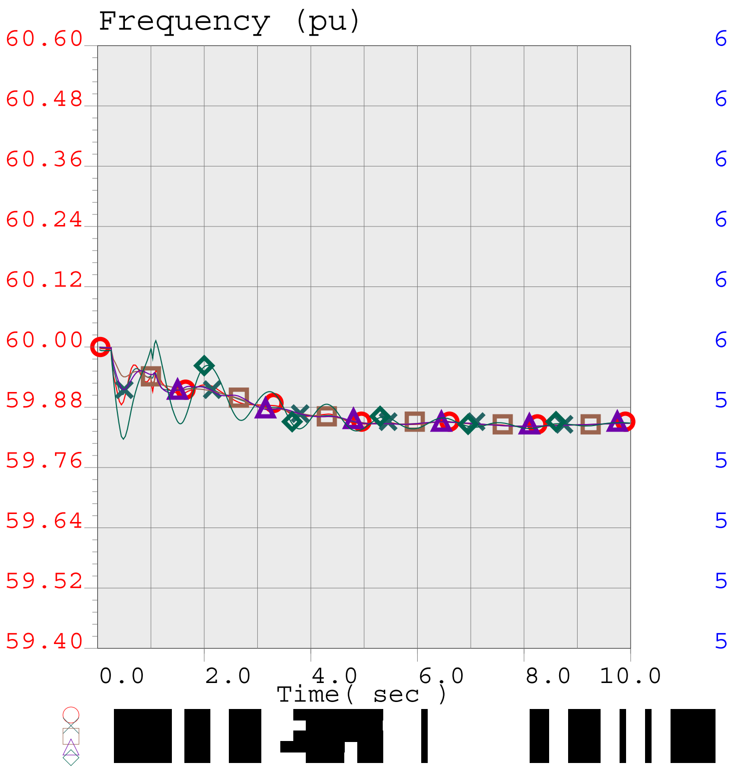

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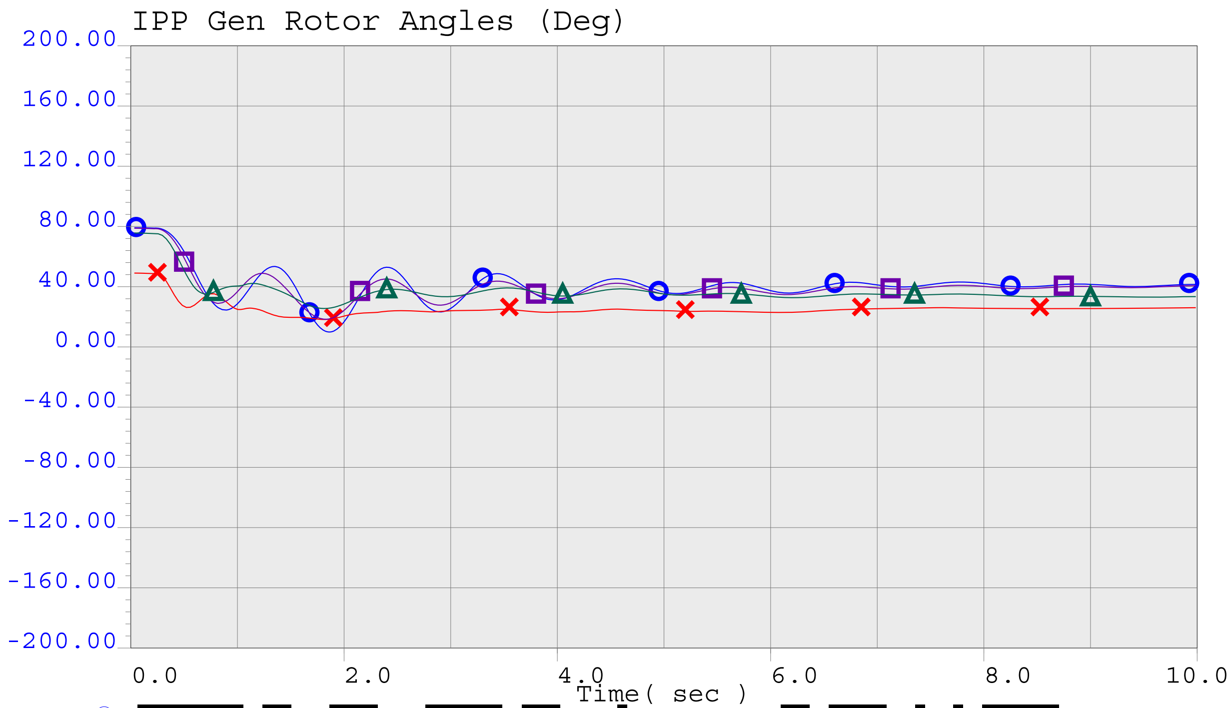

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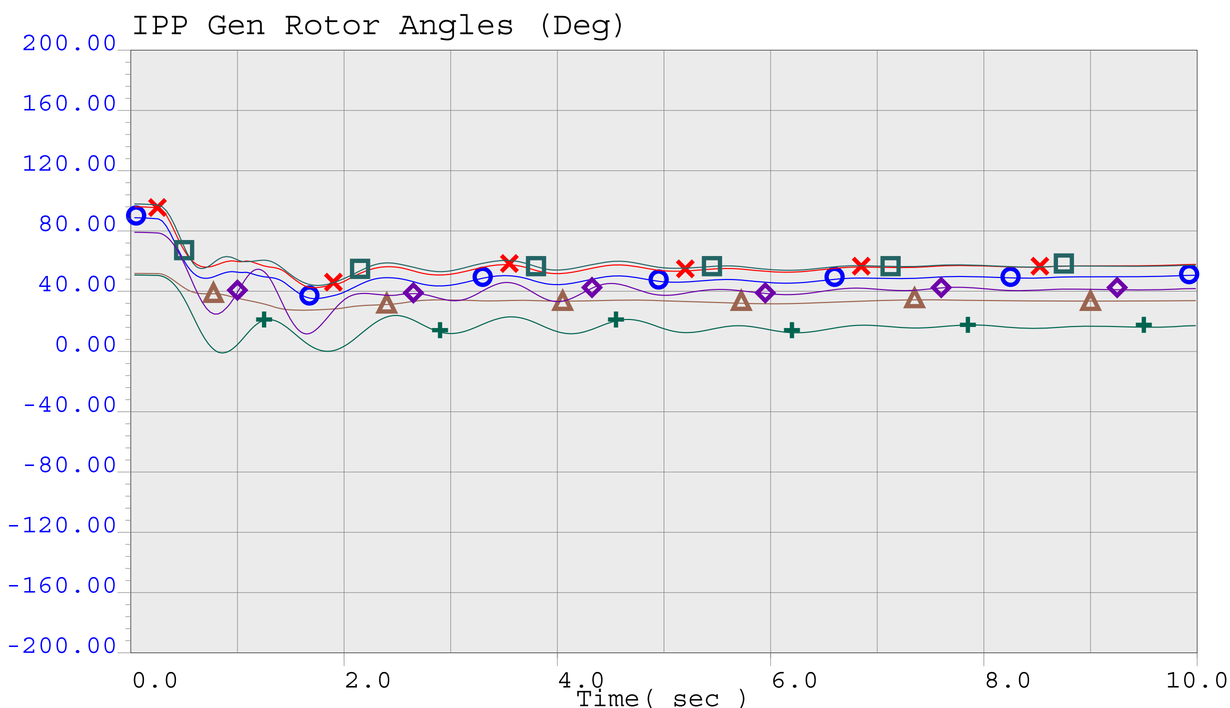

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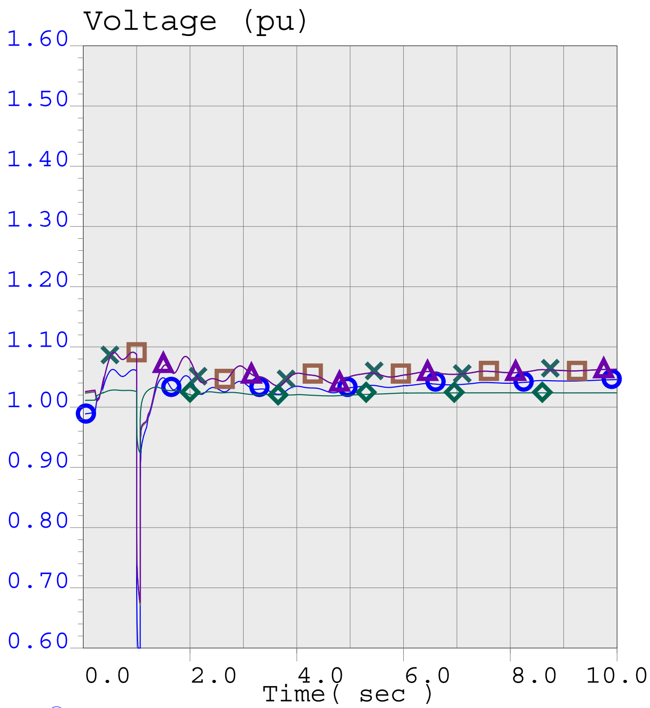

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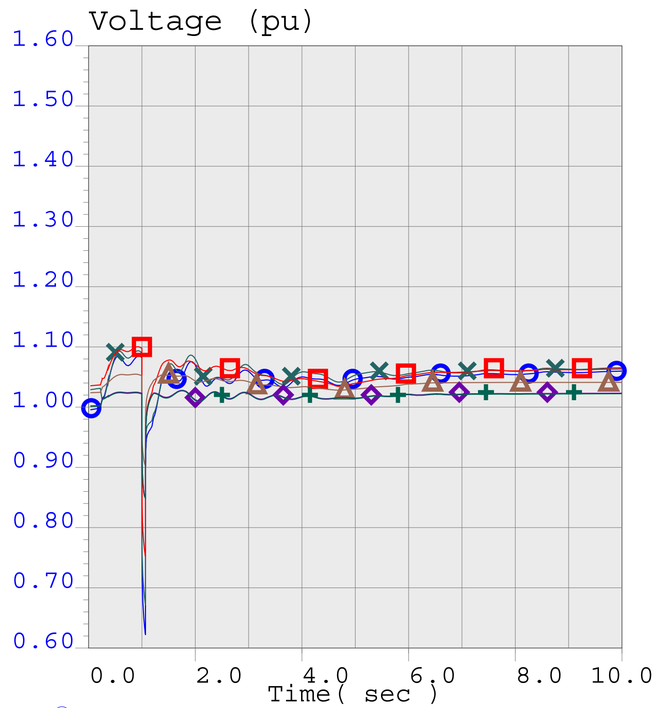

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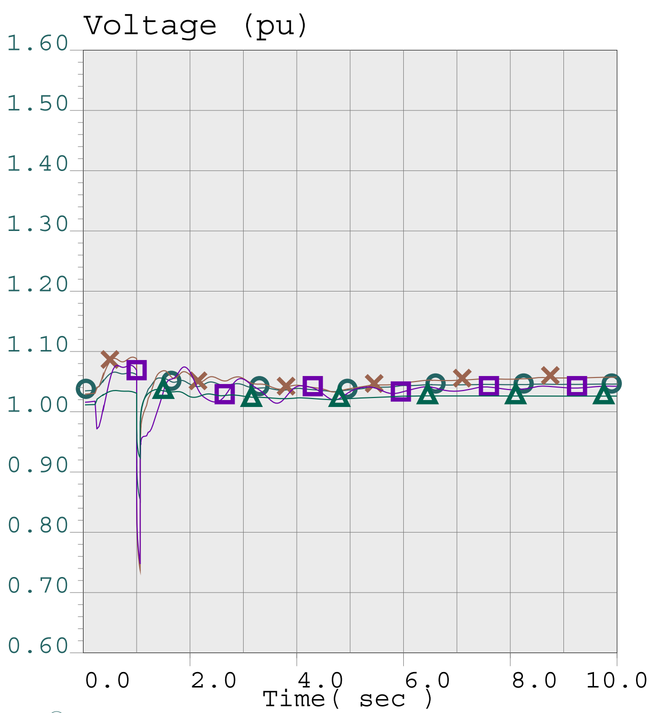

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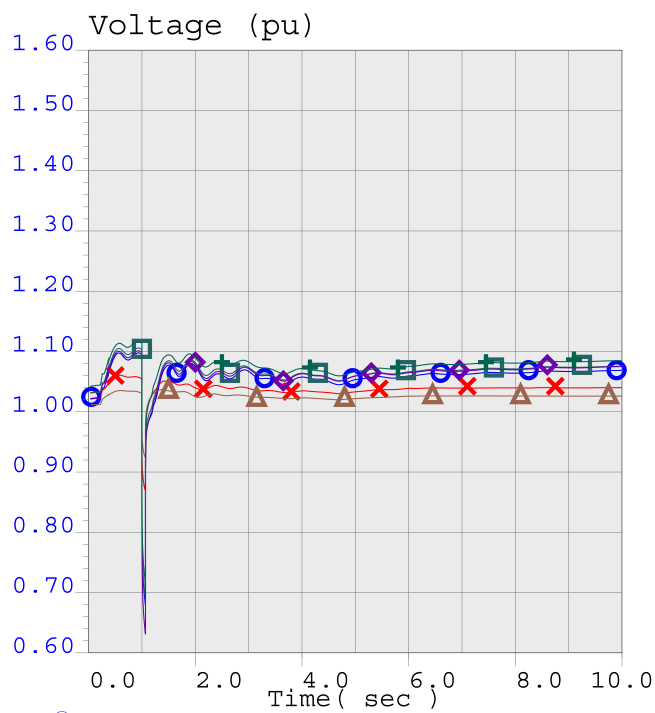

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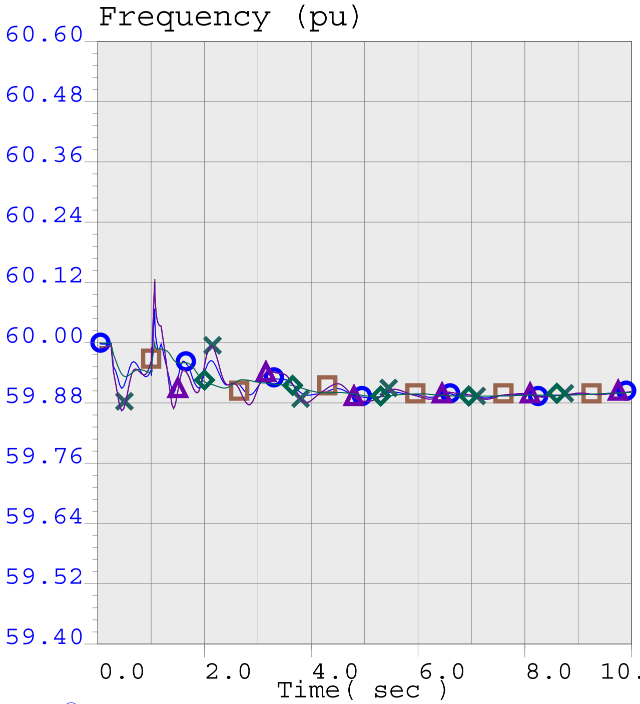

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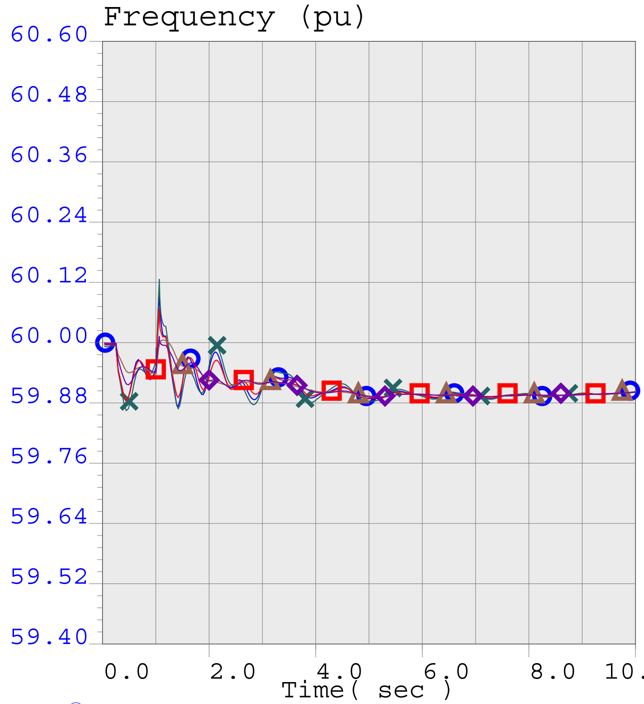

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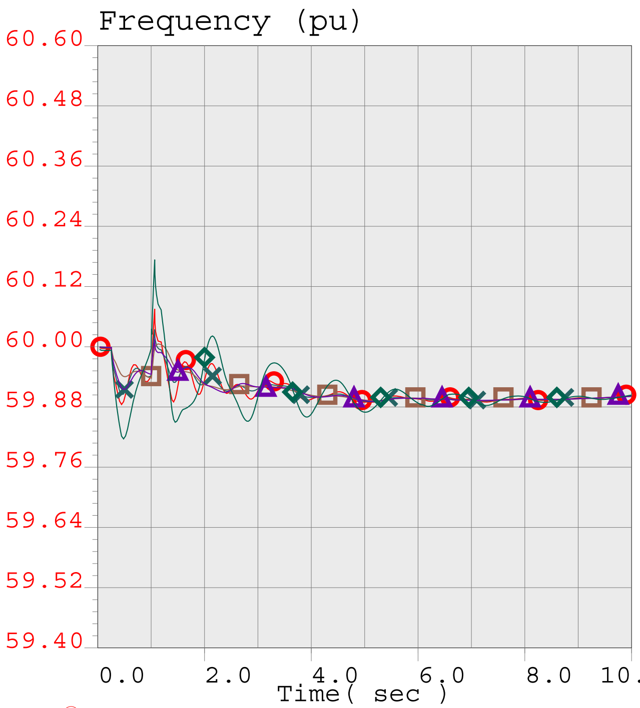

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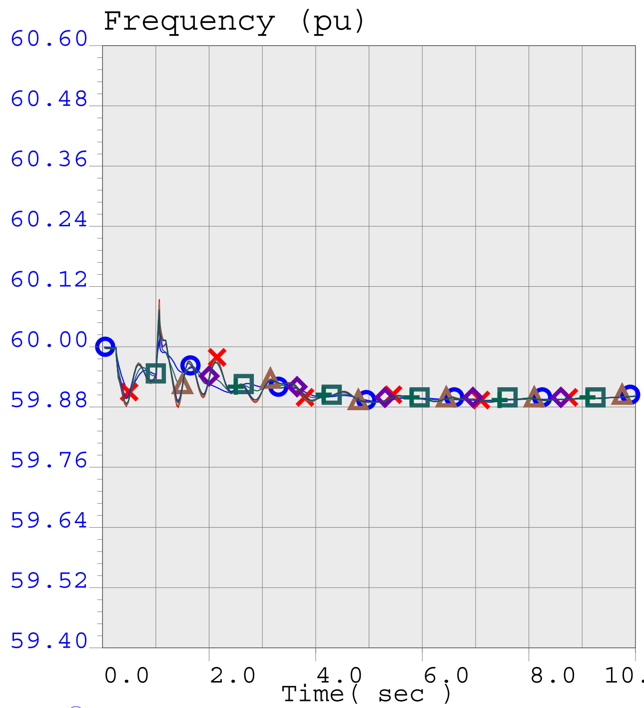

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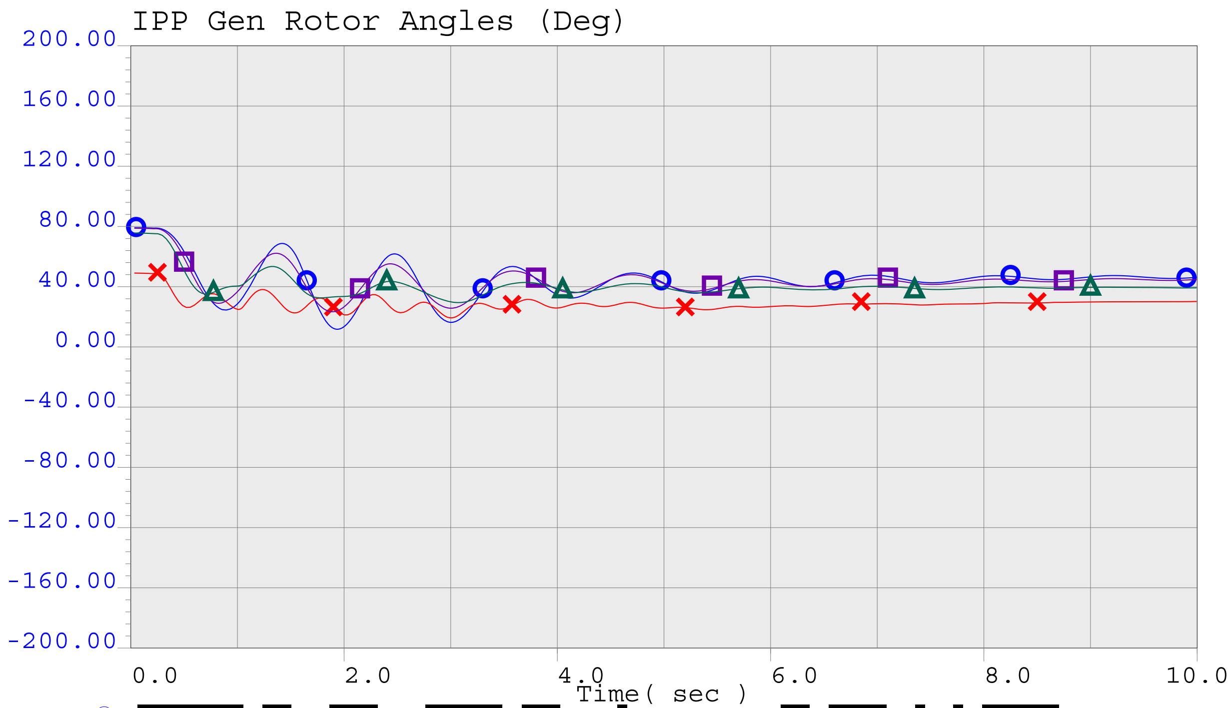
Fri Aug 26 08:41:24 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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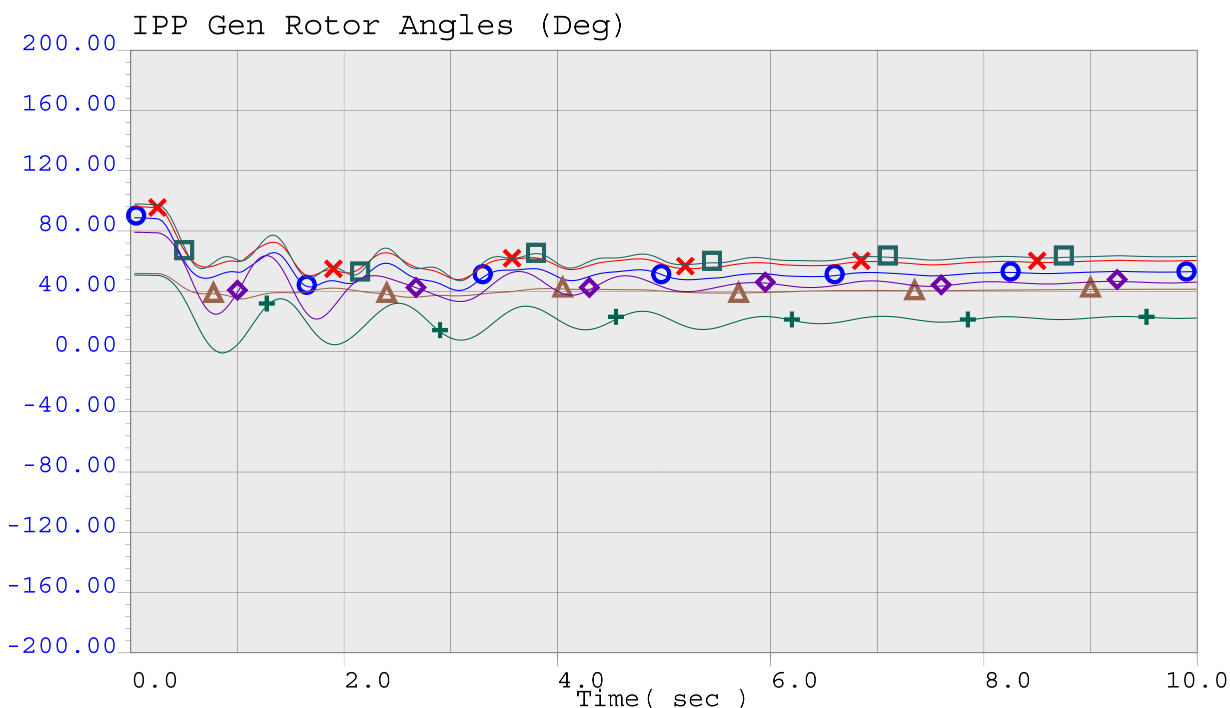

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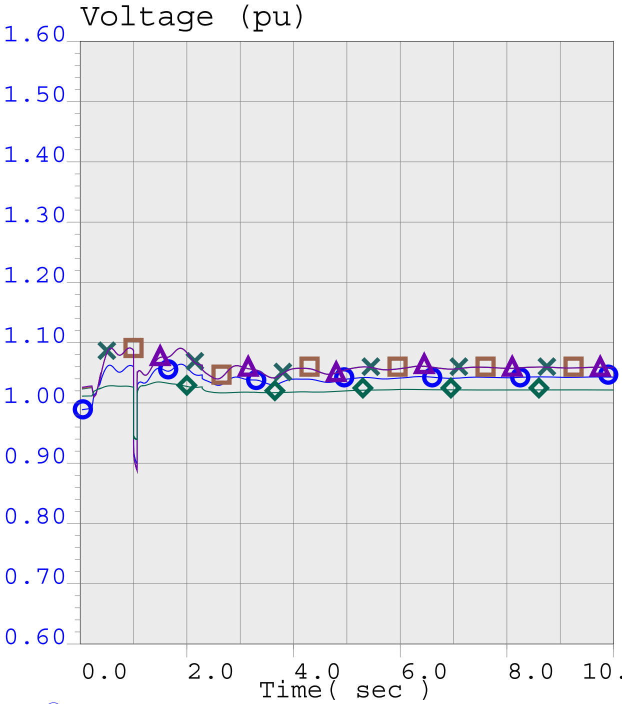
Fri Aug 26 08:41:24 2022

SYSTEM IMPACT STUDY (Voltage)



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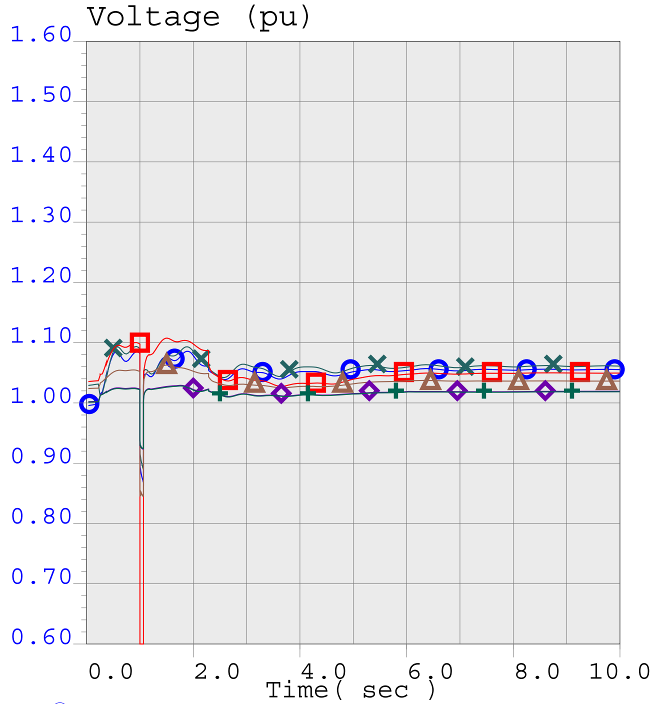

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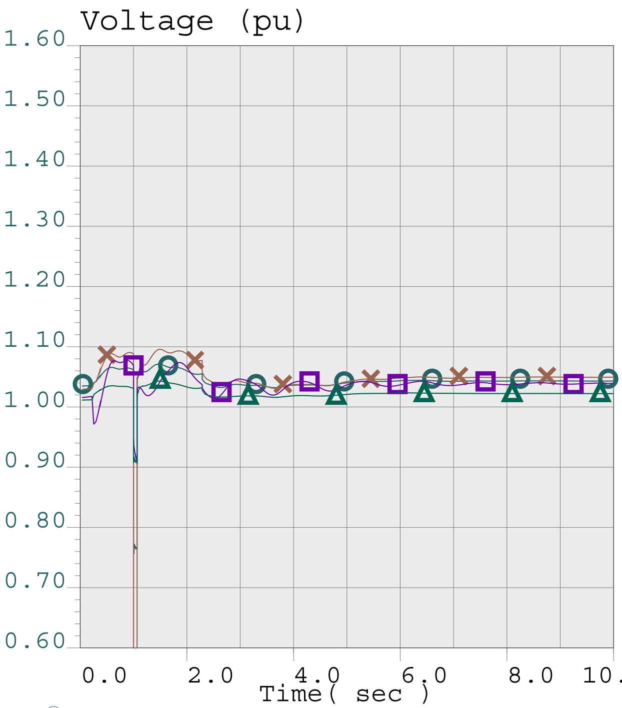

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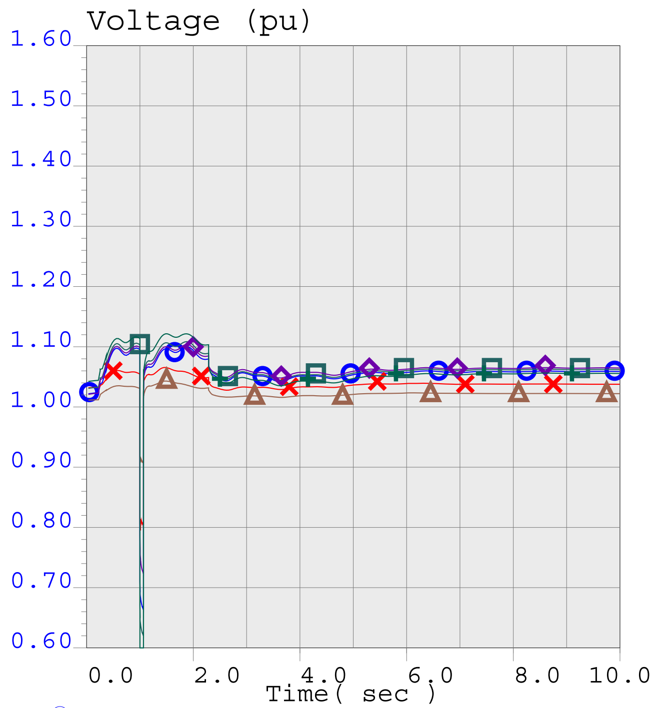

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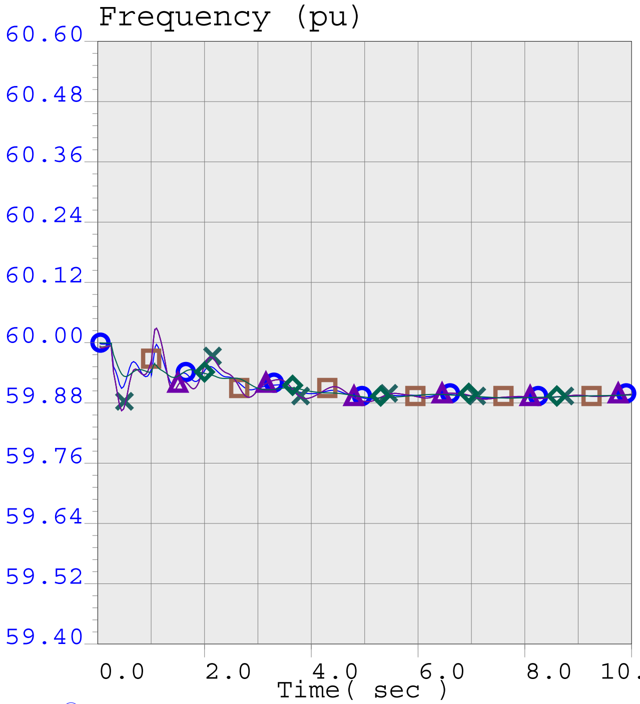
Fri Aug 26 08:41:26 2022

SYSTEM IMPACT STUDY (Frequency)



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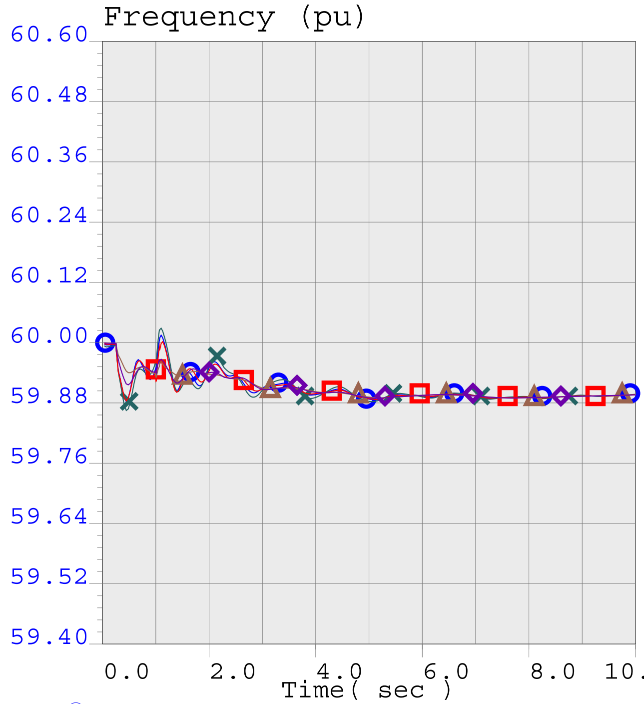

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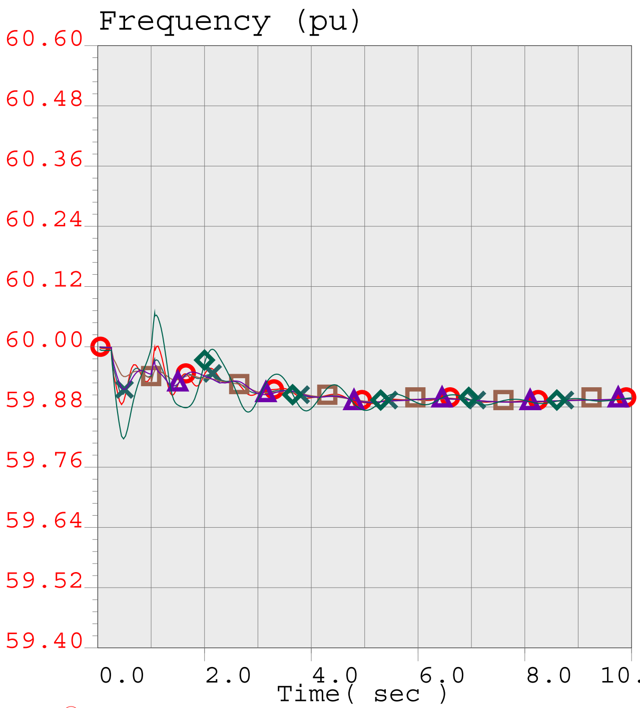

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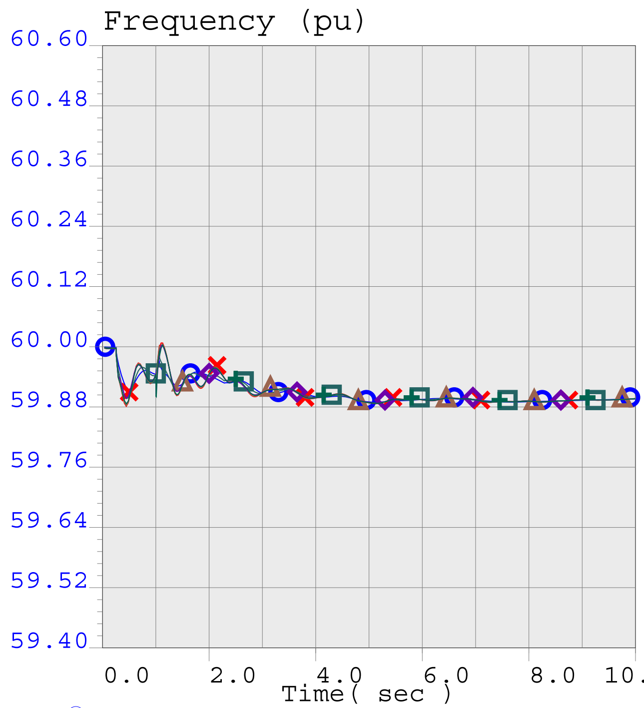

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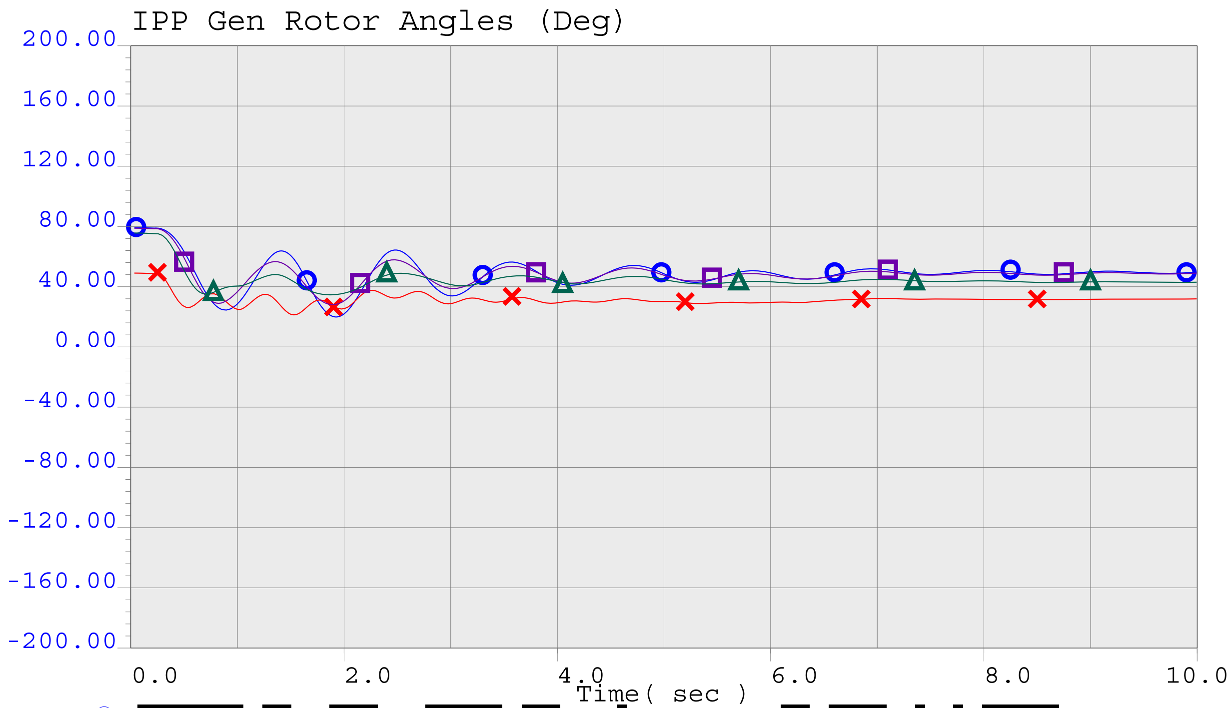
Fri Aug 26 08:41:26 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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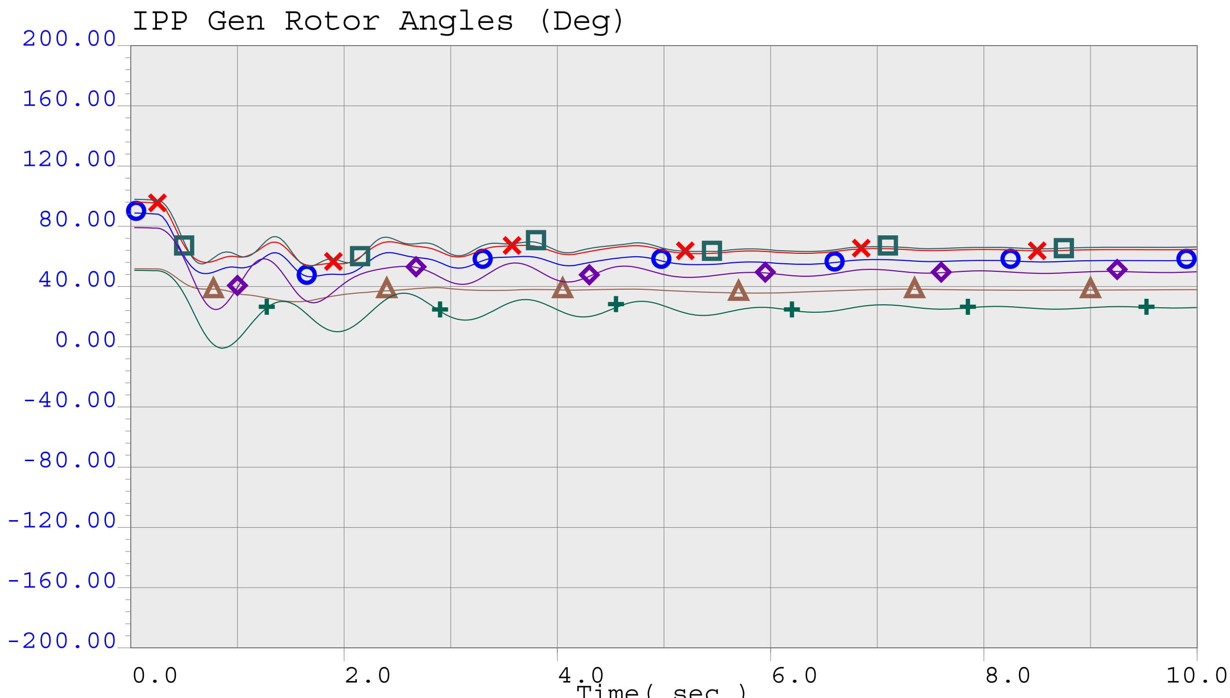

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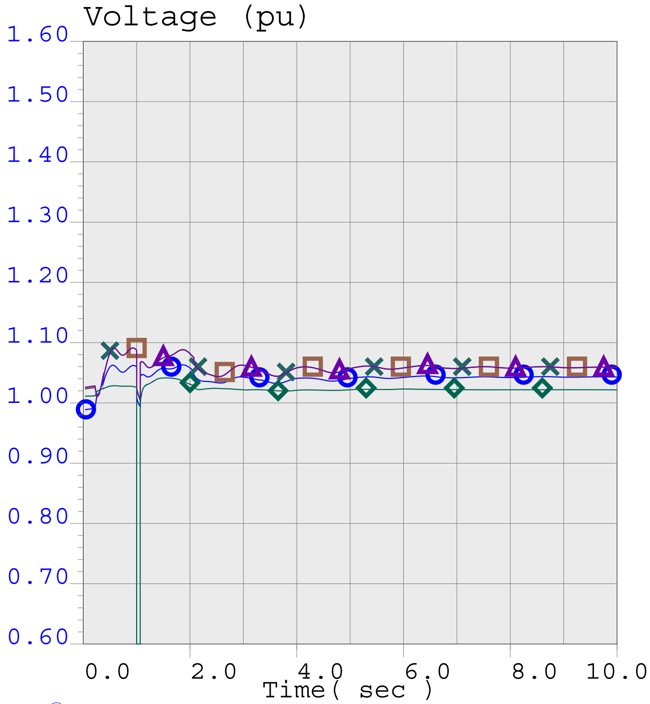

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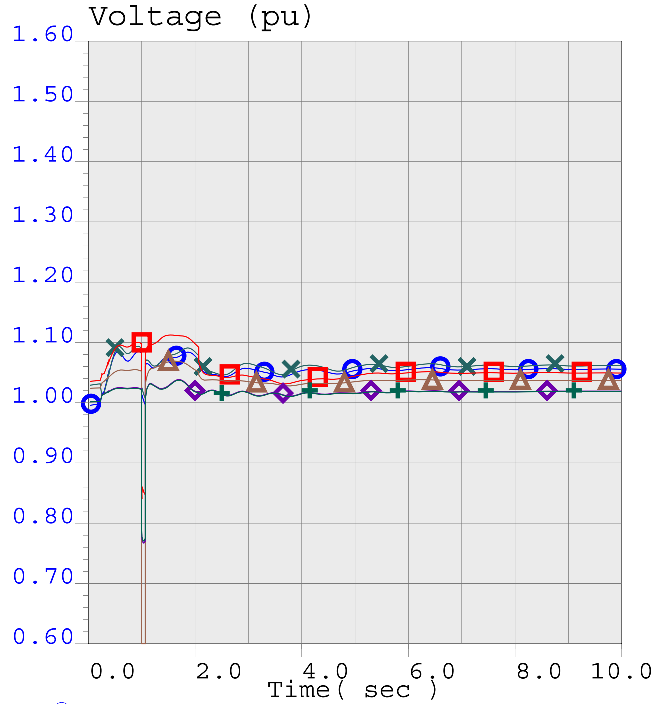

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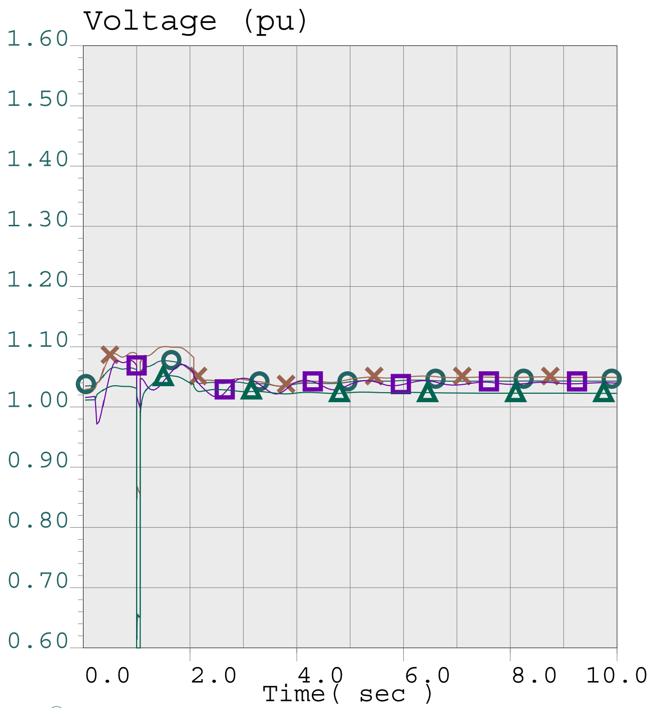

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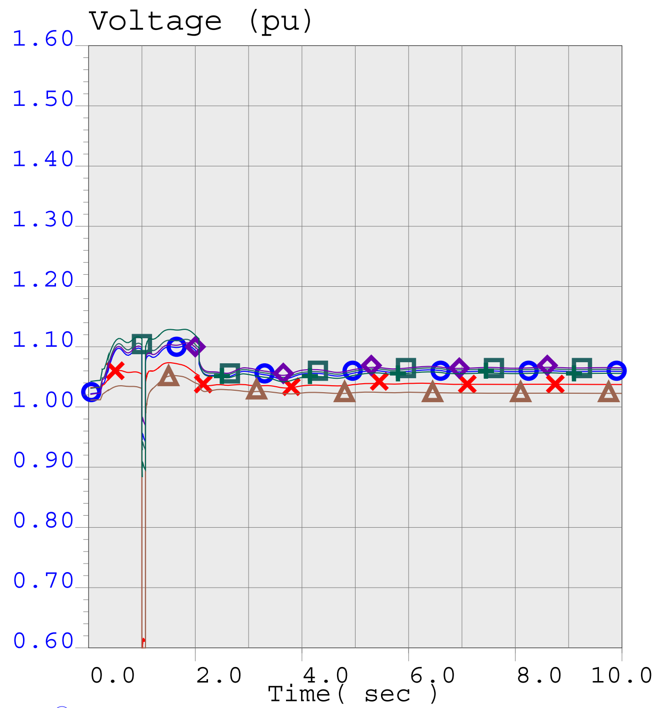

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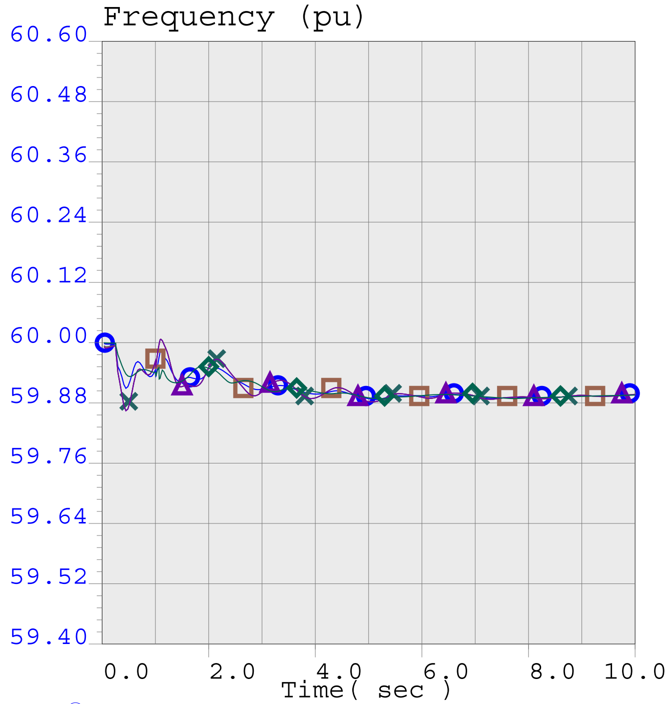

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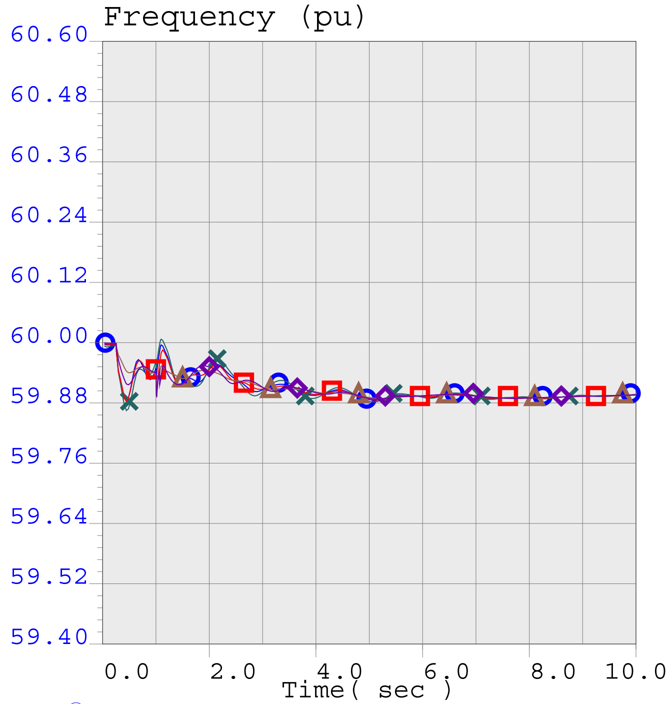

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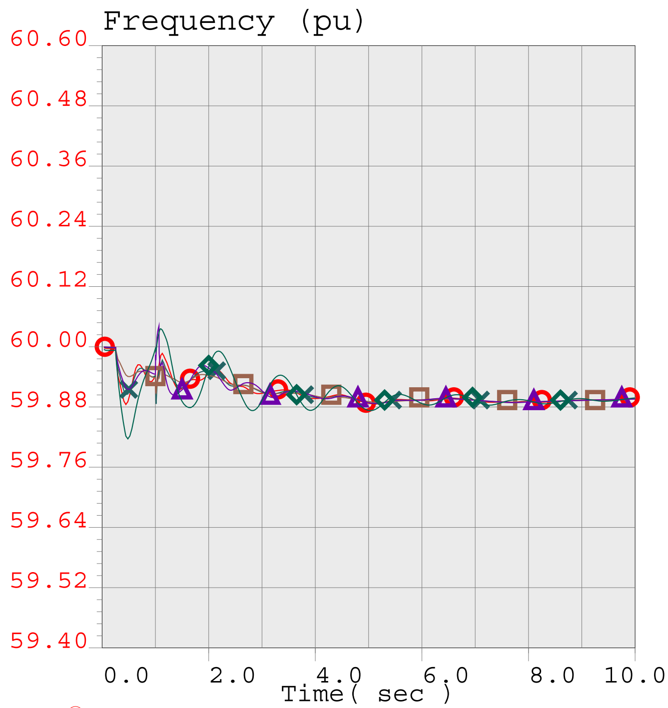

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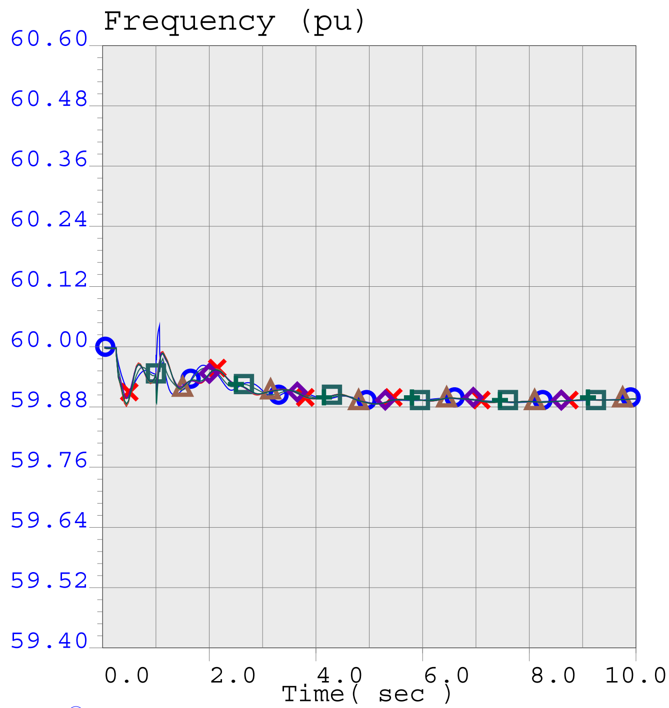

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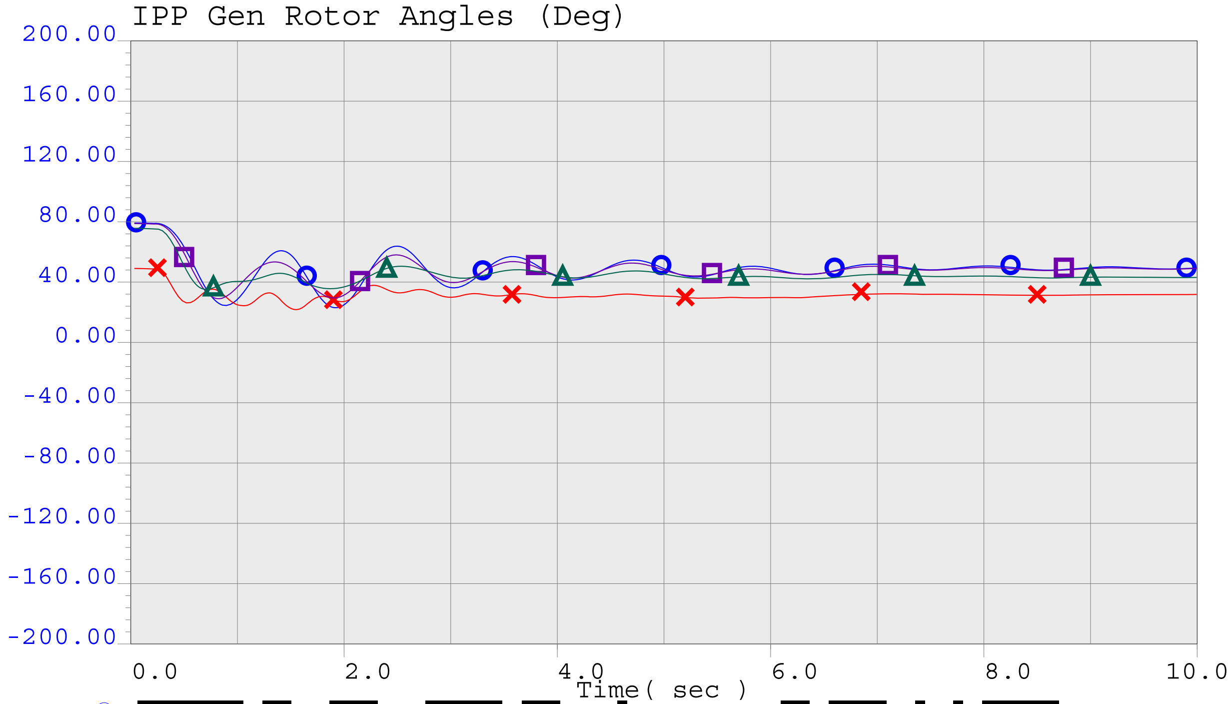
Fri Aug 26 08:41:29 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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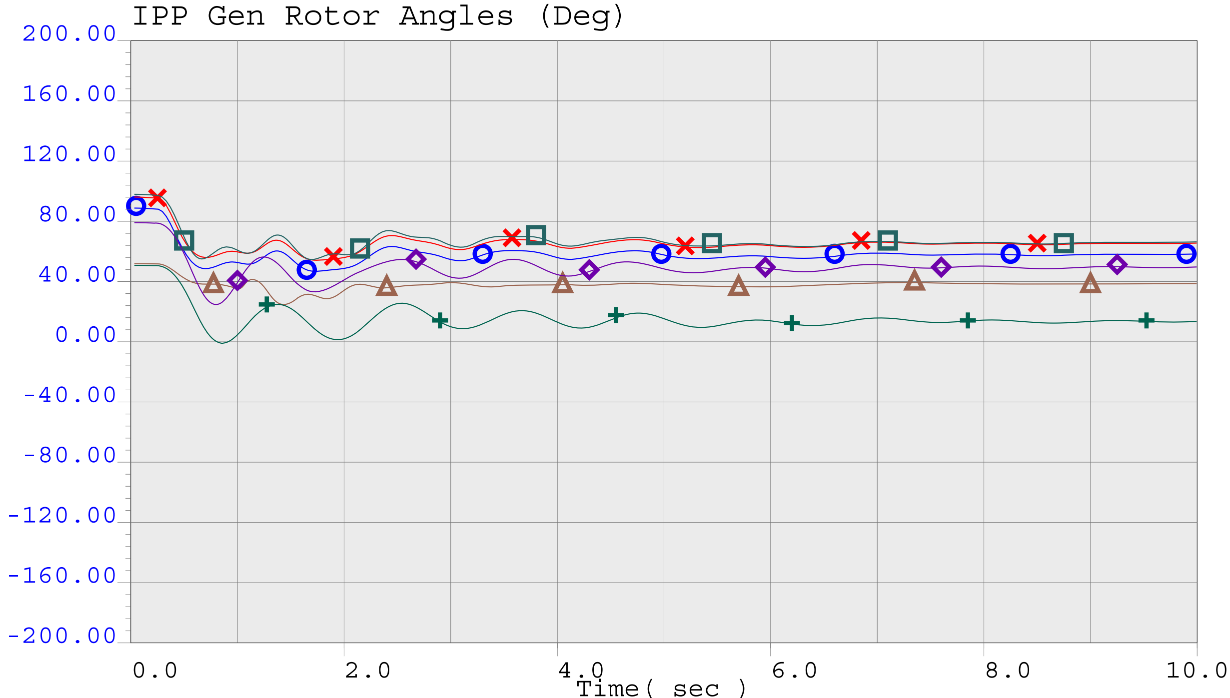
IPP Gen Rotor Angles (Deg)



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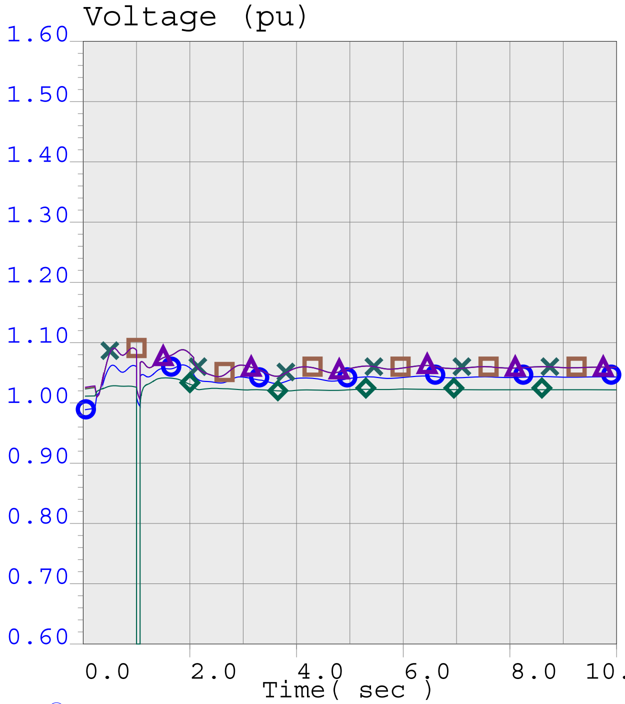
SYSTEM IMPACT STUDY (Voltage)



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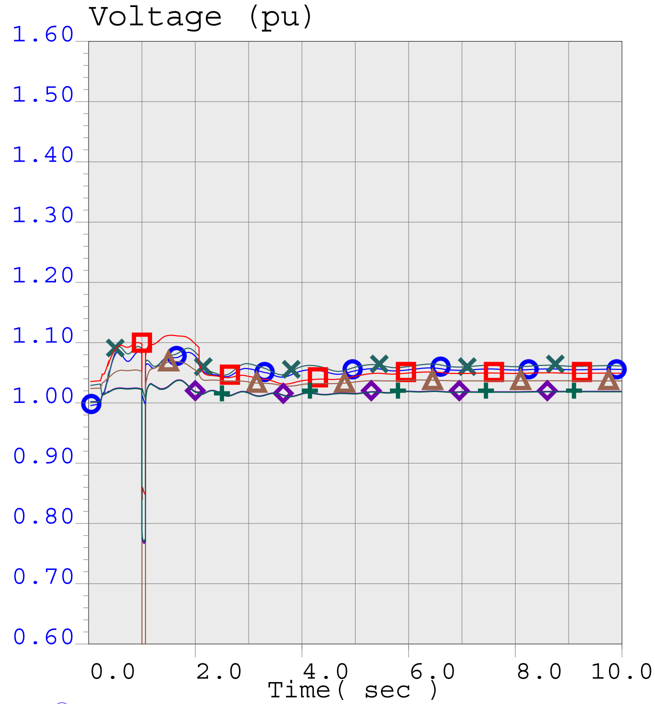

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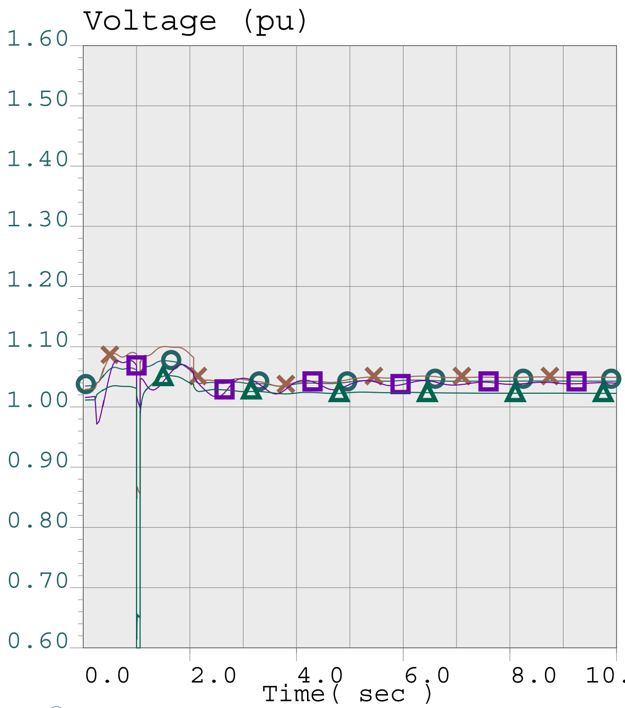

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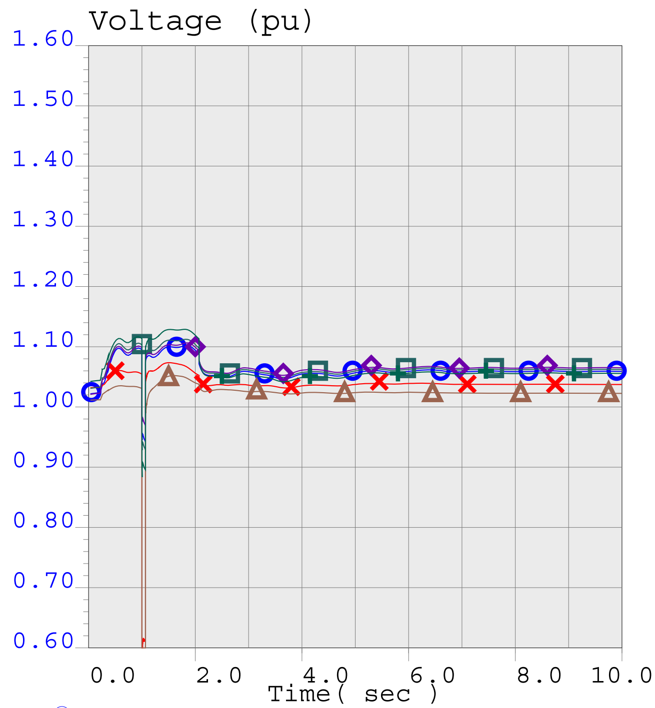

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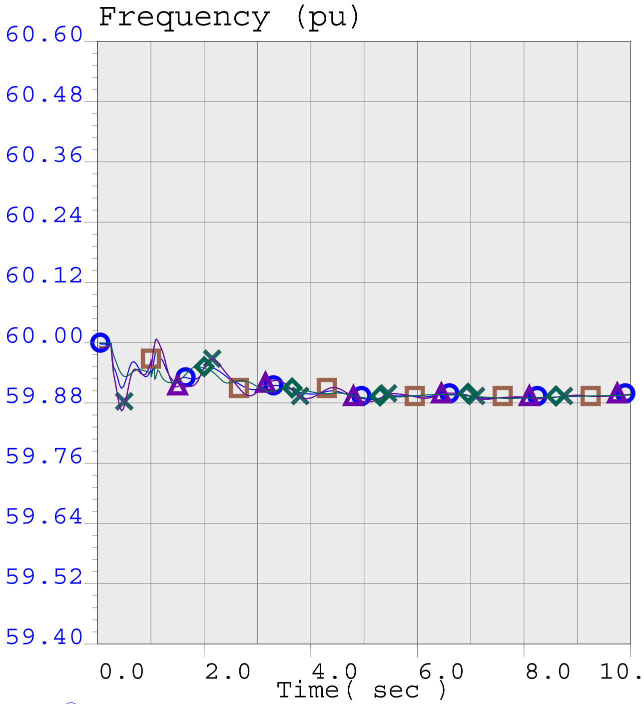
Fri Aug 26 08:41:31 2022

SYSTEM IMPACT STUDY (Frequency)



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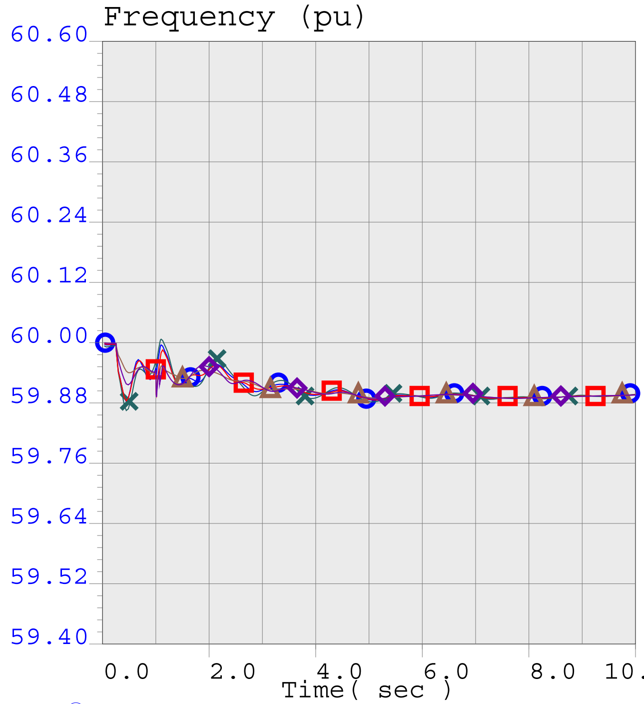

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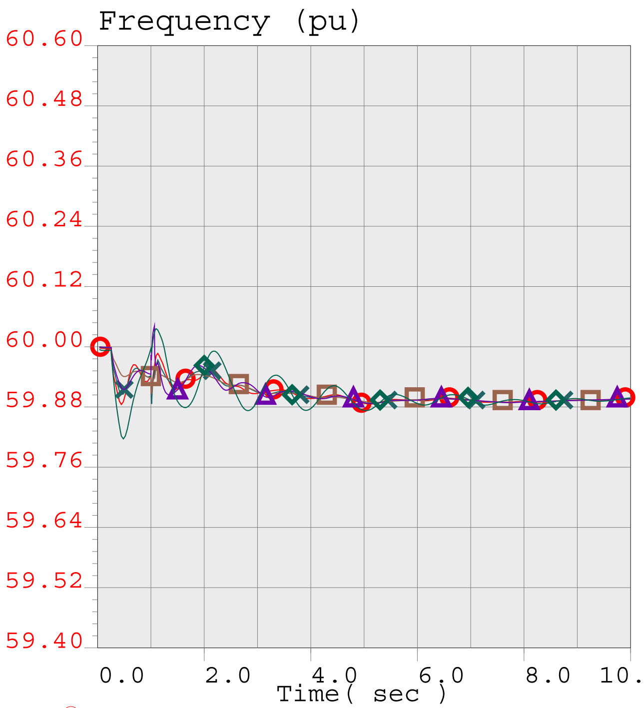

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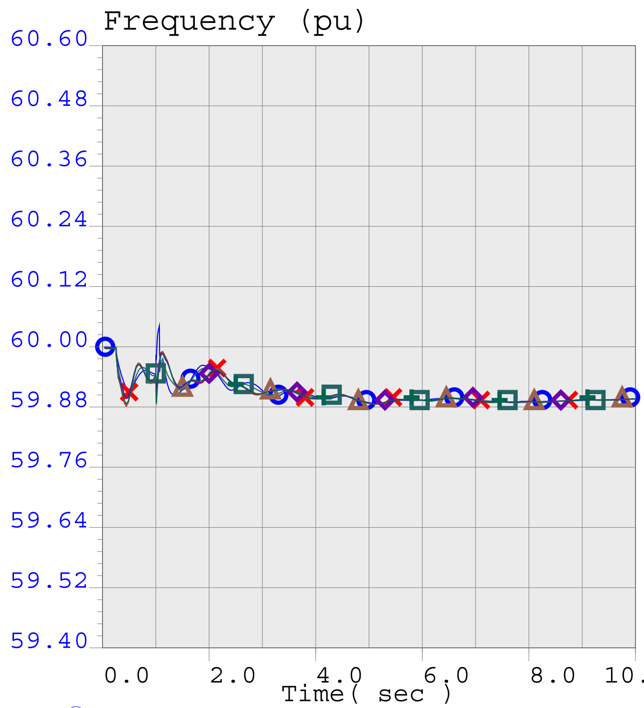

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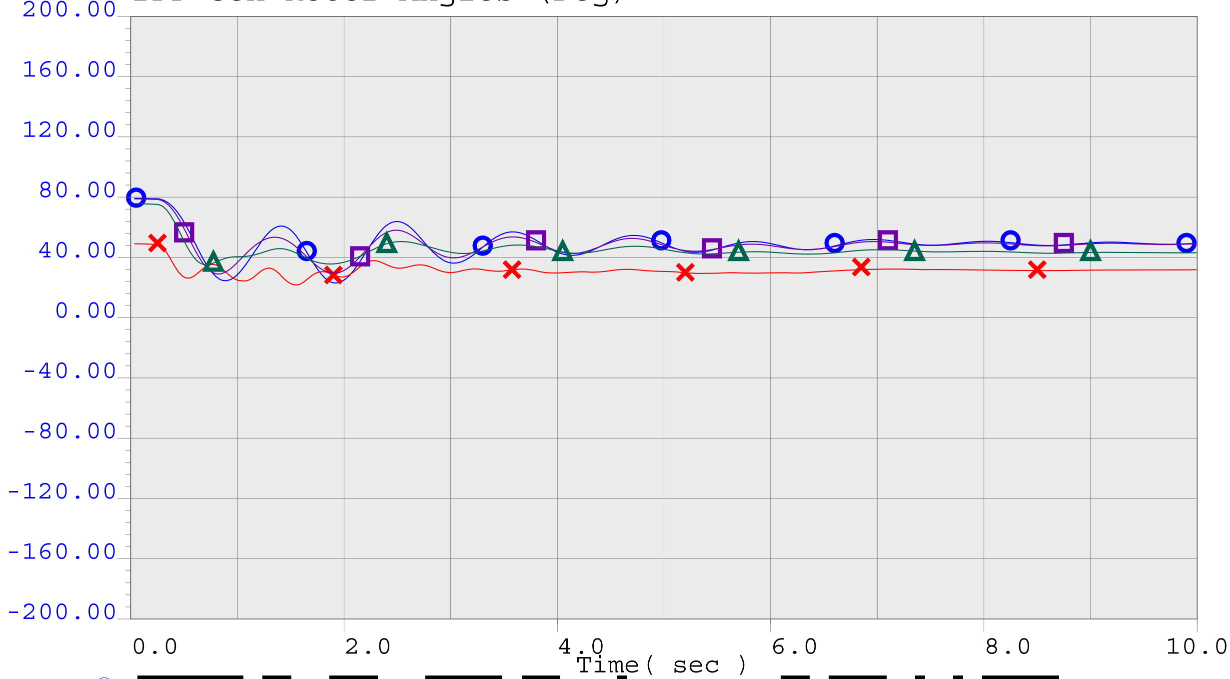
Fri Aug 26 08:41:31 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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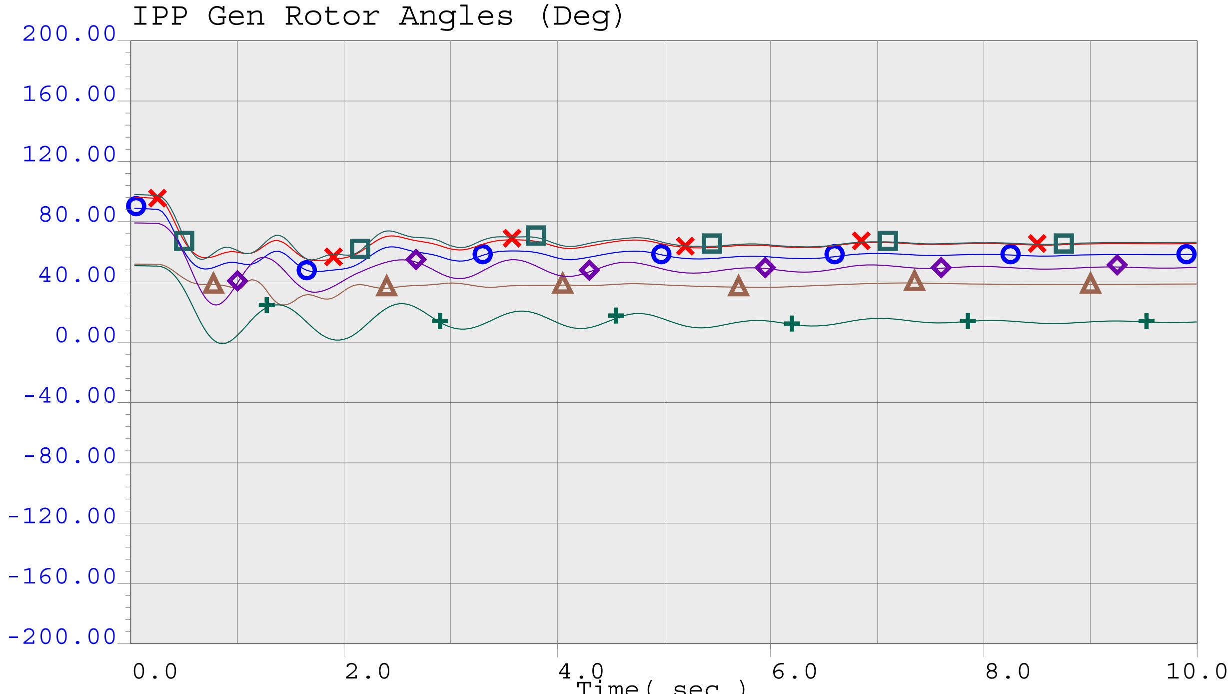
IPP Gen Rotor Angles (Deg)



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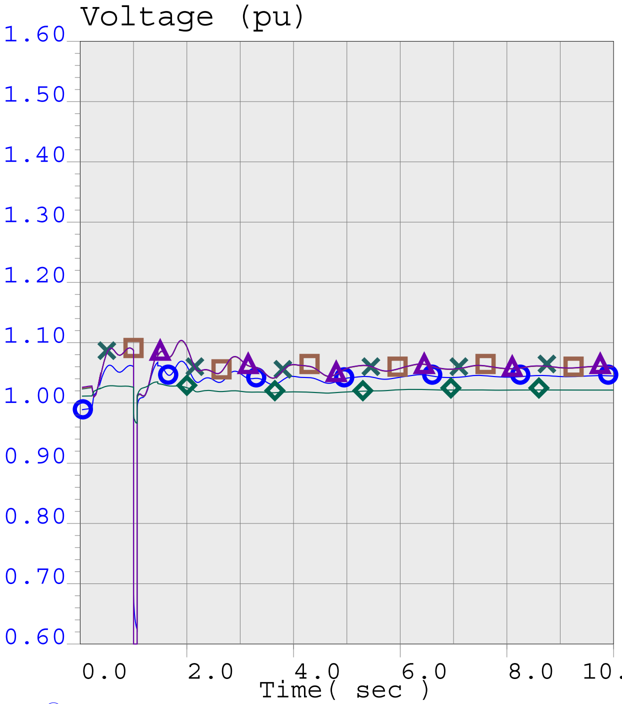
SYSTEM IMPACT STUDY (Voltage)



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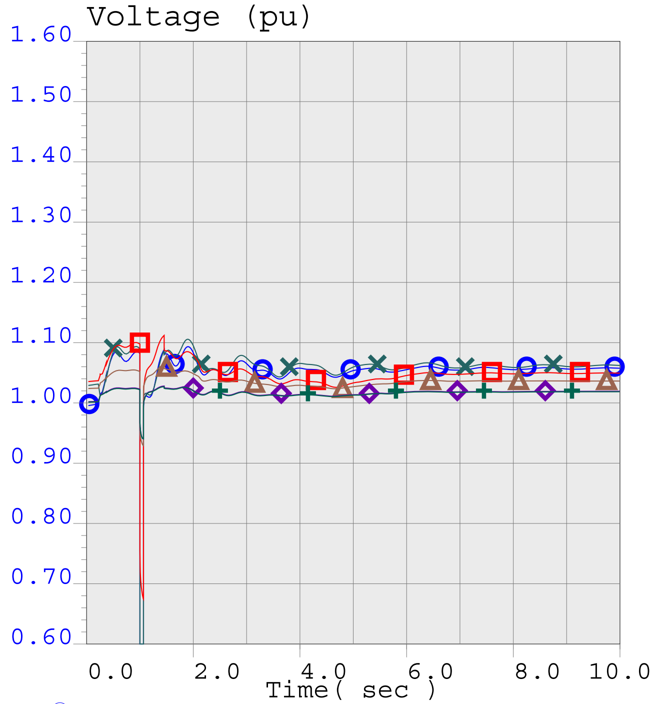

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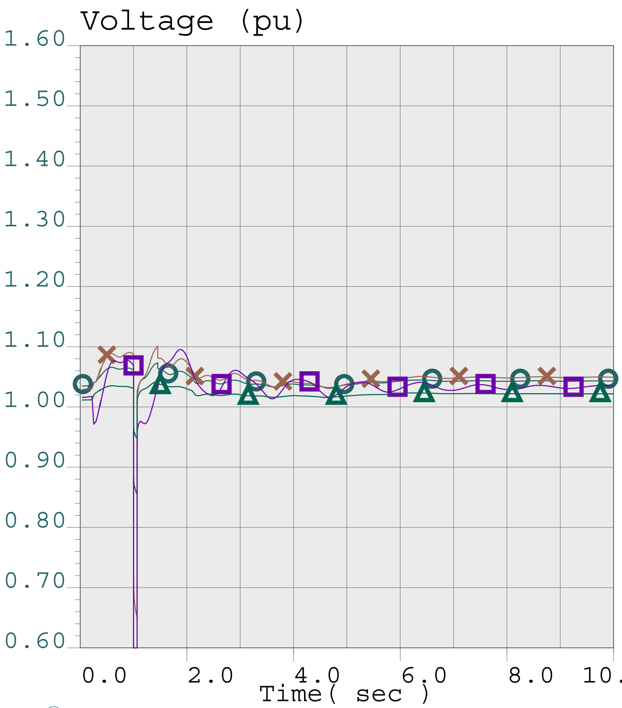

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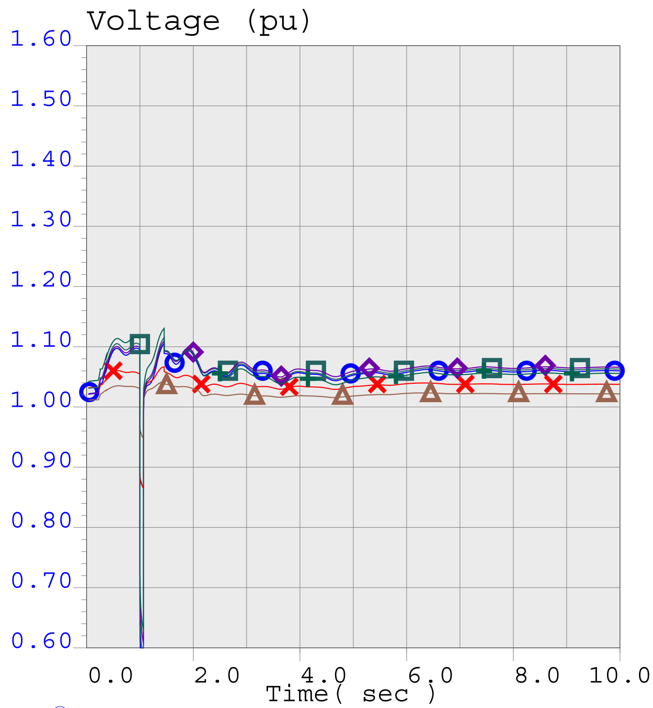

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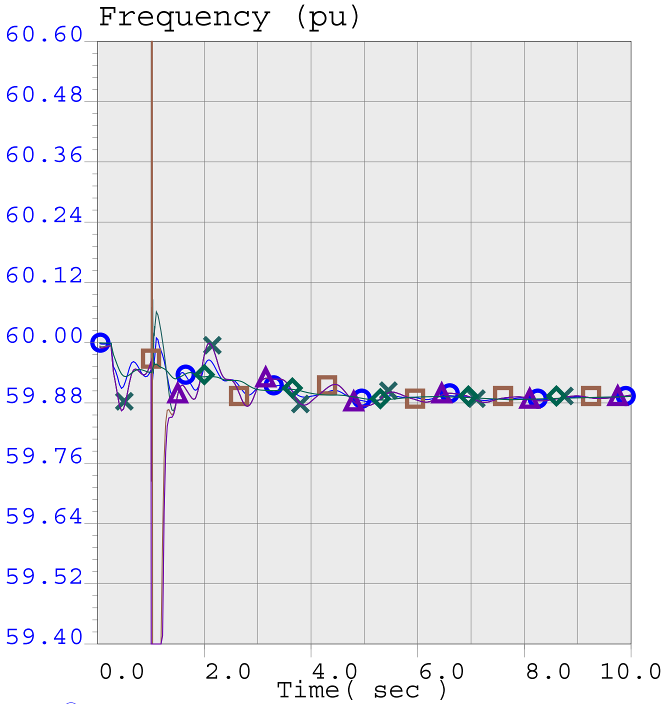

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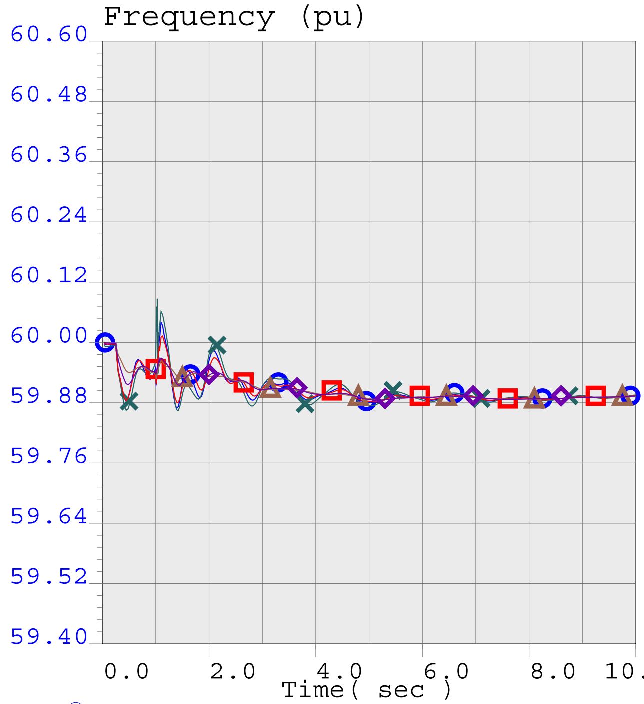

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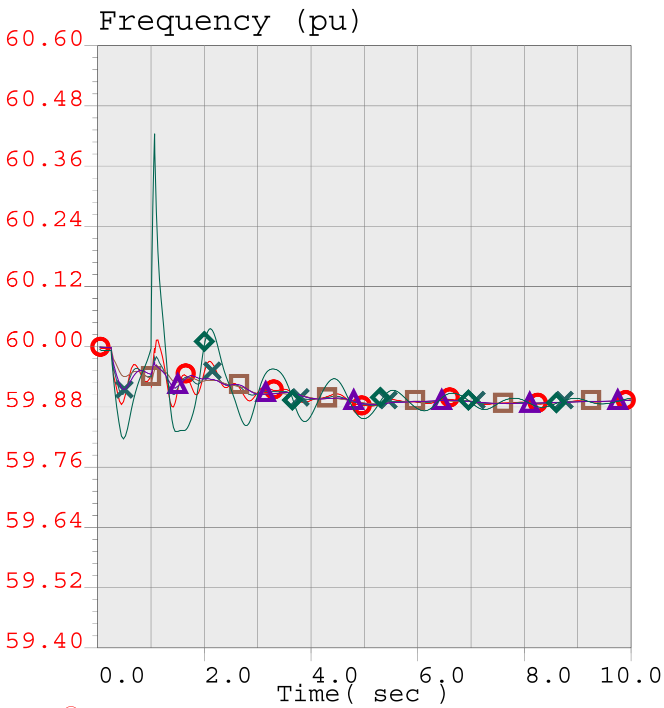

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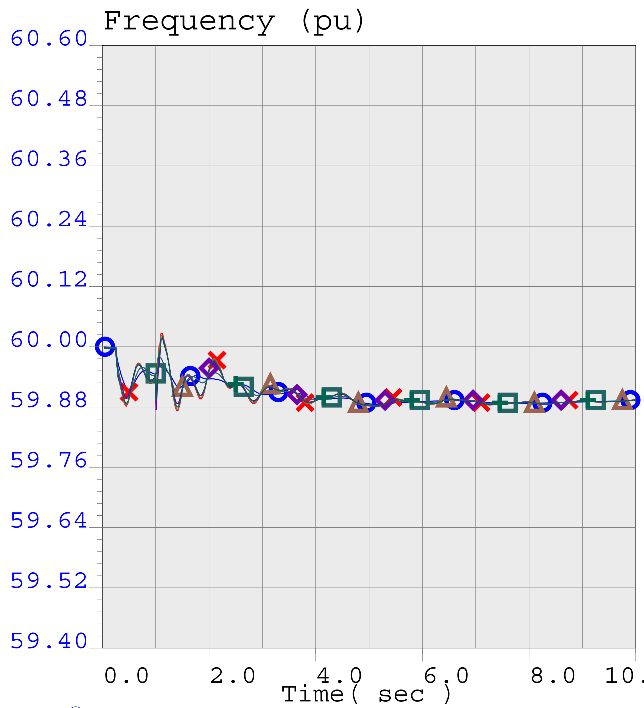

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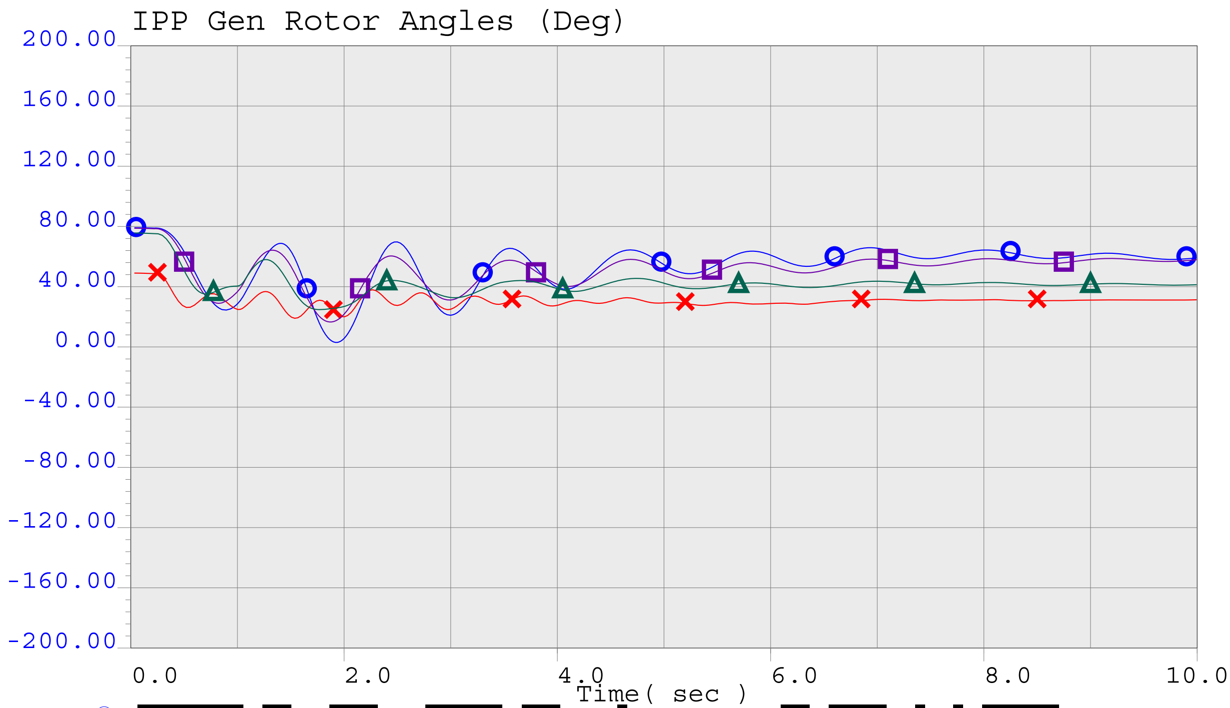
SYSTEM IMPACT STUDY (Rotor Angles)



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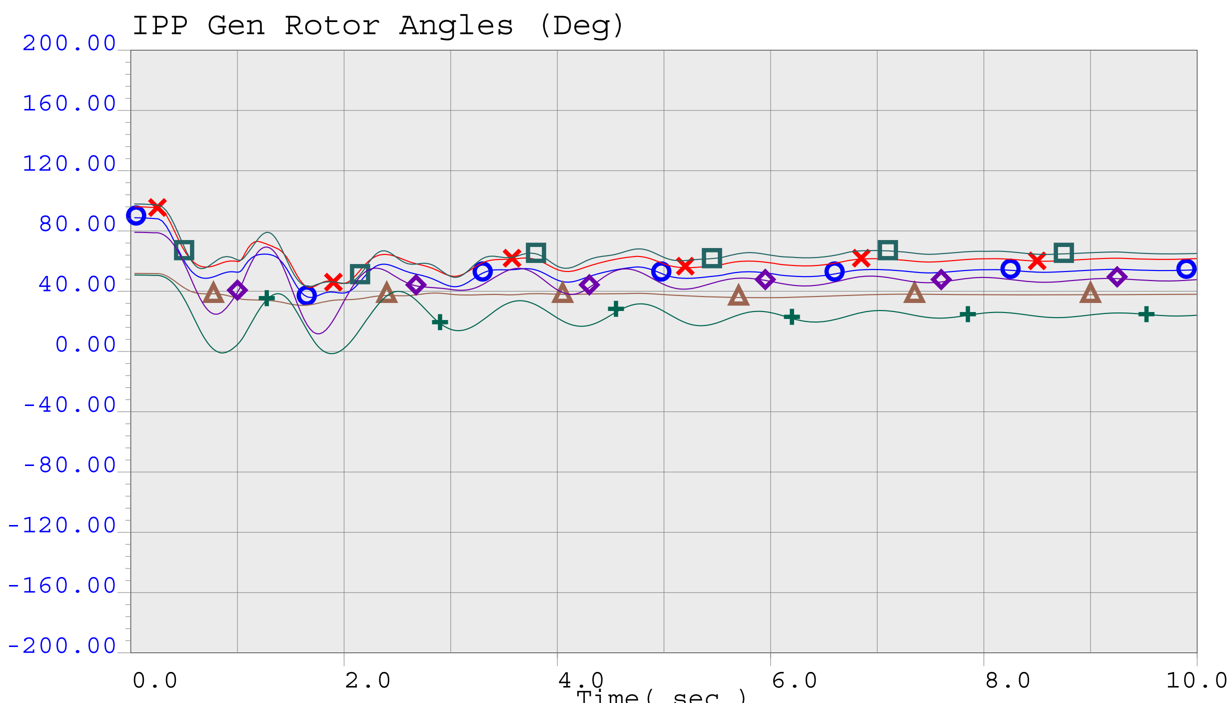

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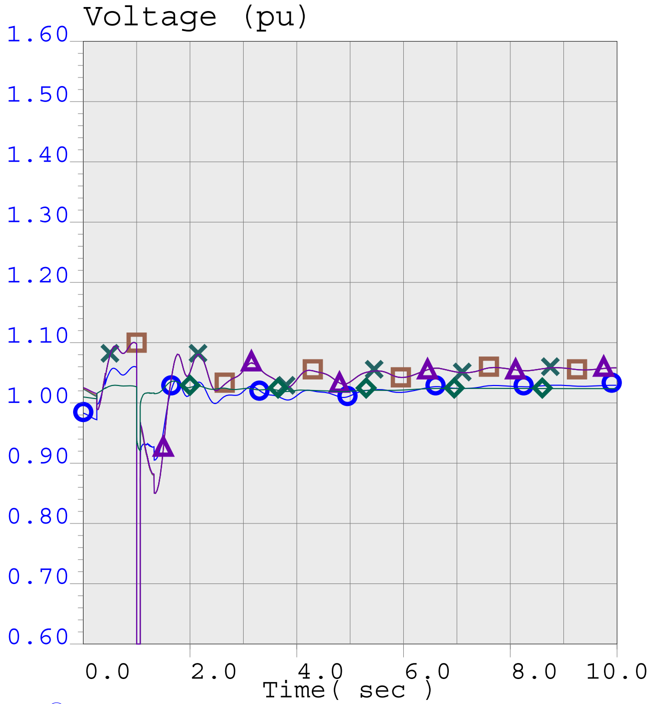

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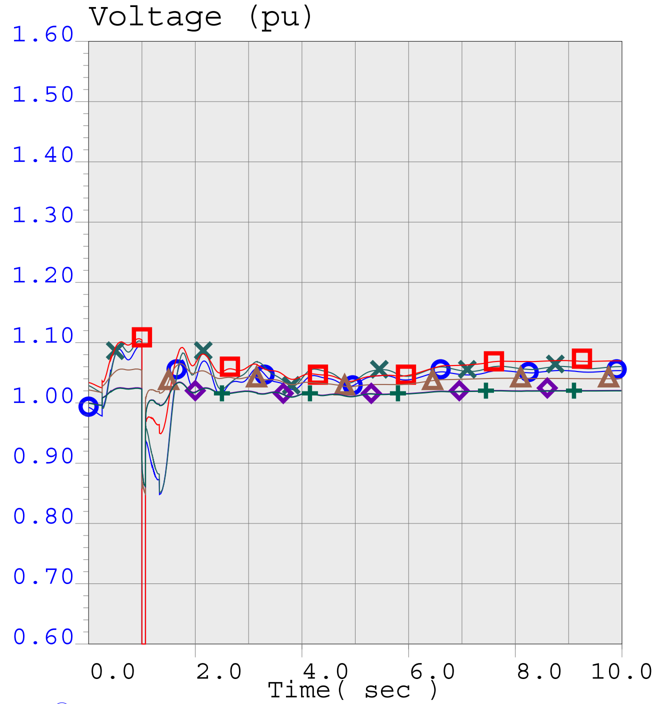

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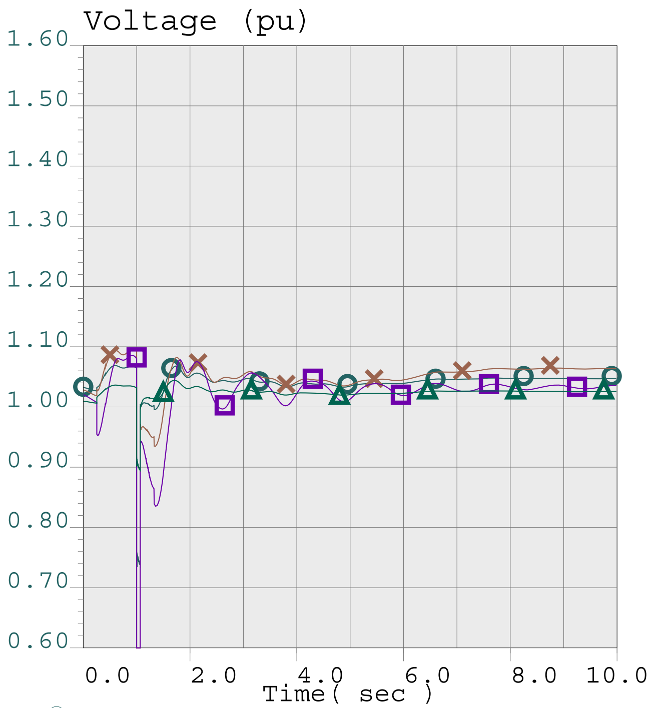

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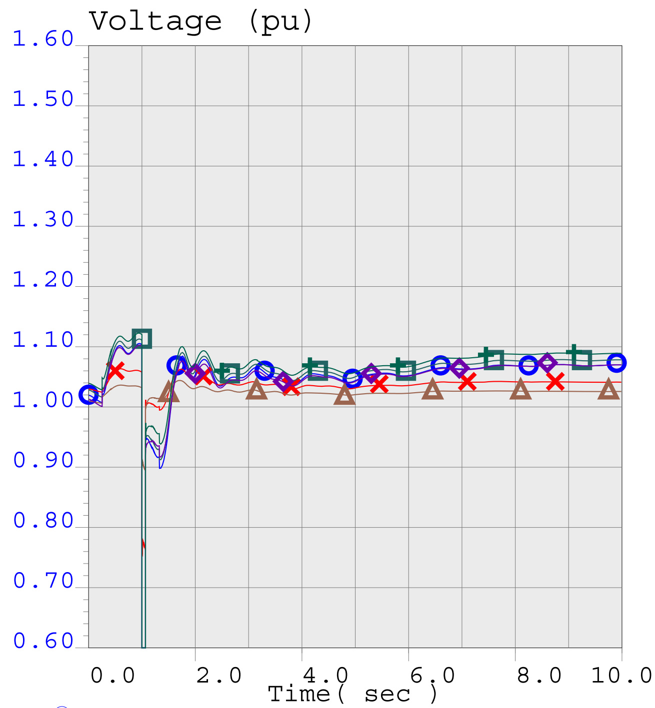

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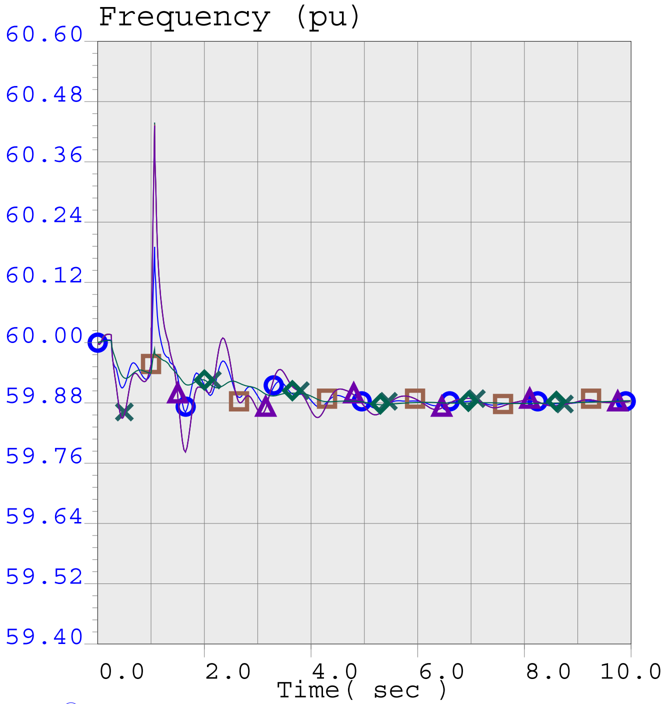
Fri Aug 26 08:41:35 2022

SYSTEM IMPACT STUDY (Frequency)



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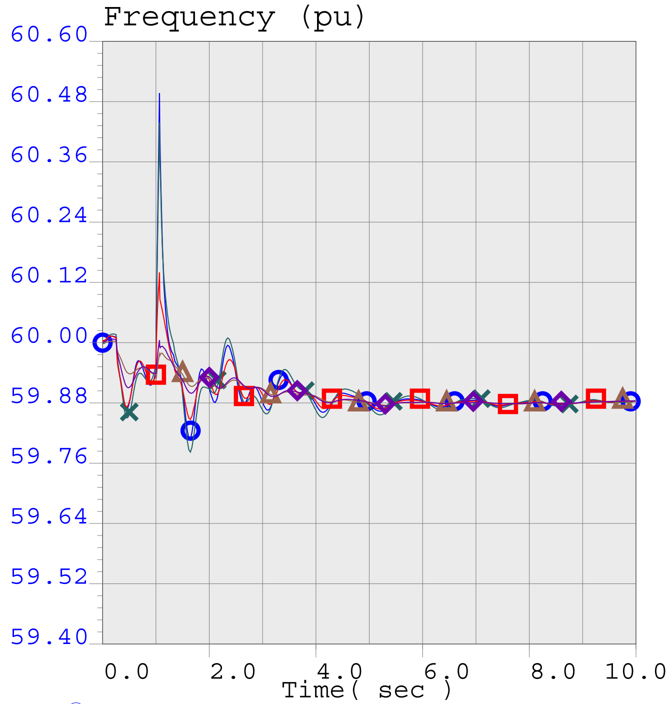

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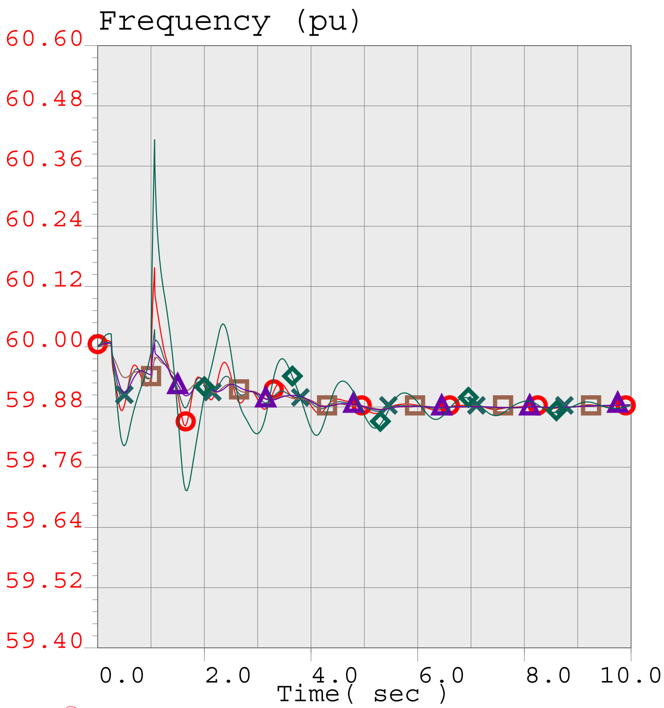

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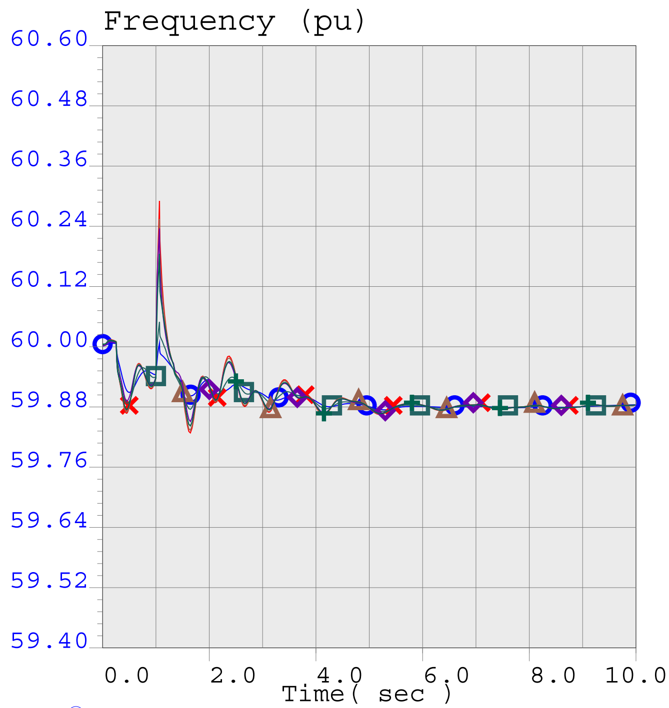

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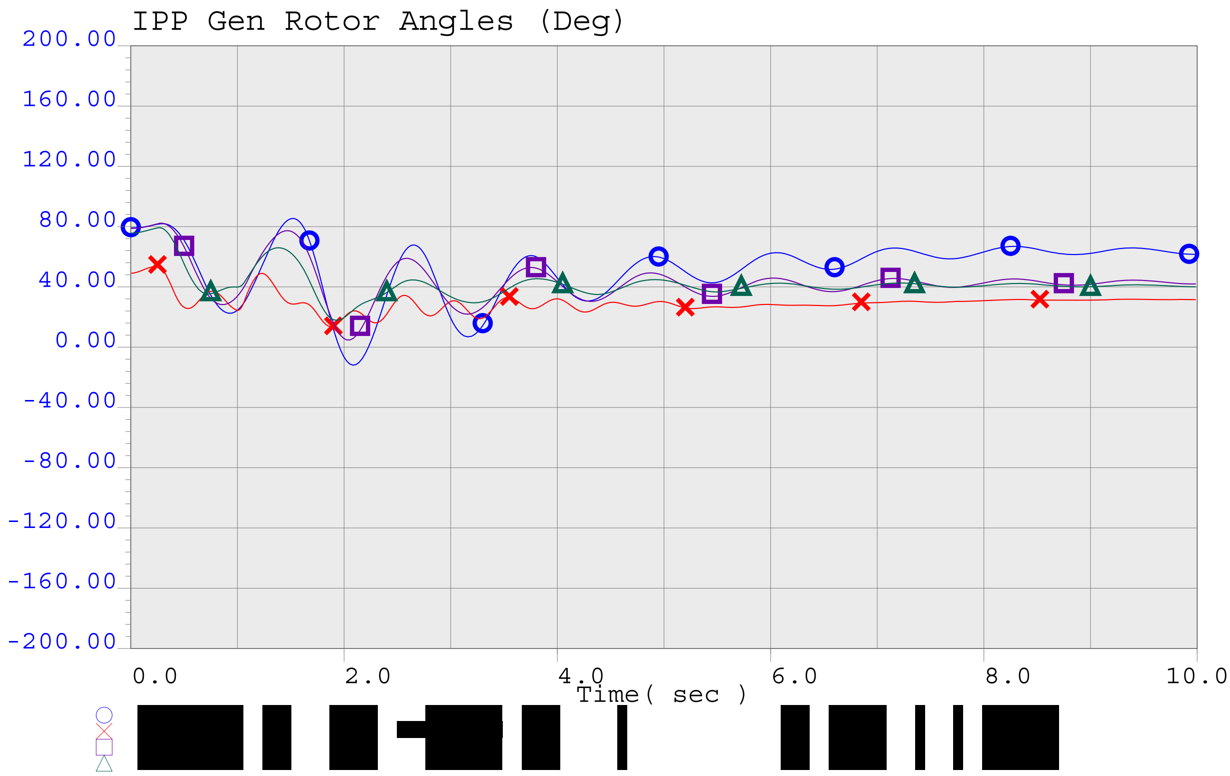
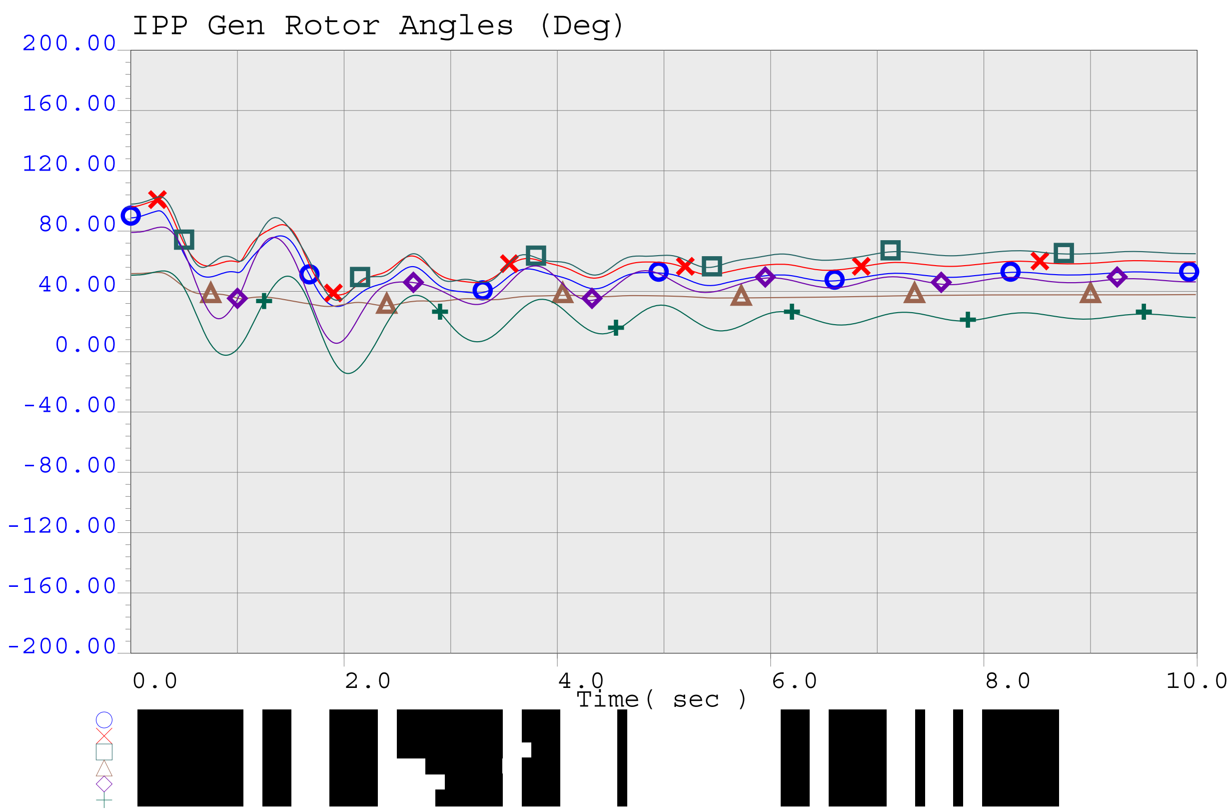
Fri Aug 26 08:41:35 2022

SYSTEM IMPACT STUDY (Rotor Angles)





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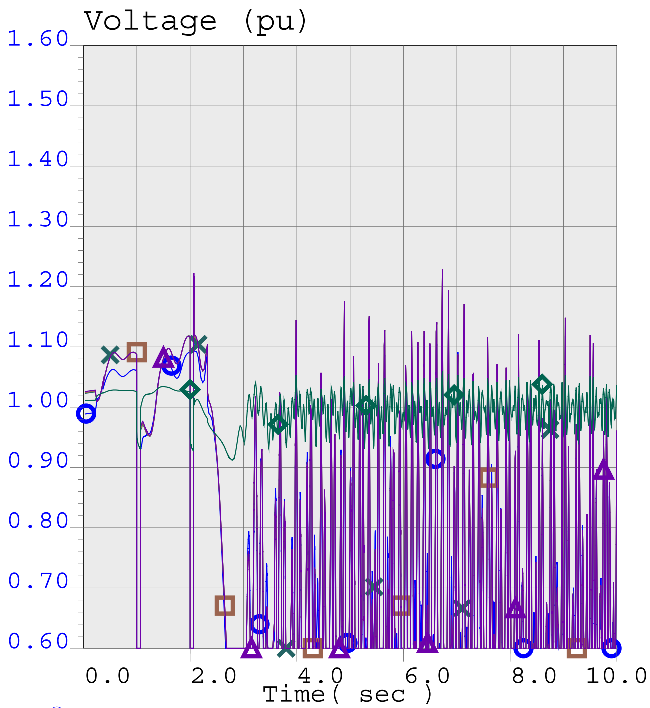
SYSTEM IMPACT STUDY (Voltage)



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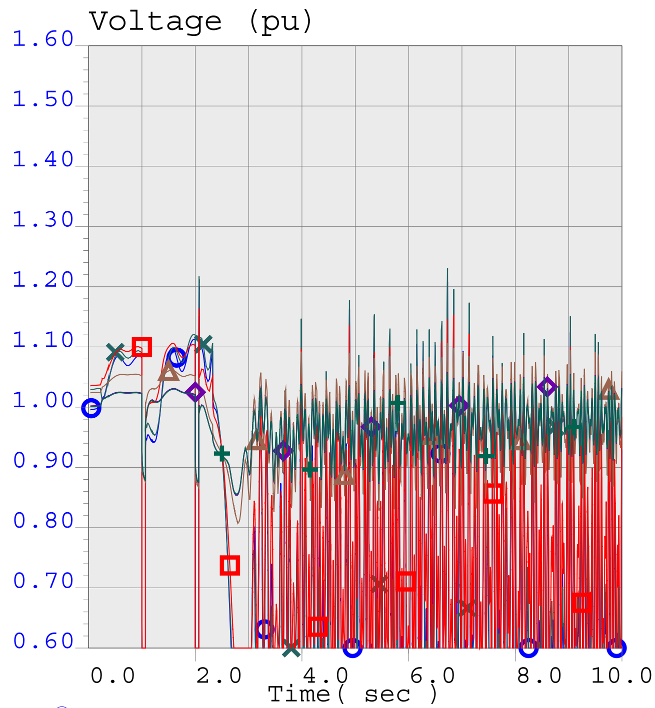

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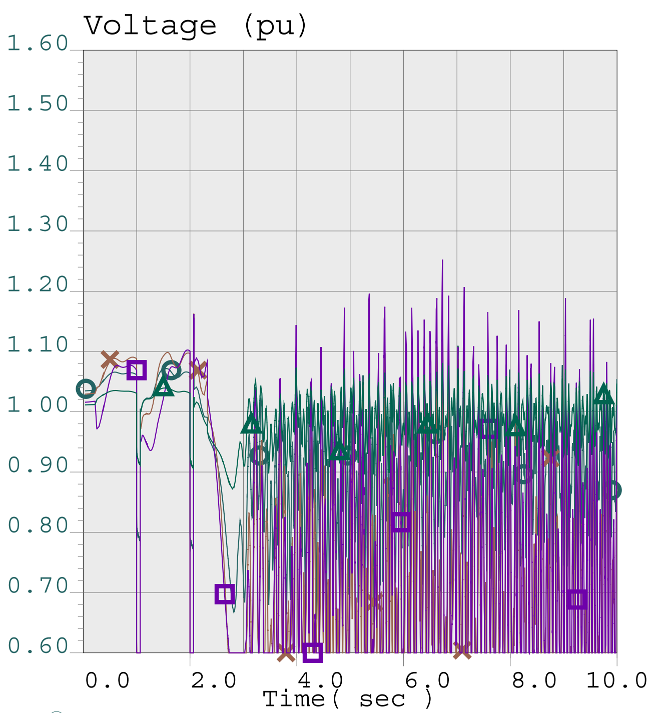

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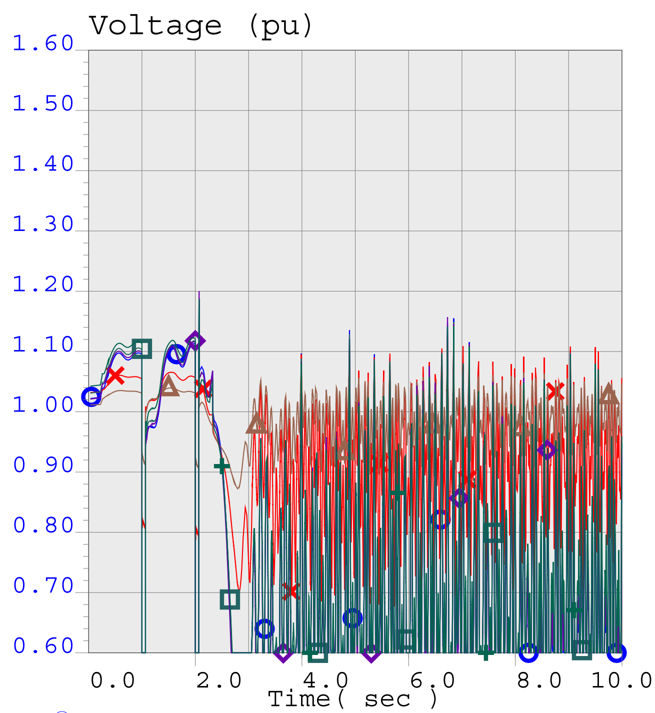

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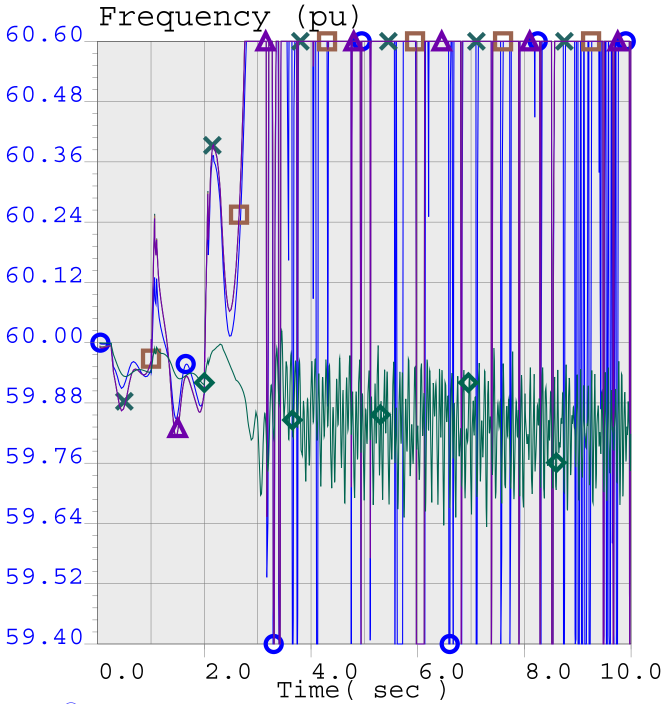

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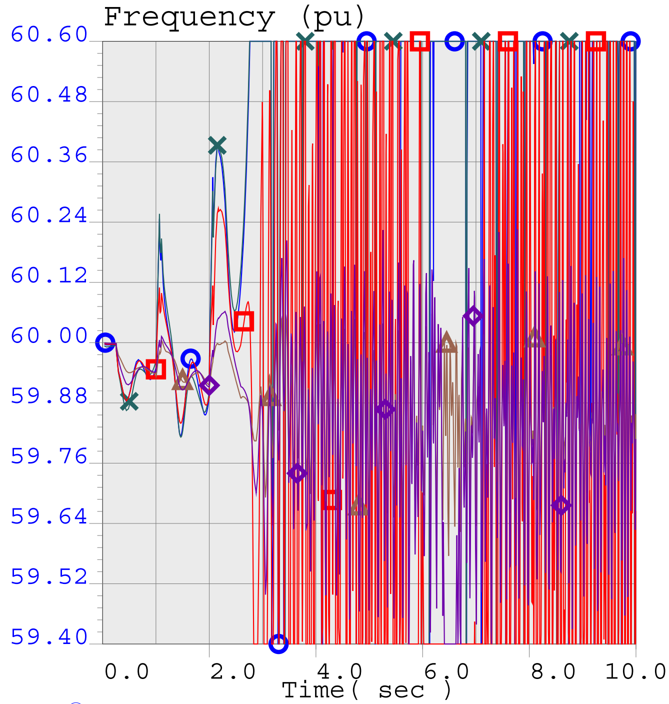

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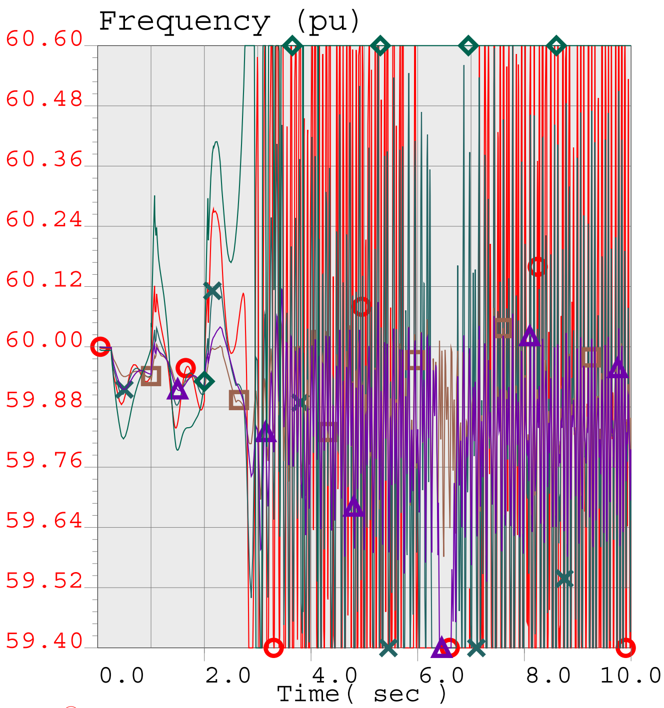

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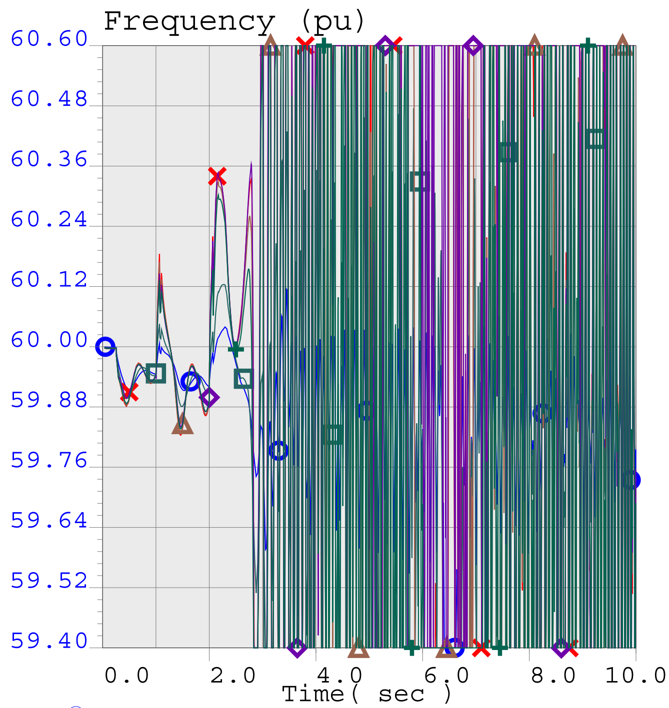

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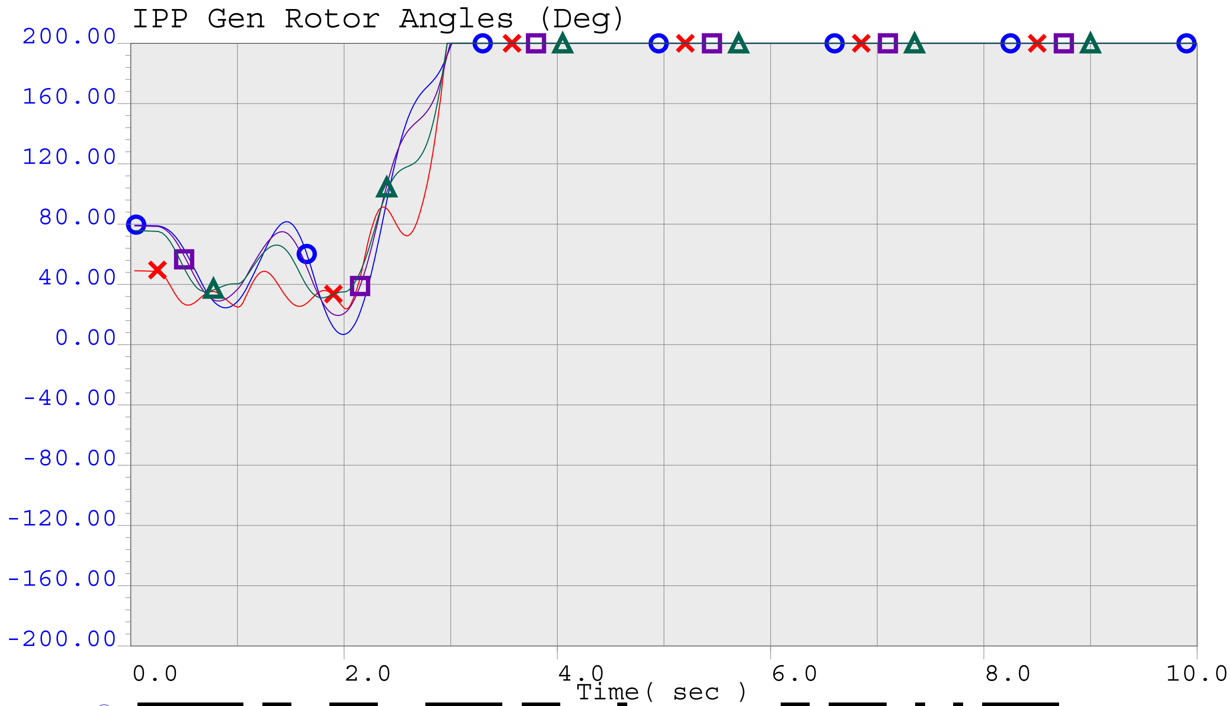
SYSTEM IMPACT STUDY (Rotor Angles)



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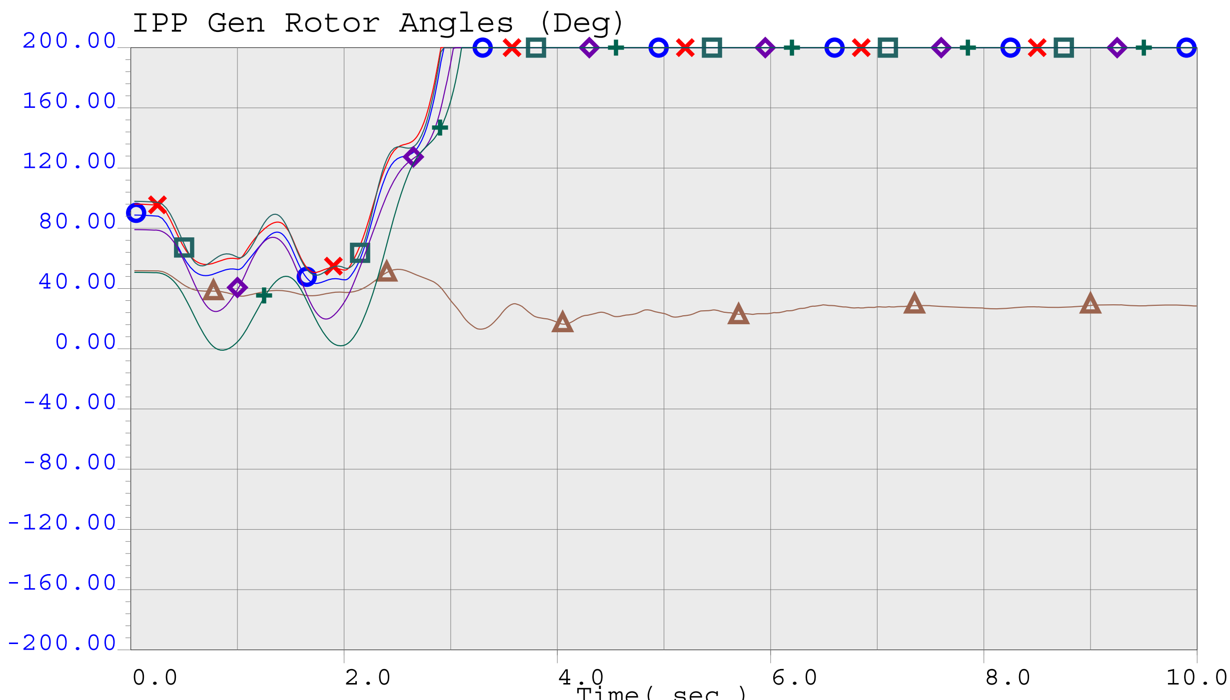

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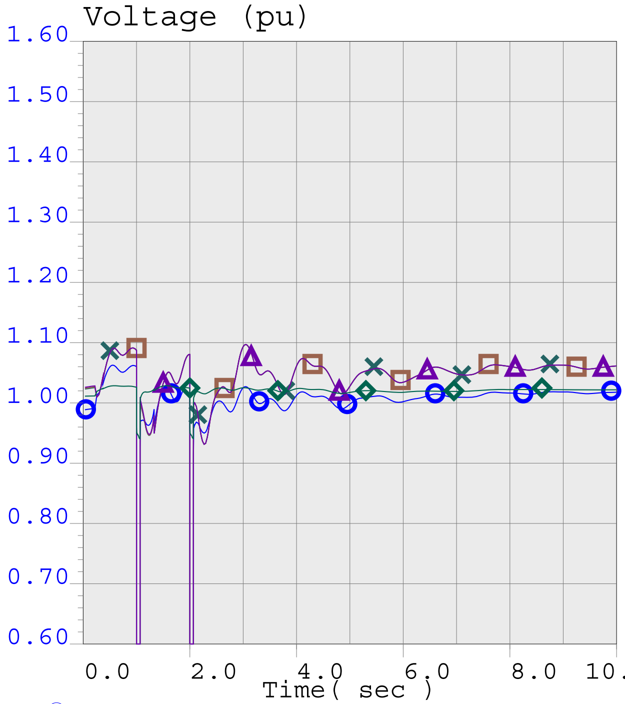
Fri Aug 26 08:41:49 2022

SYSTEM IMPACT STUDY (Voltage)



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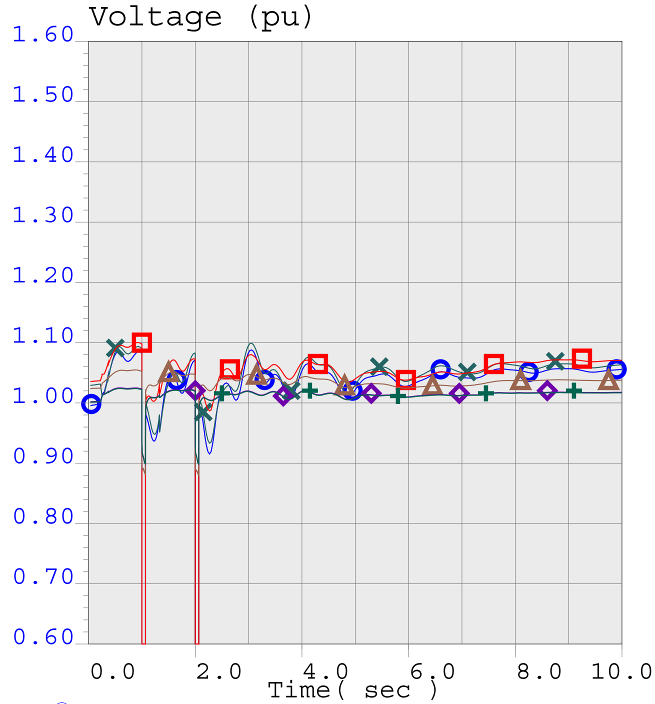

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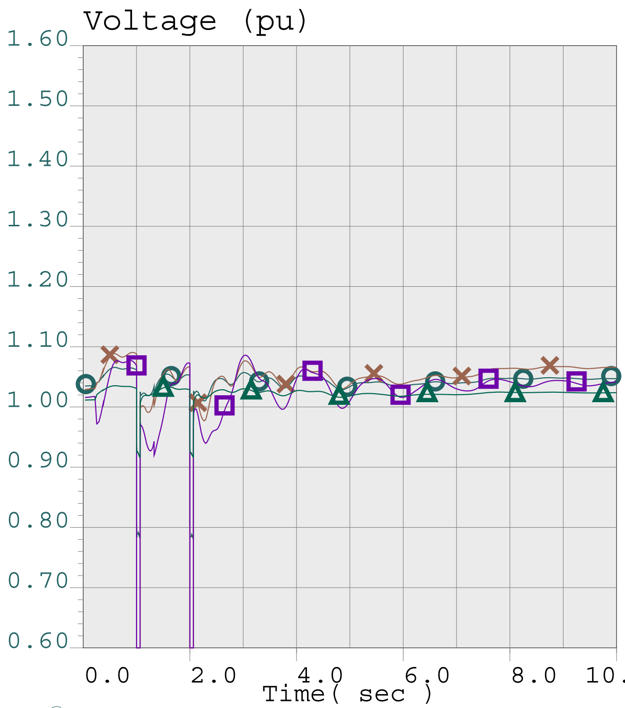

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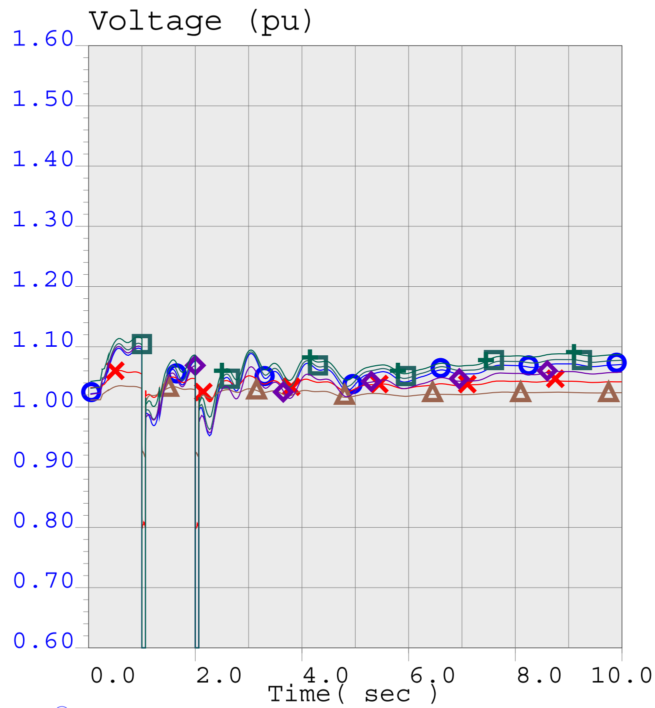

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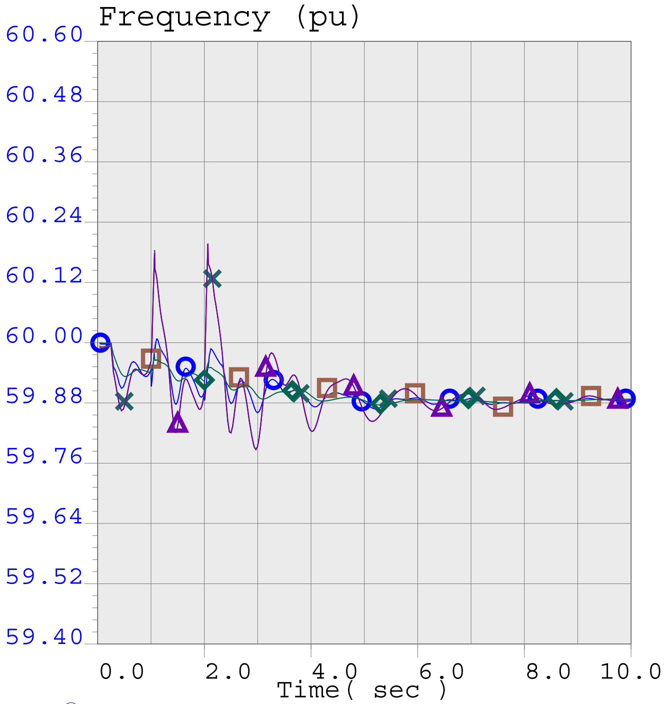

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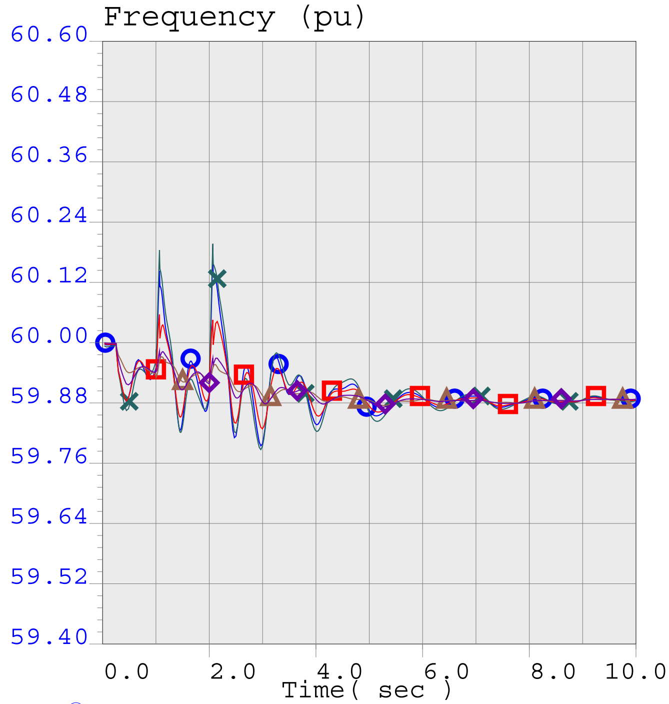

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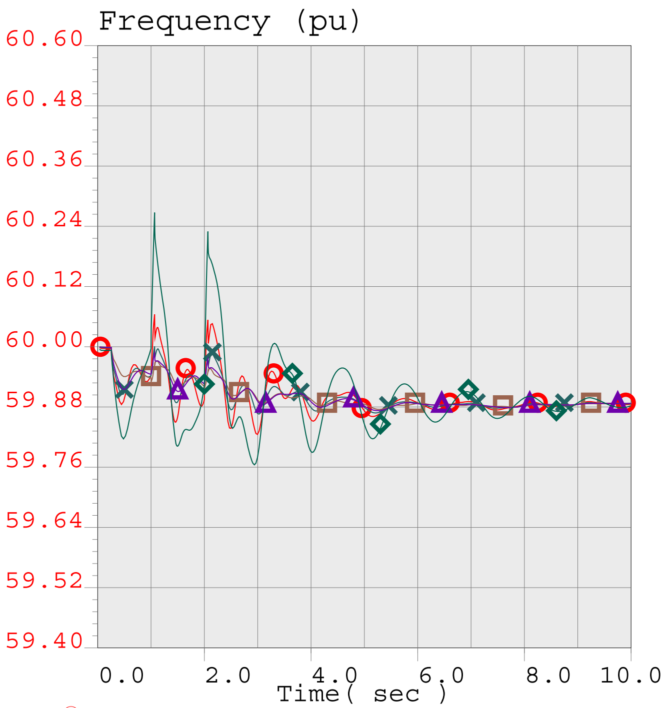

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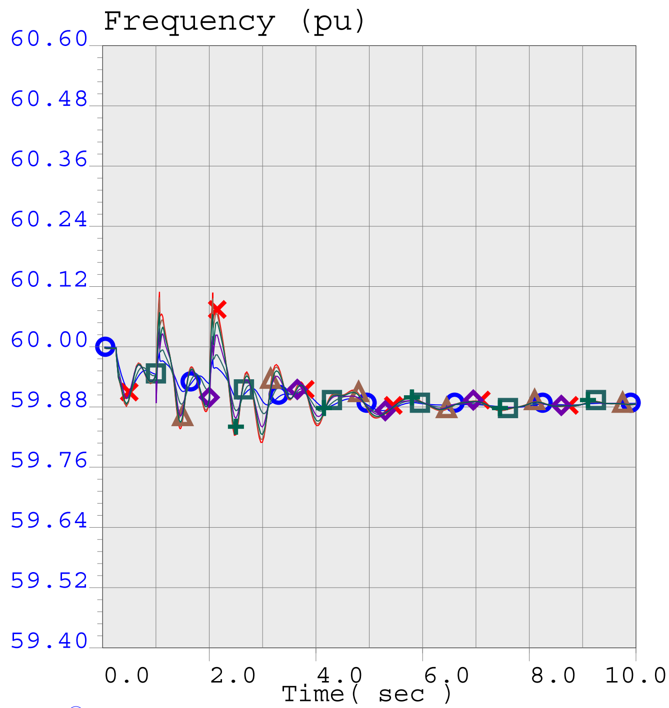

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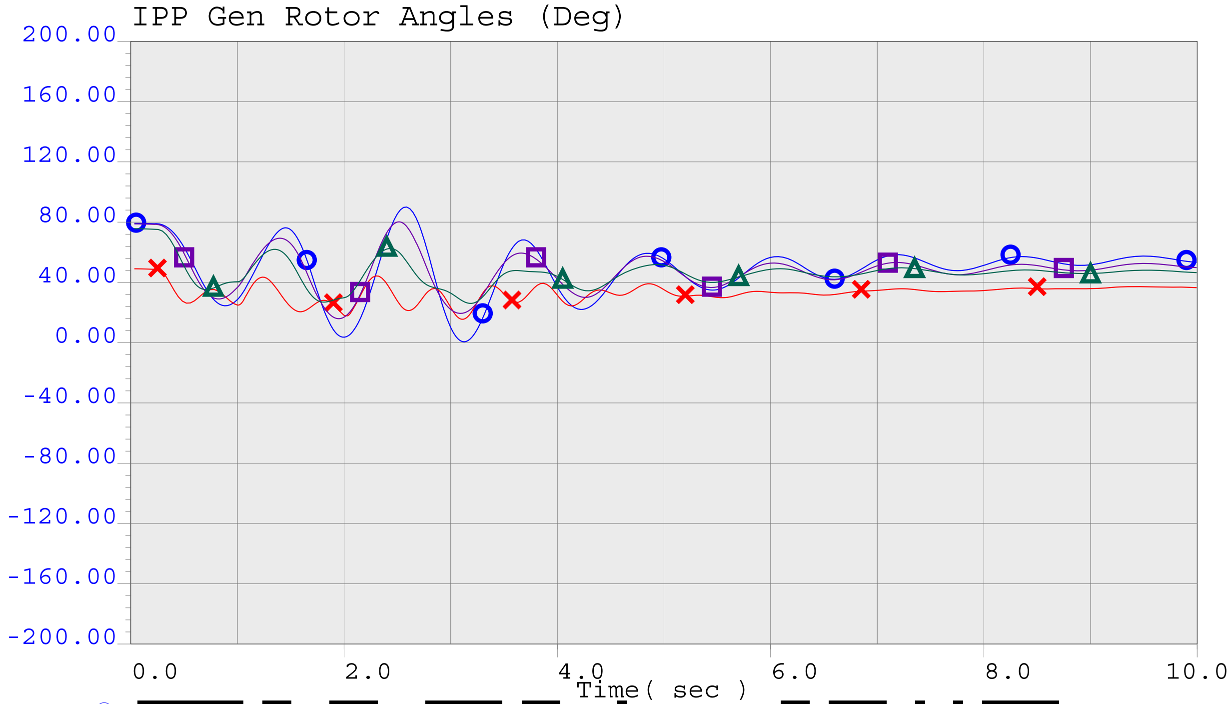
SYSTEM IMPACT STUDY (Rotor Angles)



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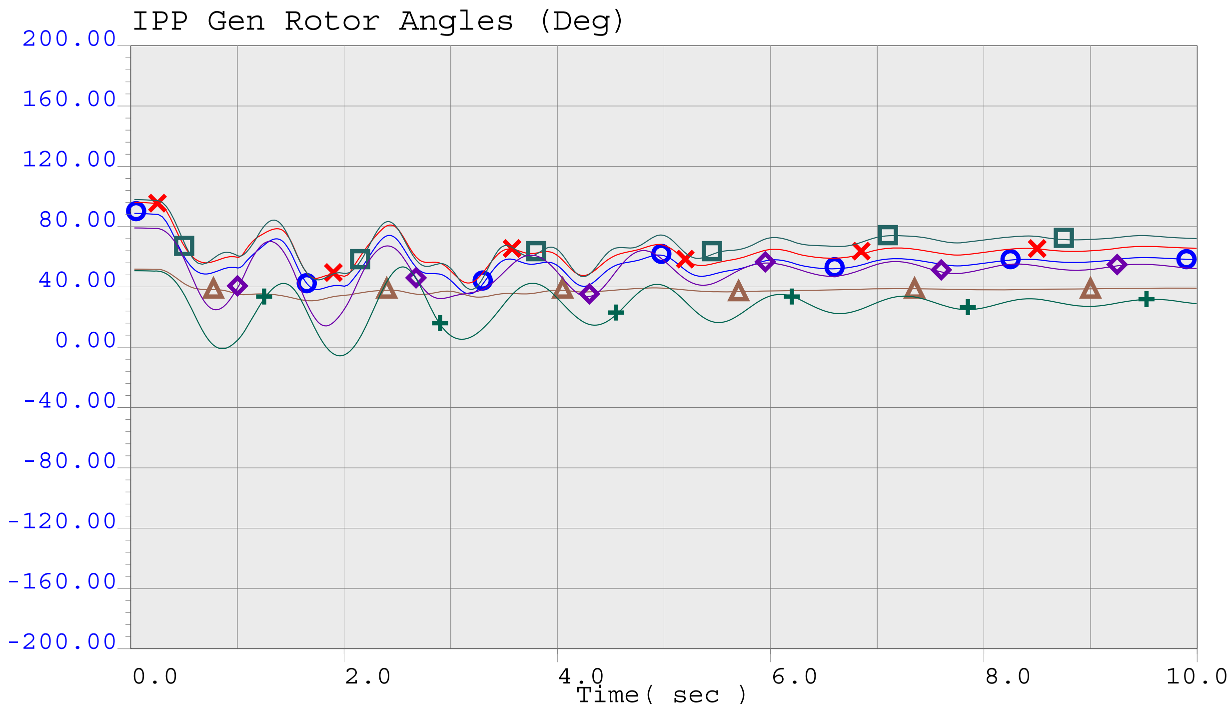

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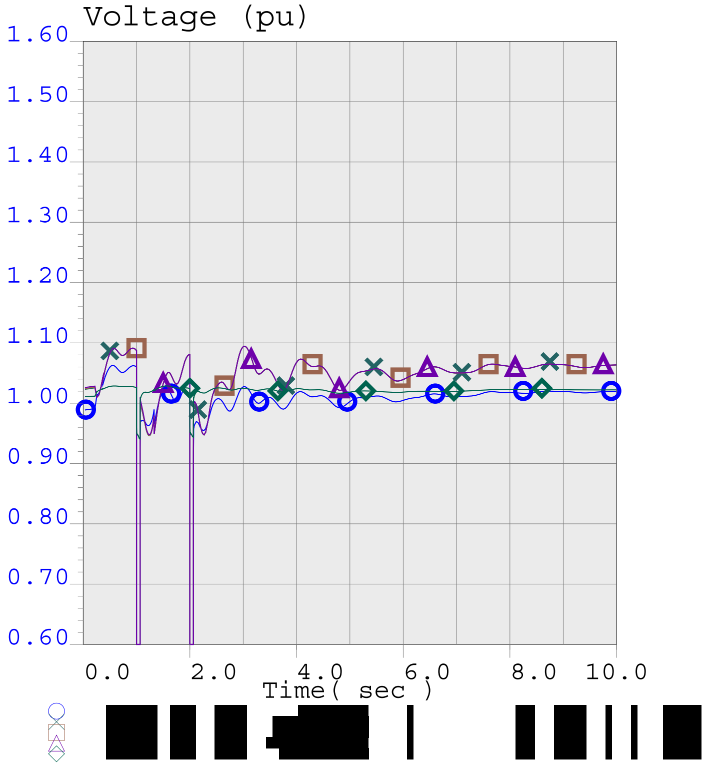

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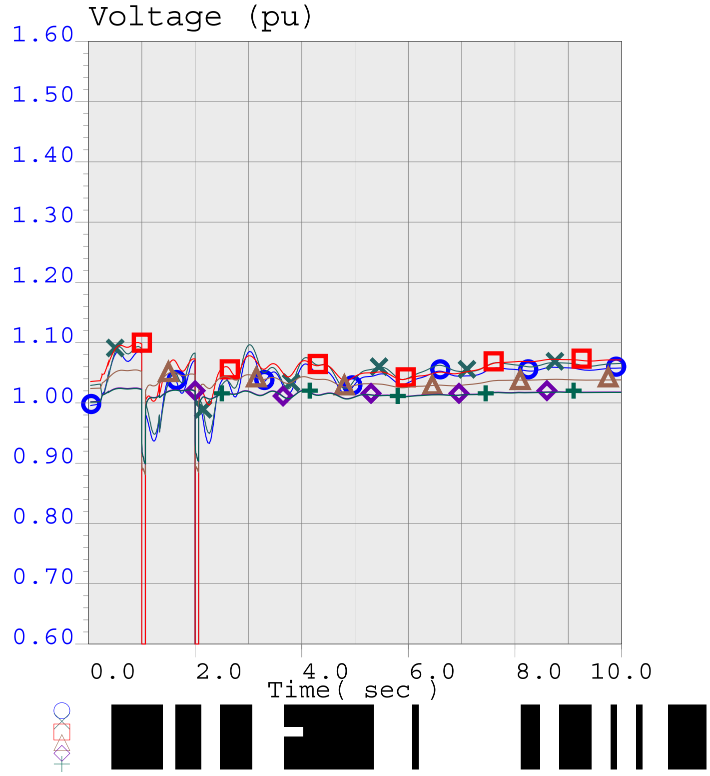

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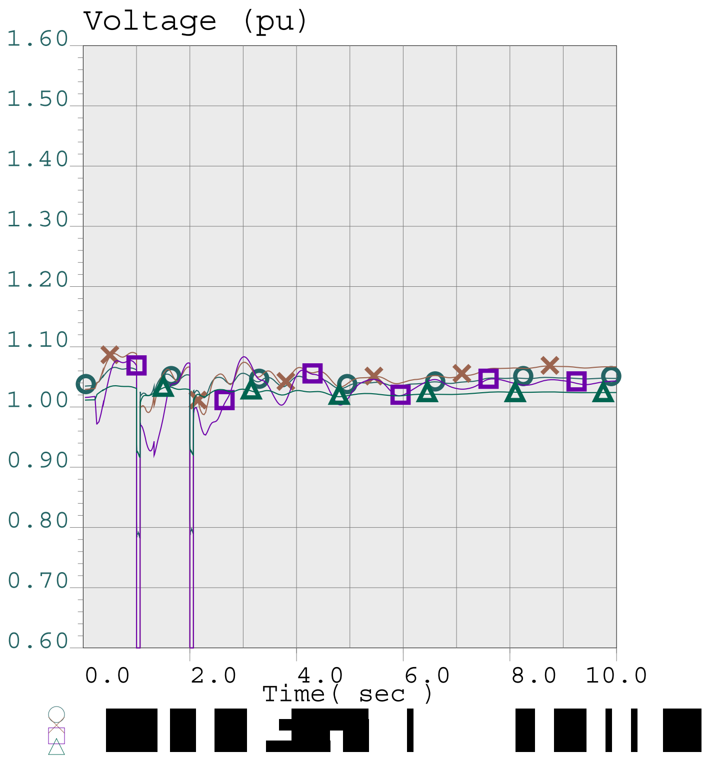

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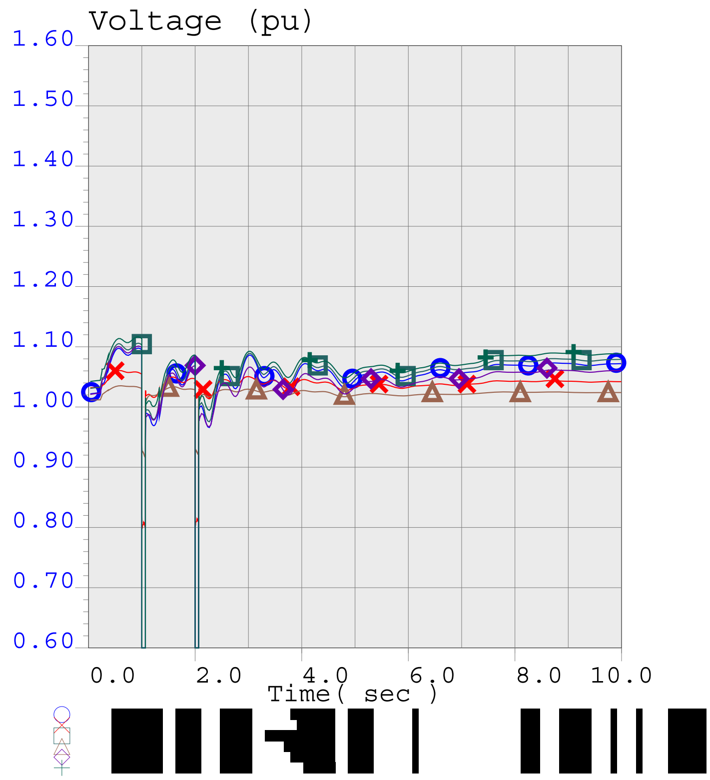

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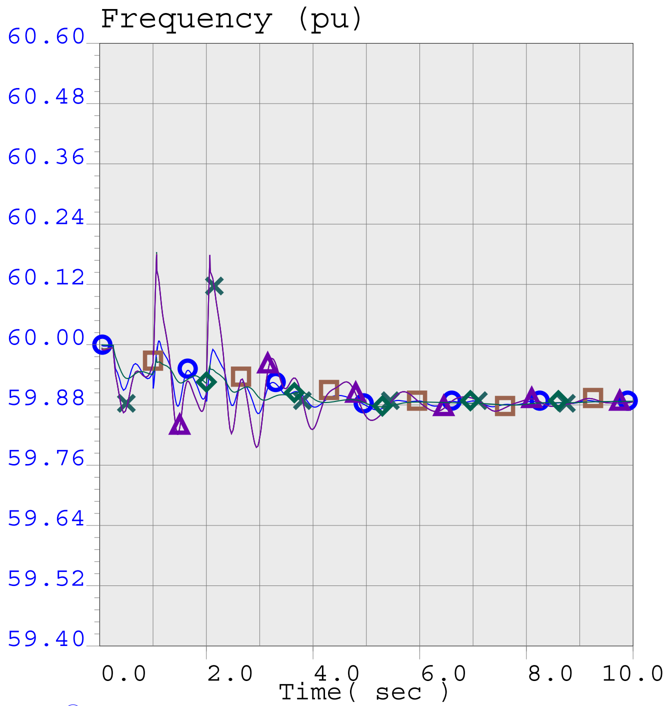

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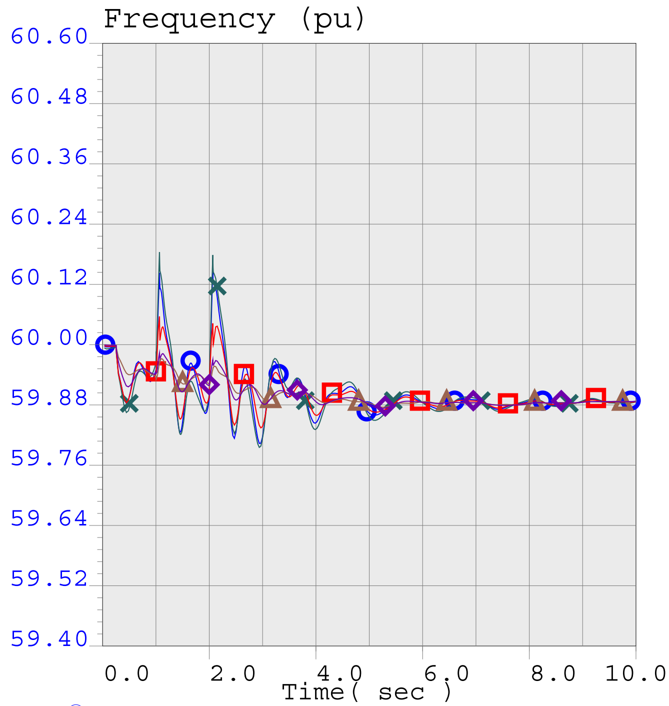

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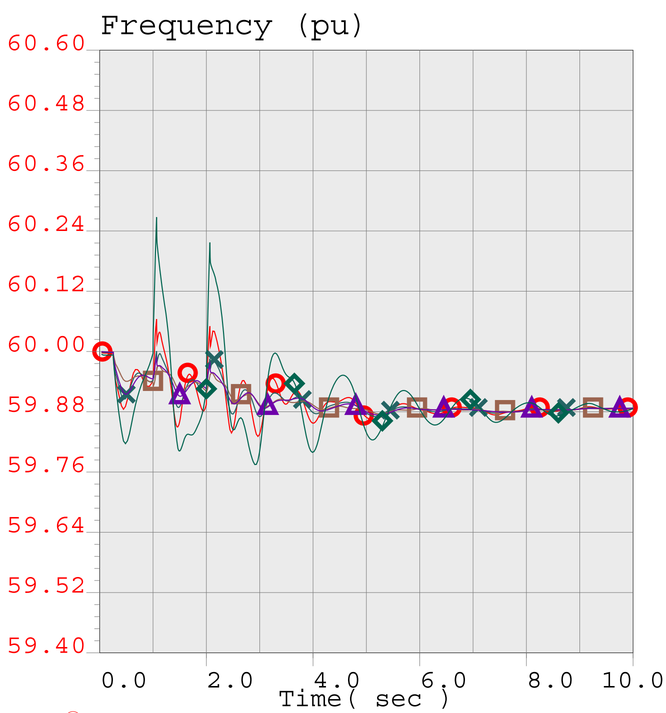

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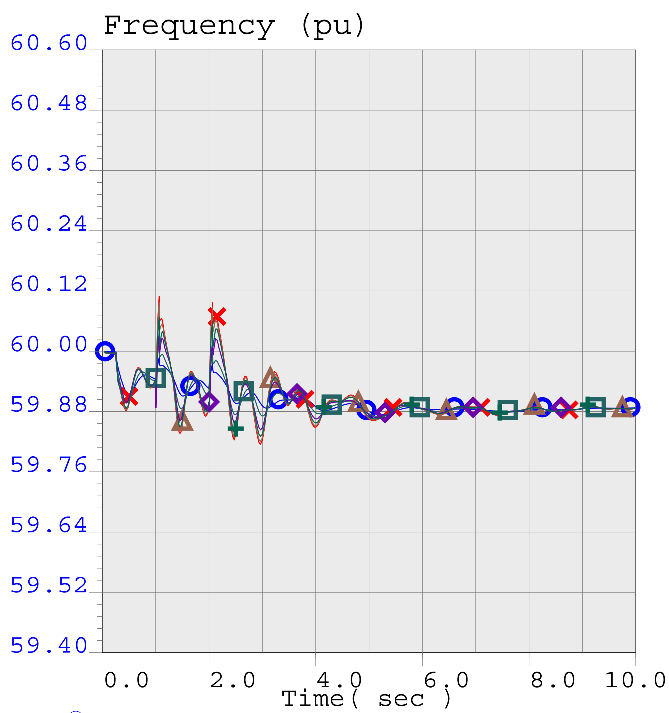

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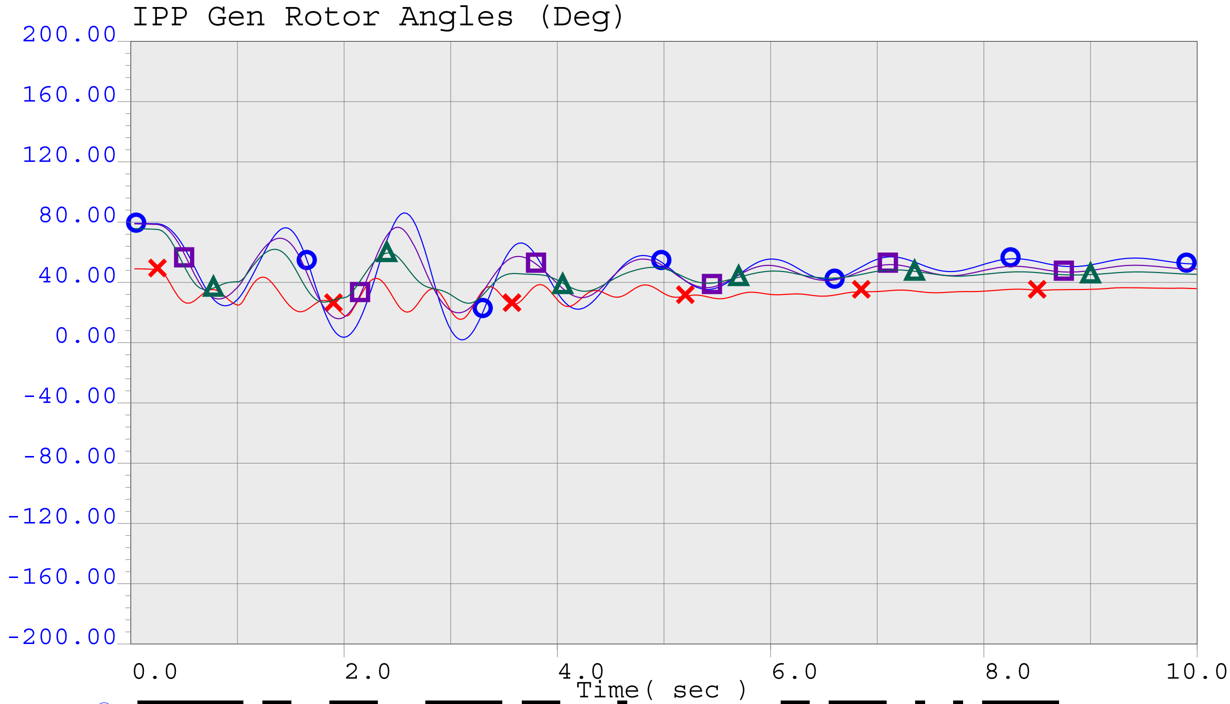

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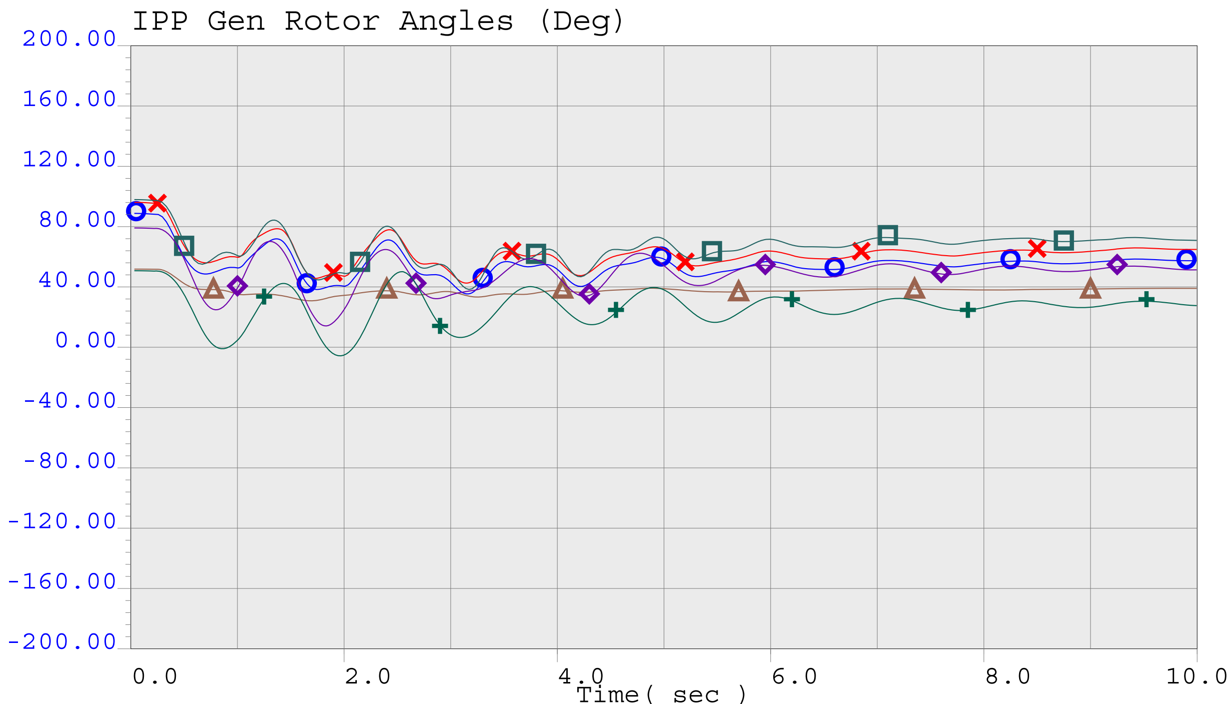

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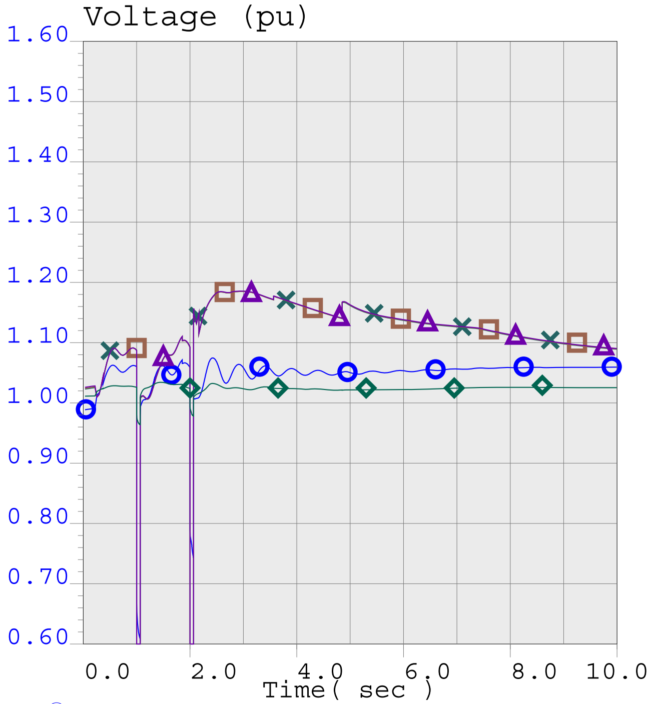

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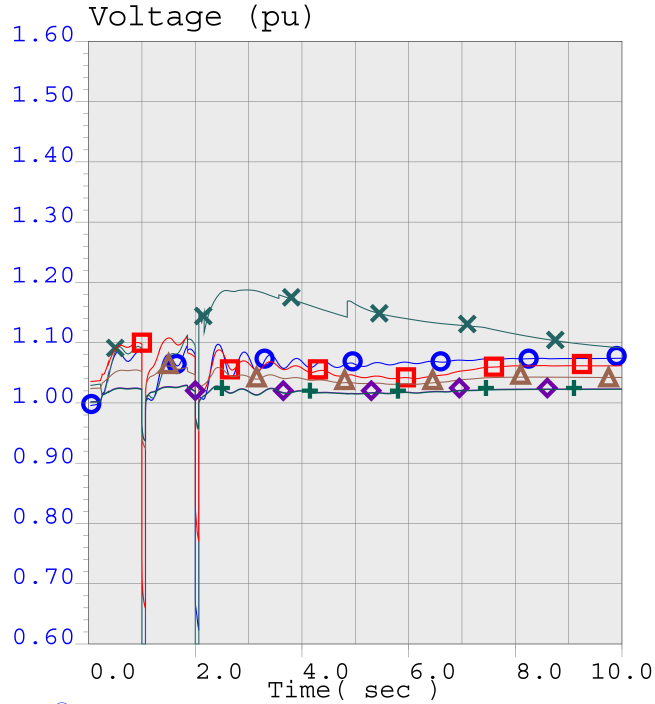

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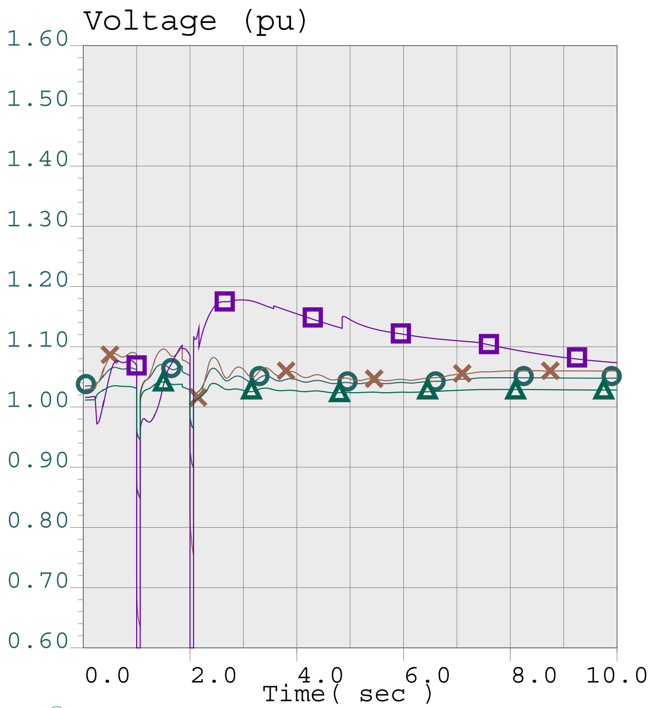

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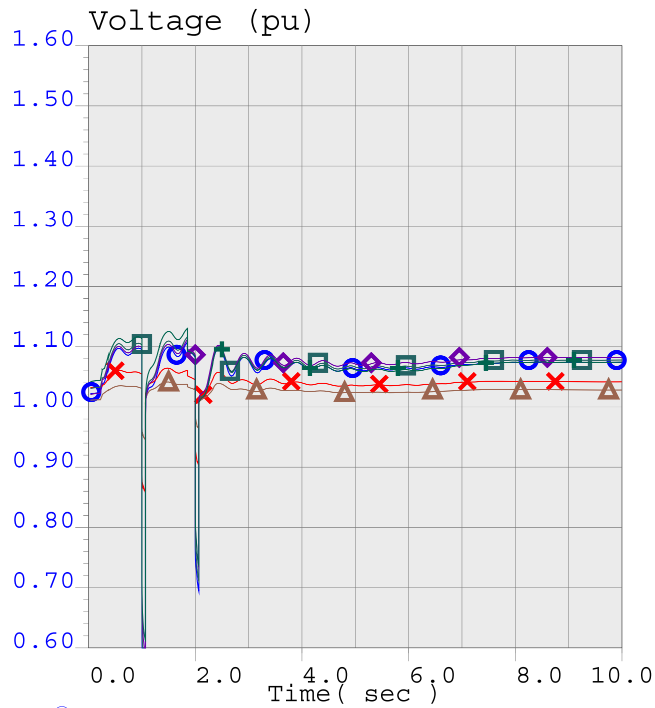

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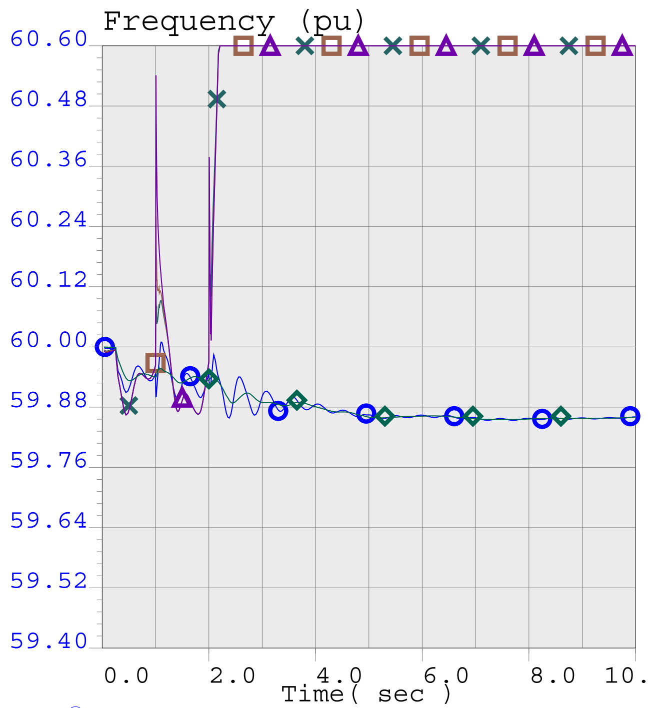

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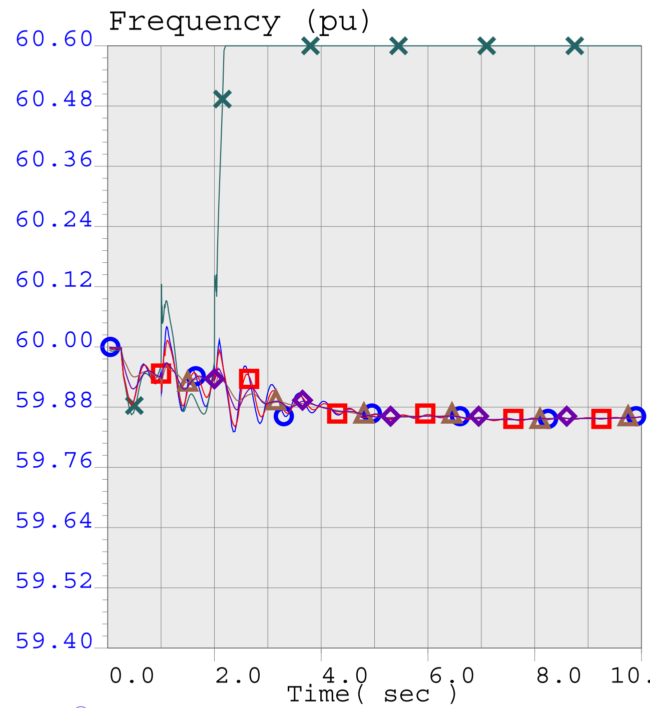

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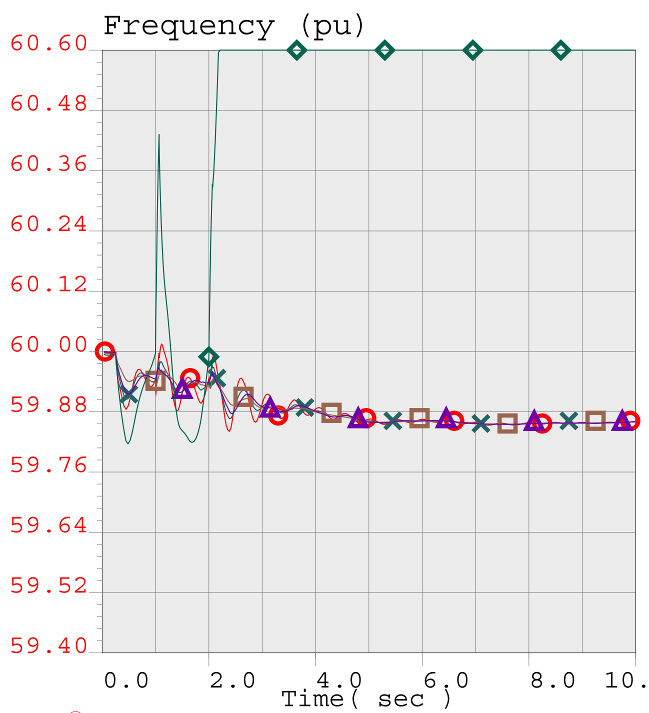

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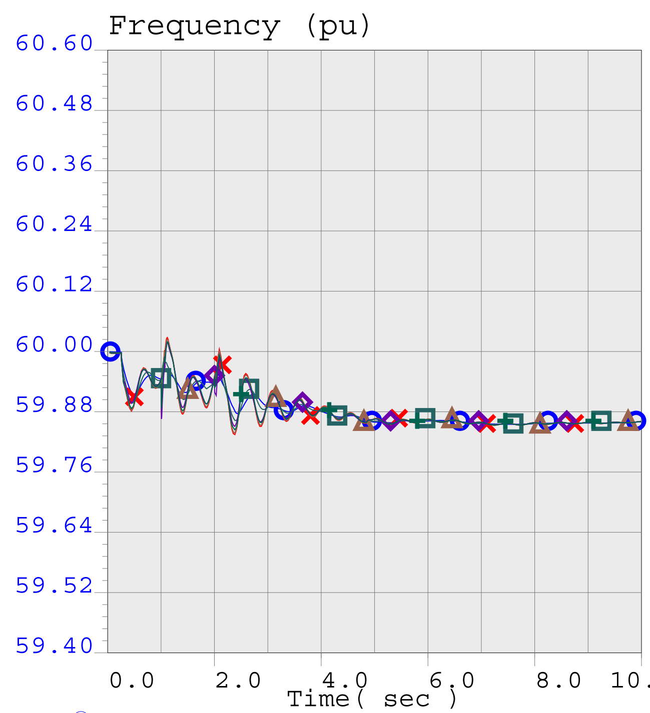

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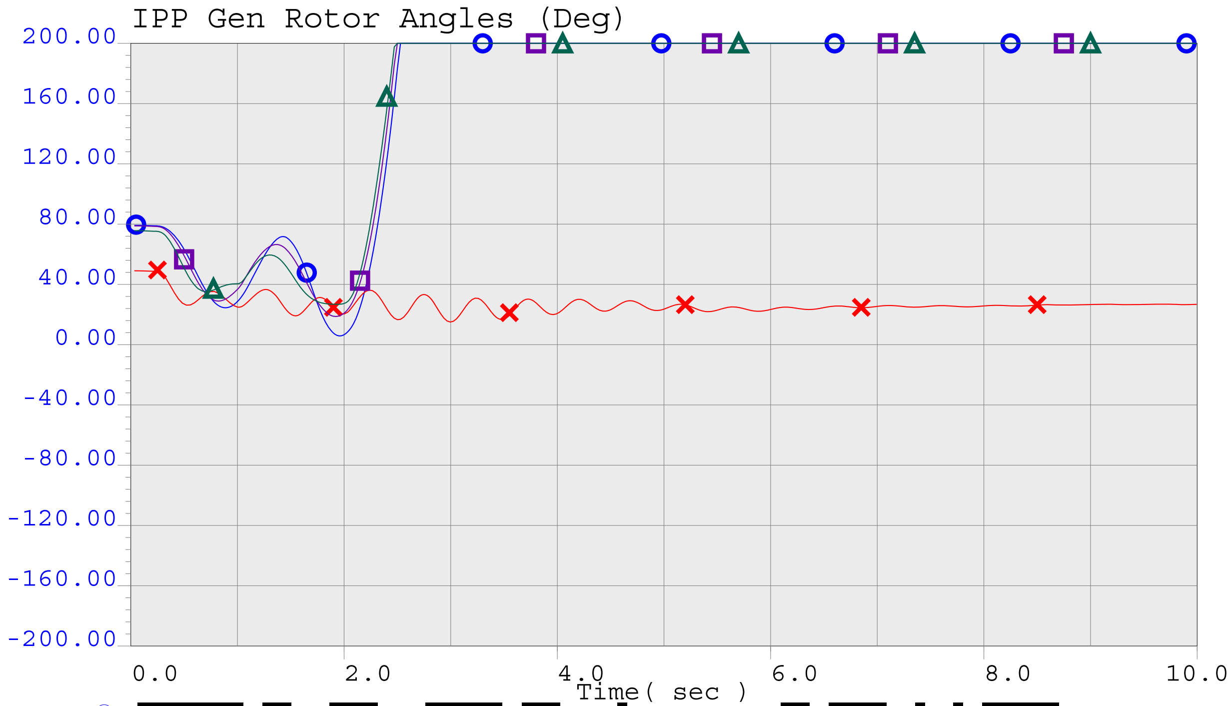
SYSTEM IMPACT STUDY (Rotor Angles)



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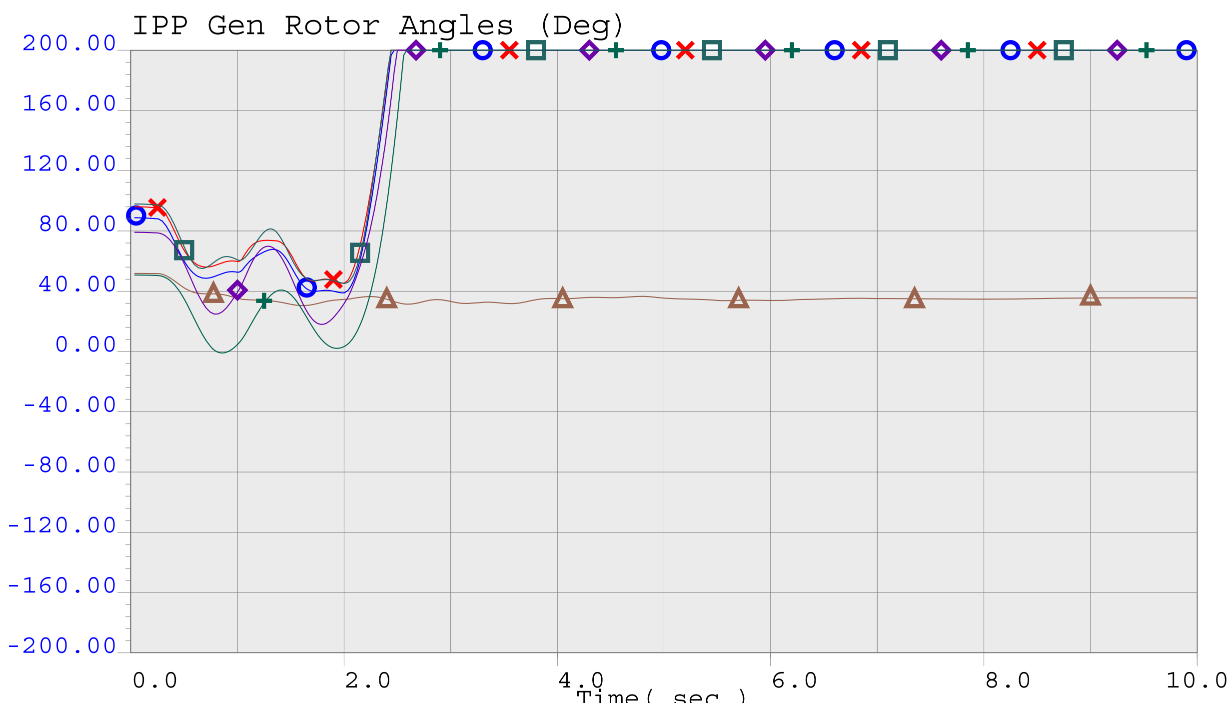

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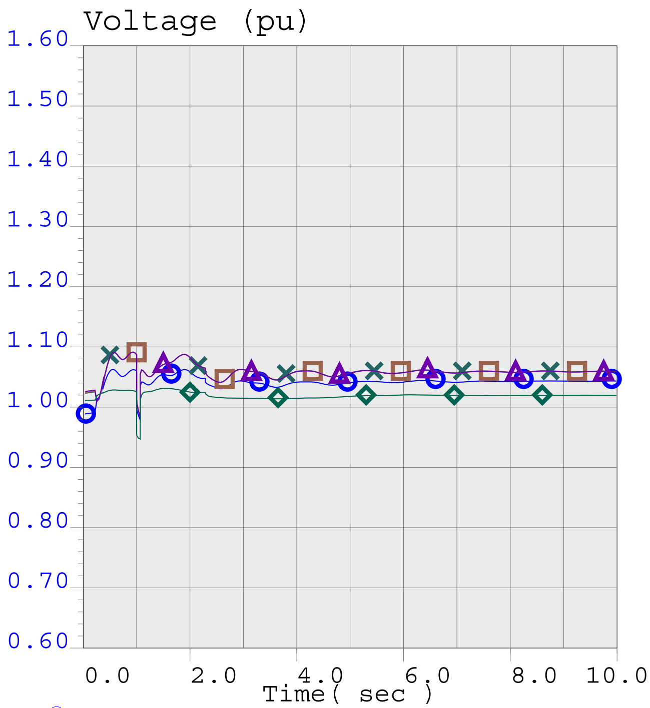

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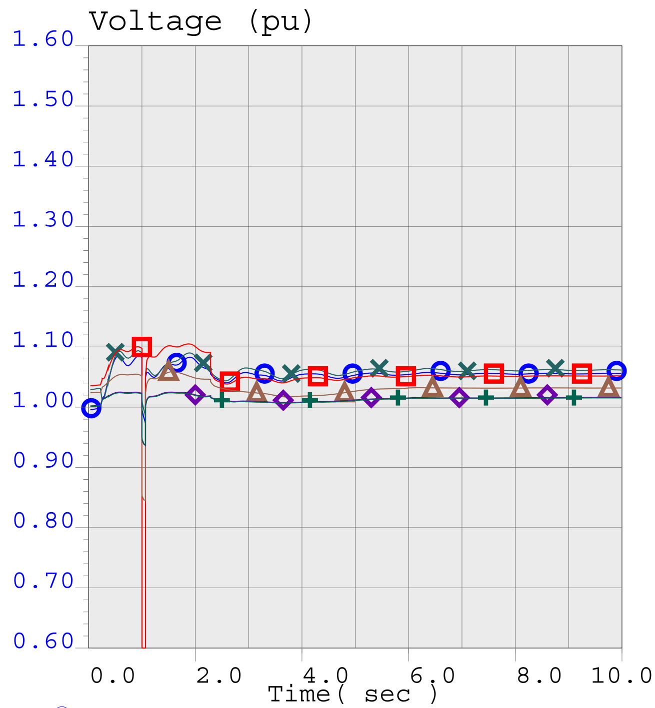

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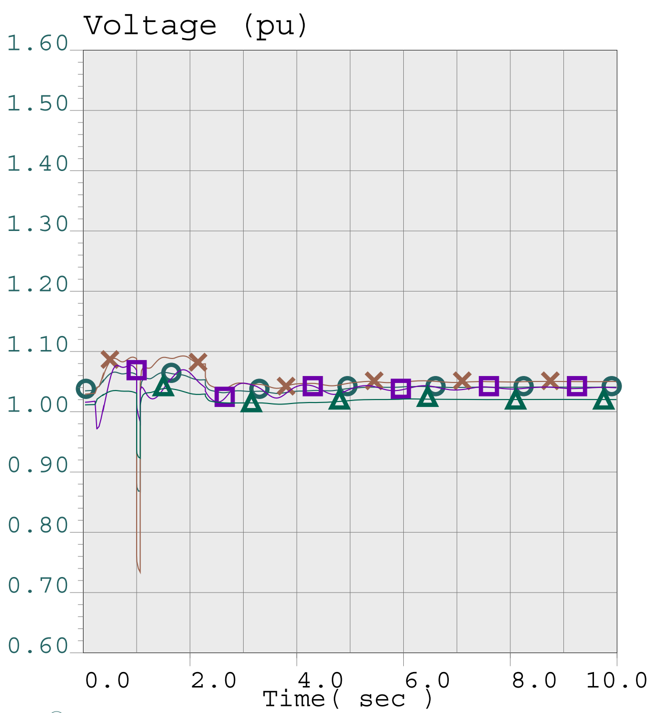

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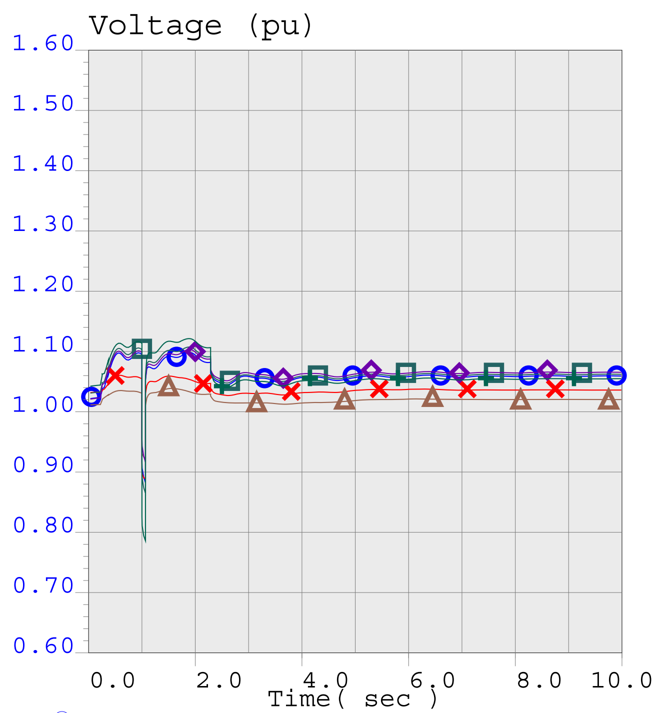

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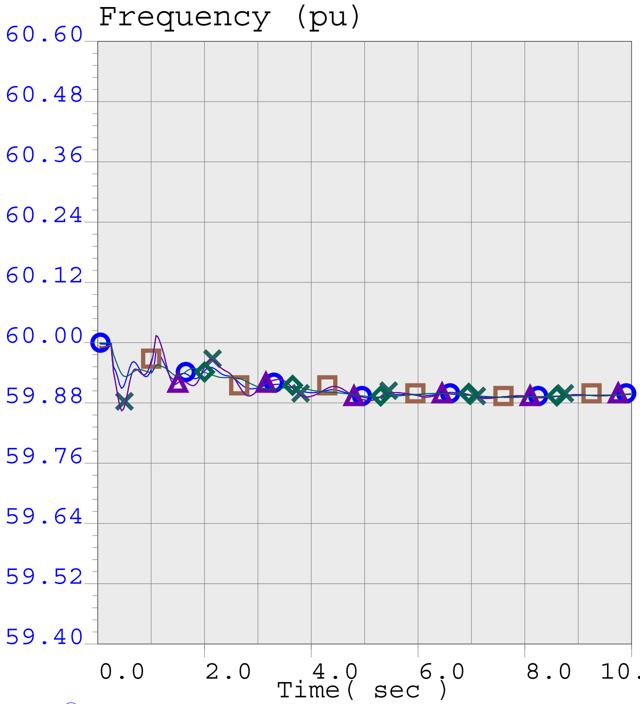

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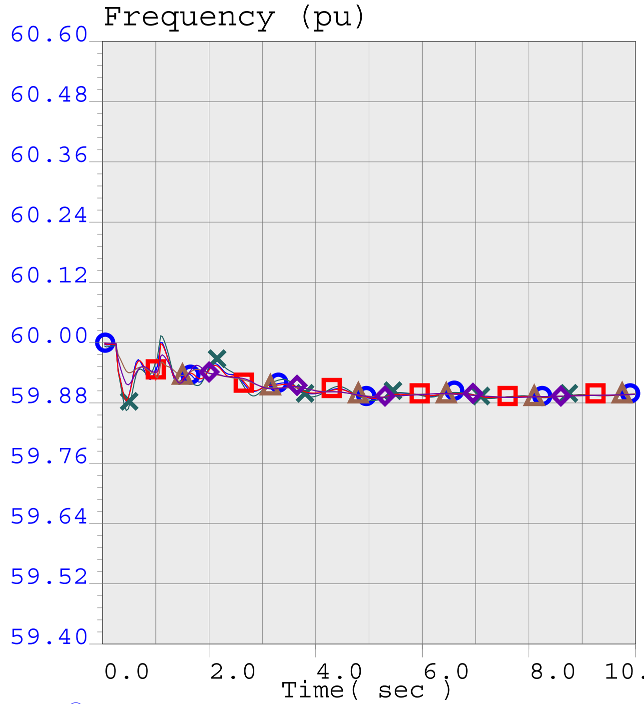

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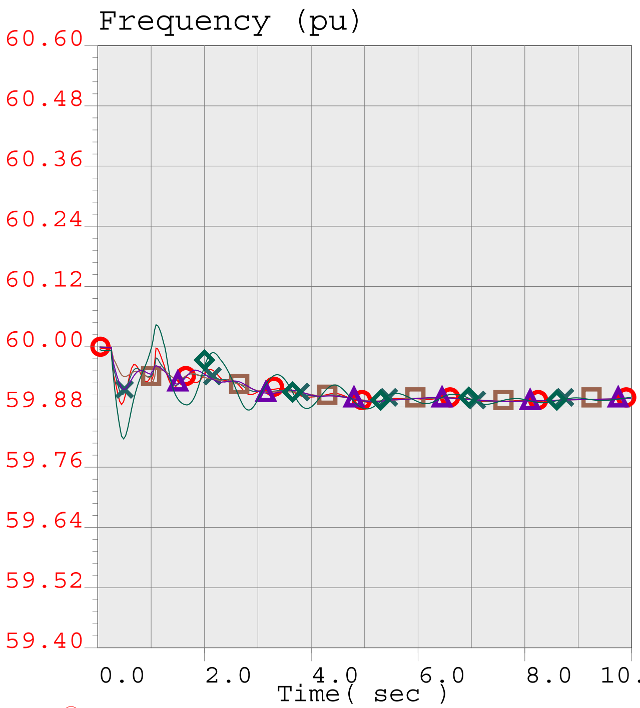

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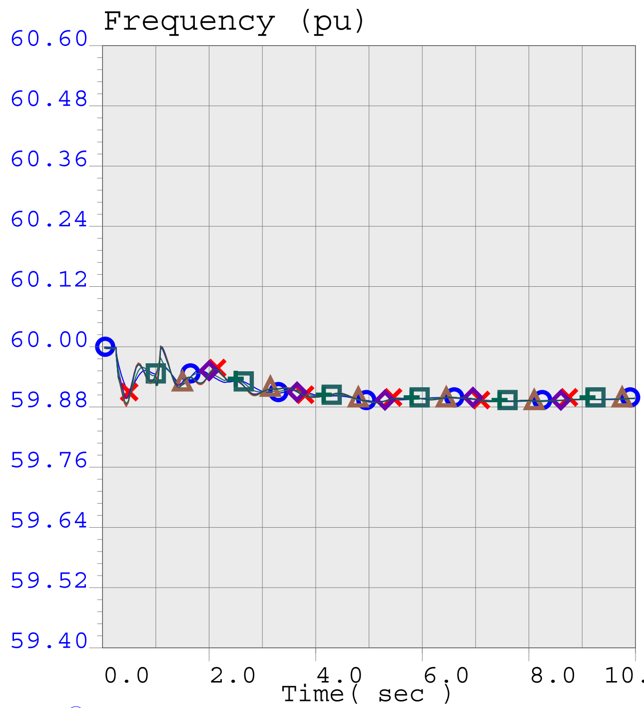

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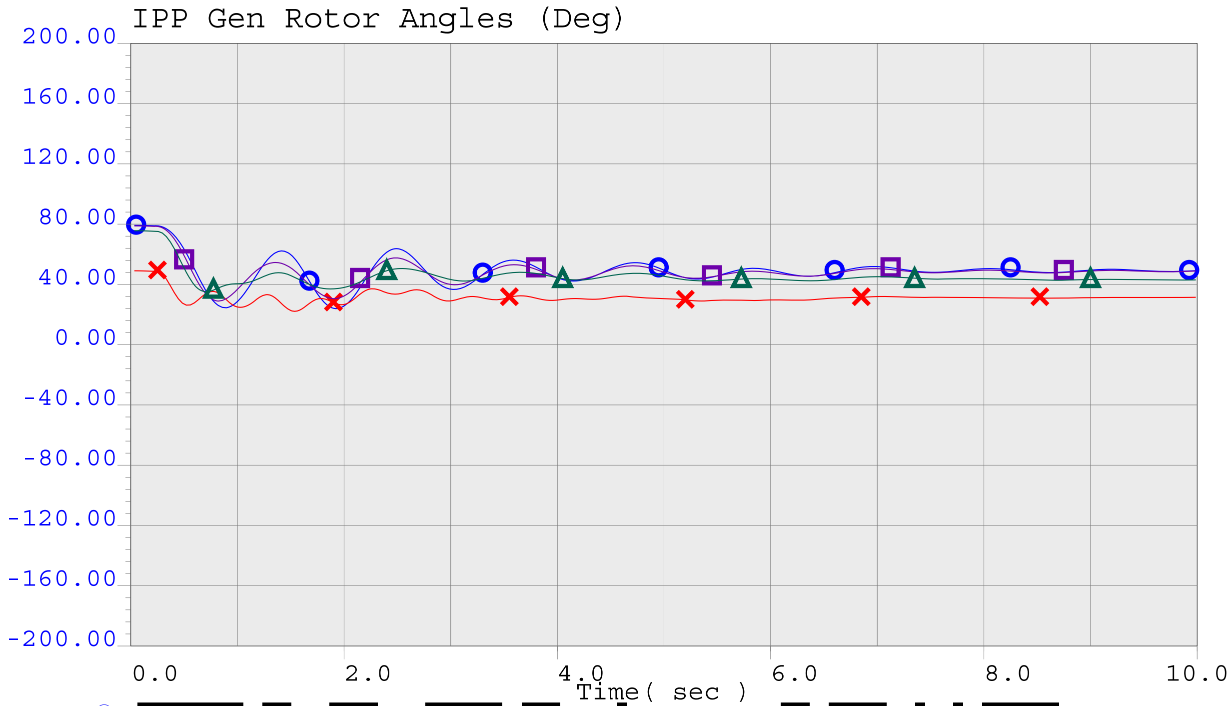

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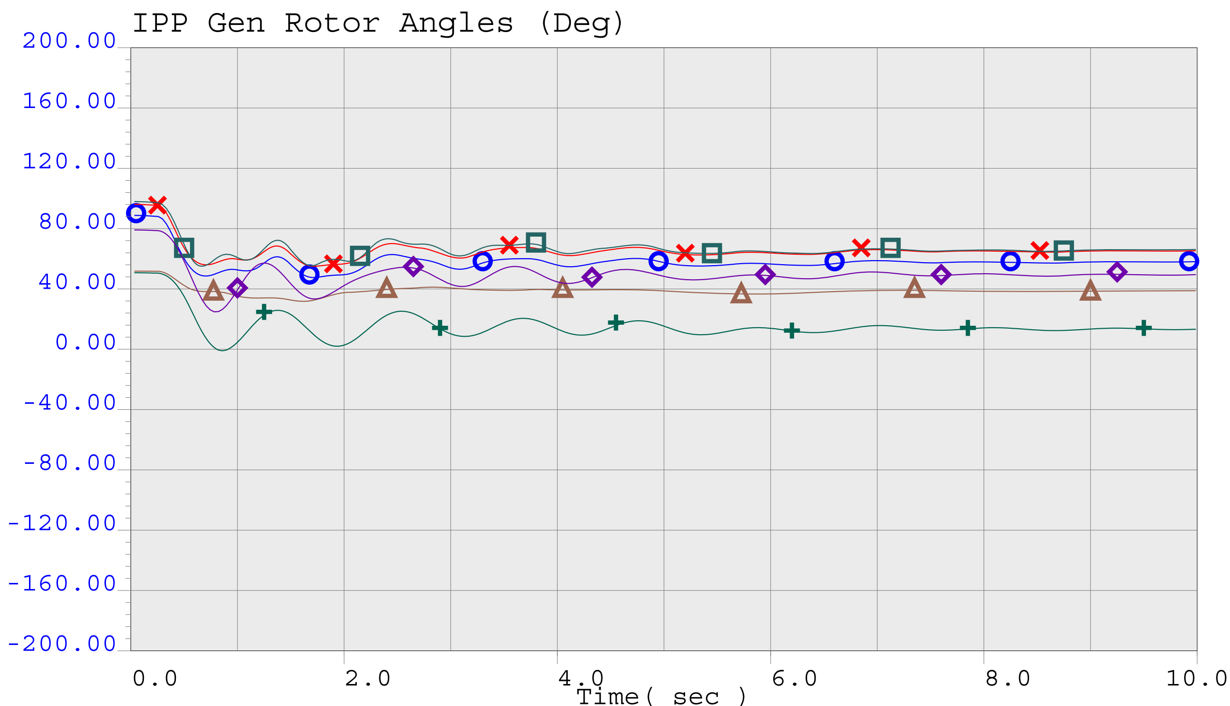

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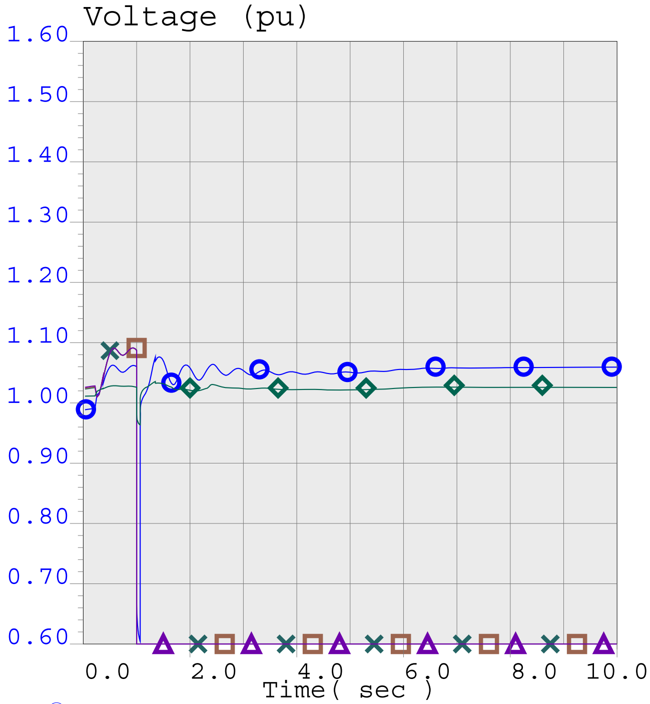

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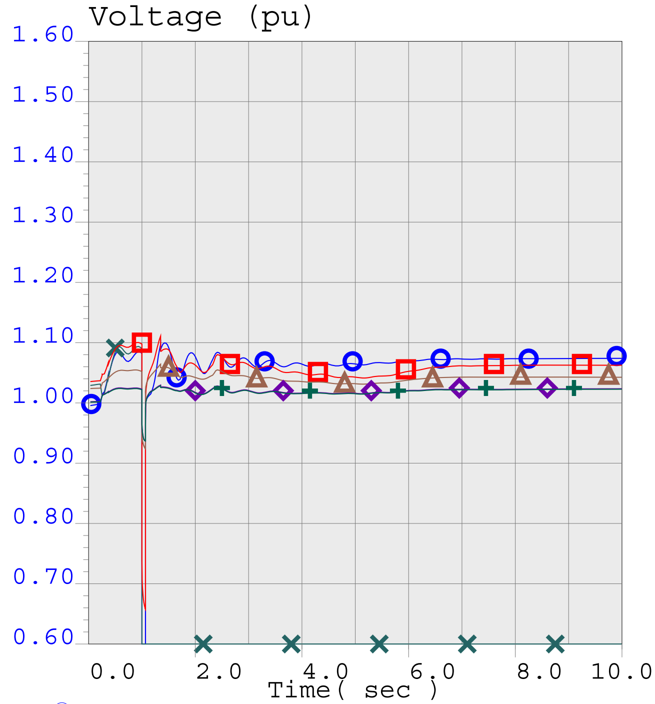

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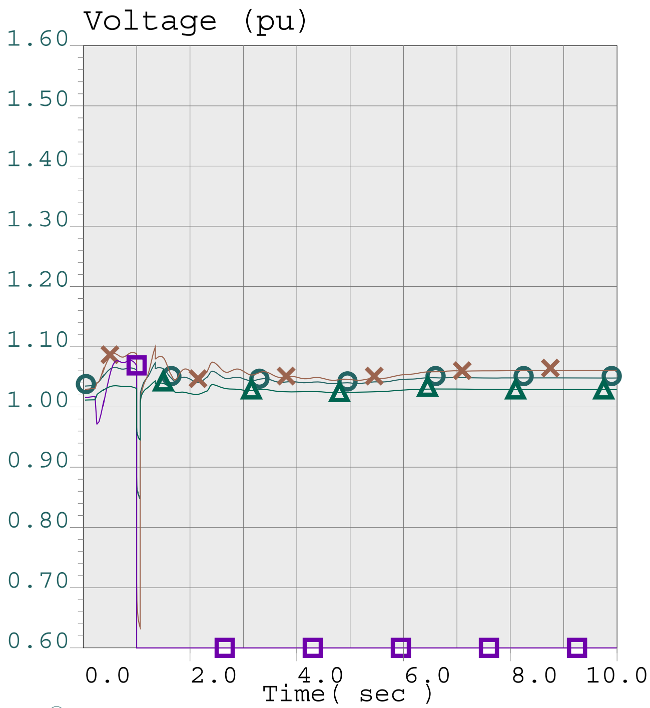

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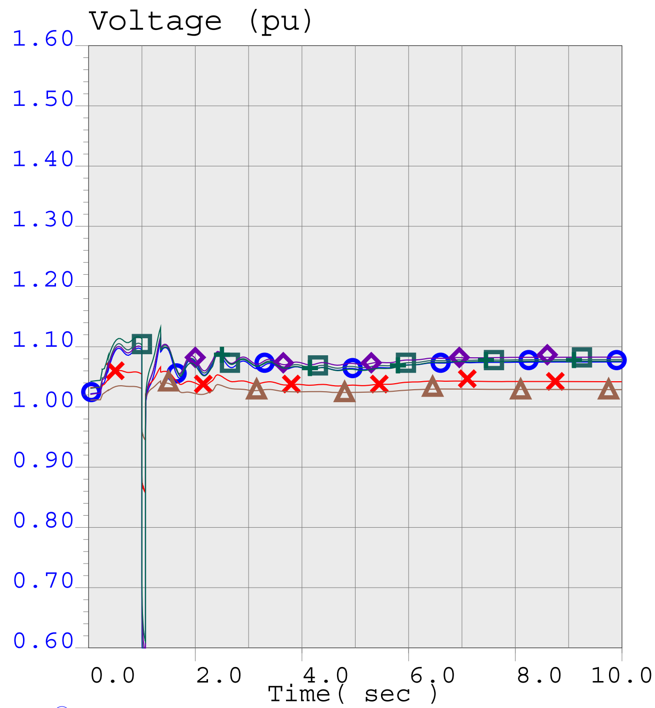

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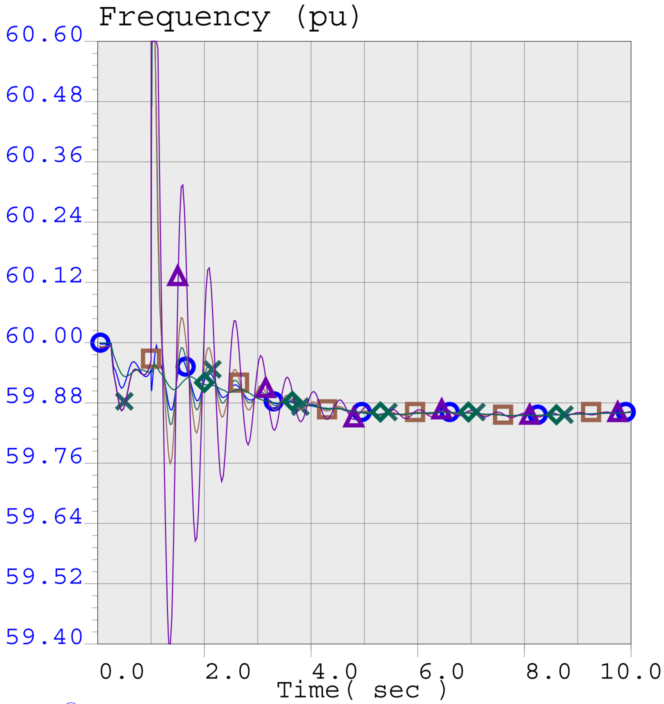

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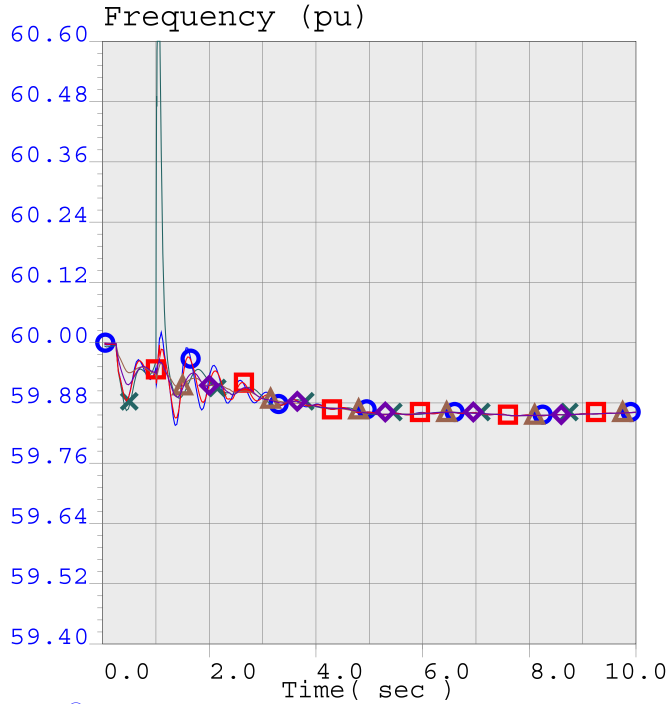

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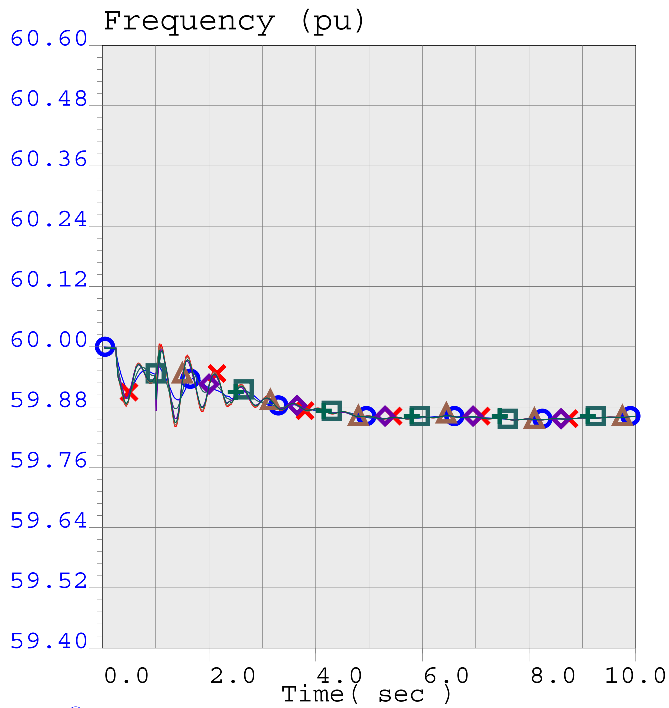

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SYSTEM IMPACT STUDY (Rotor Angles)

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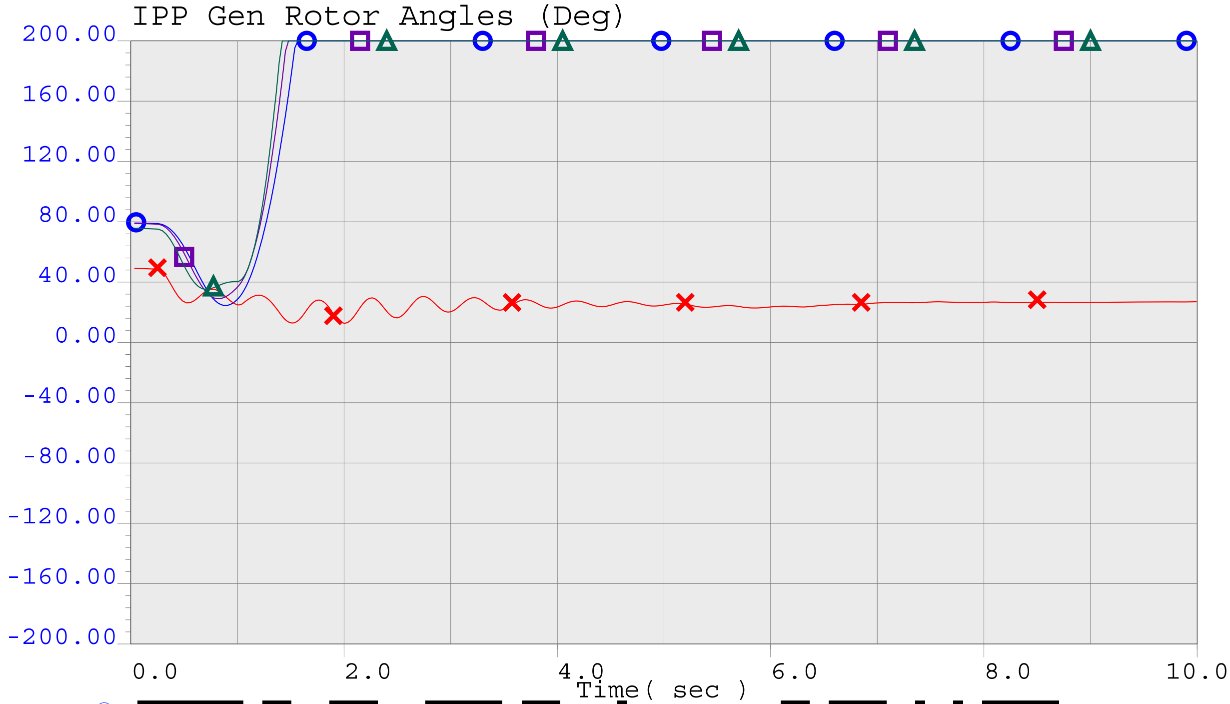

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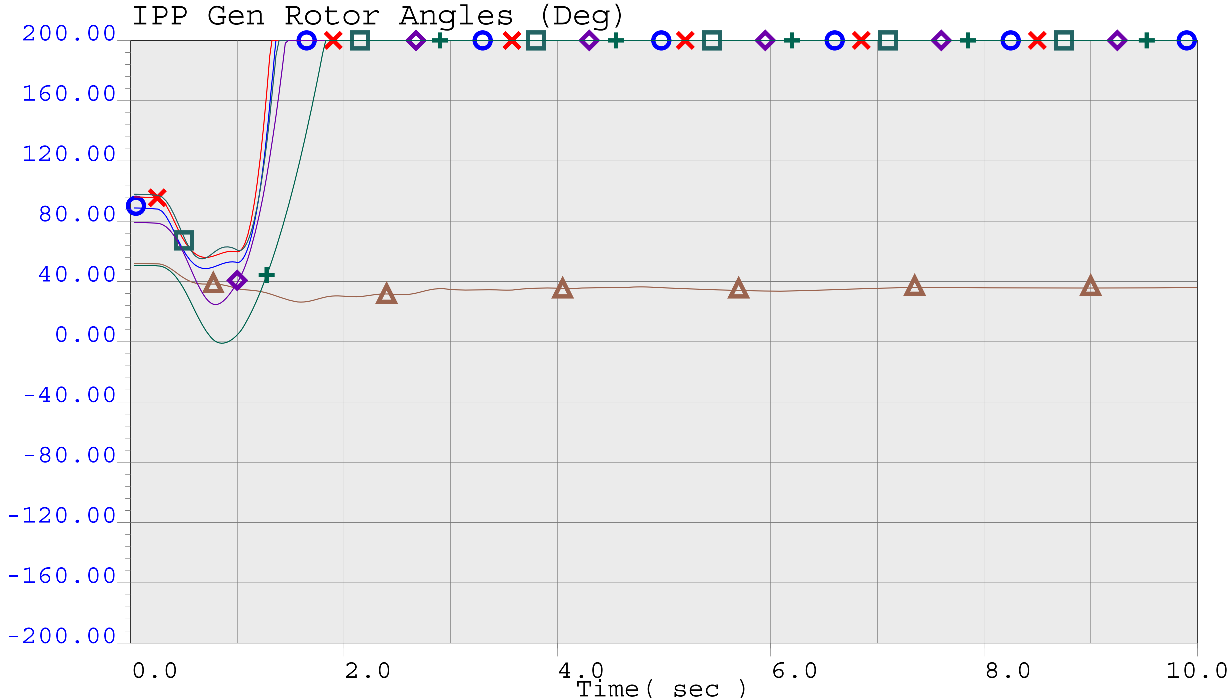
IPP Gen Rotor Angles (Deg)



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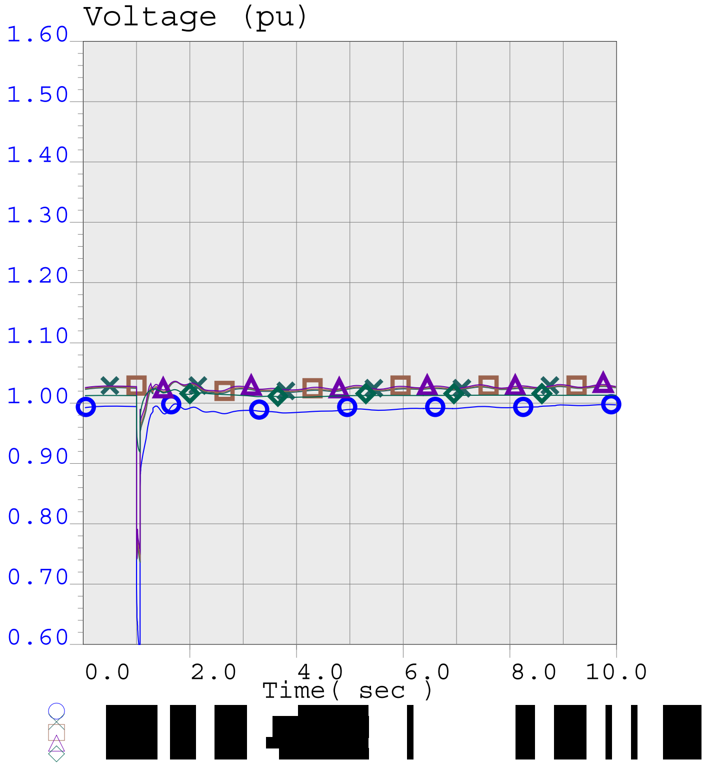

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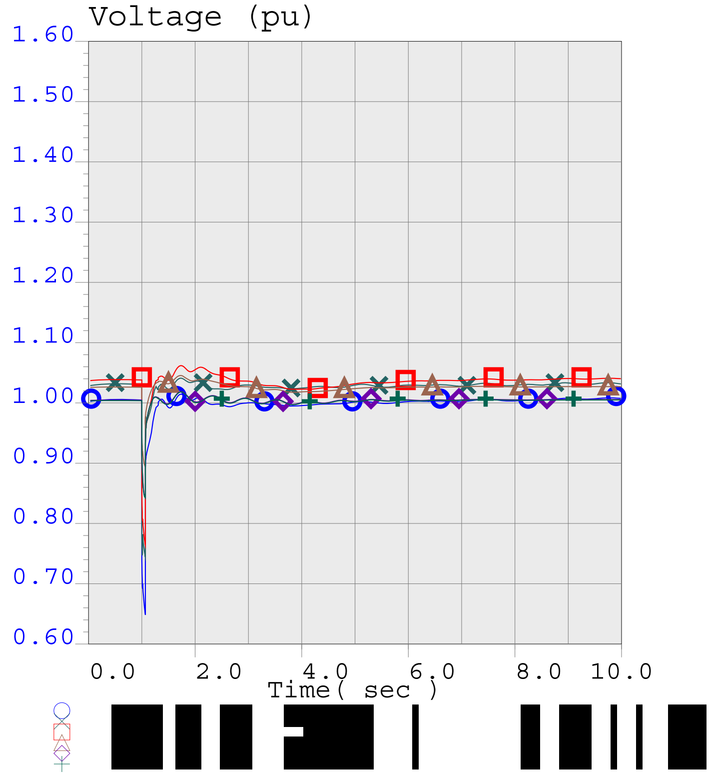

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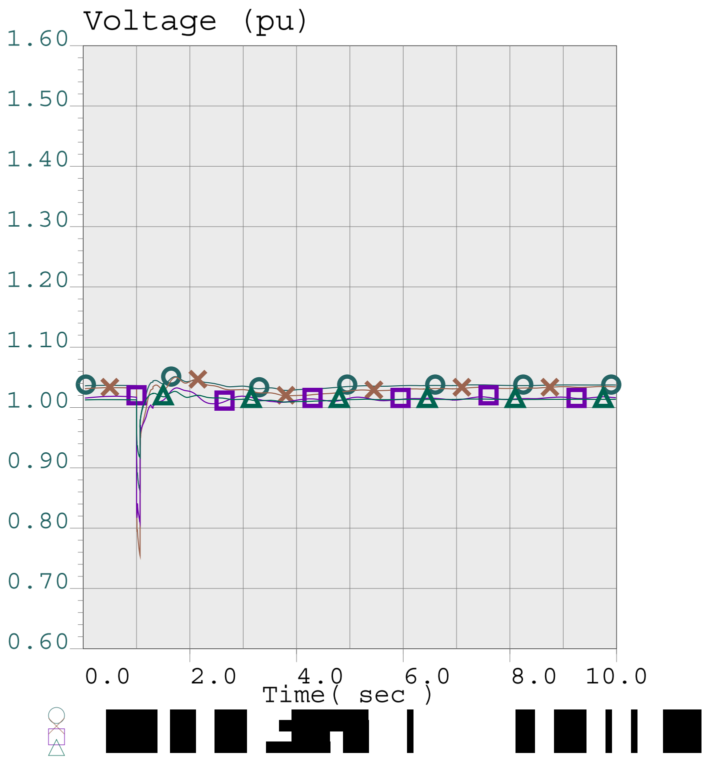

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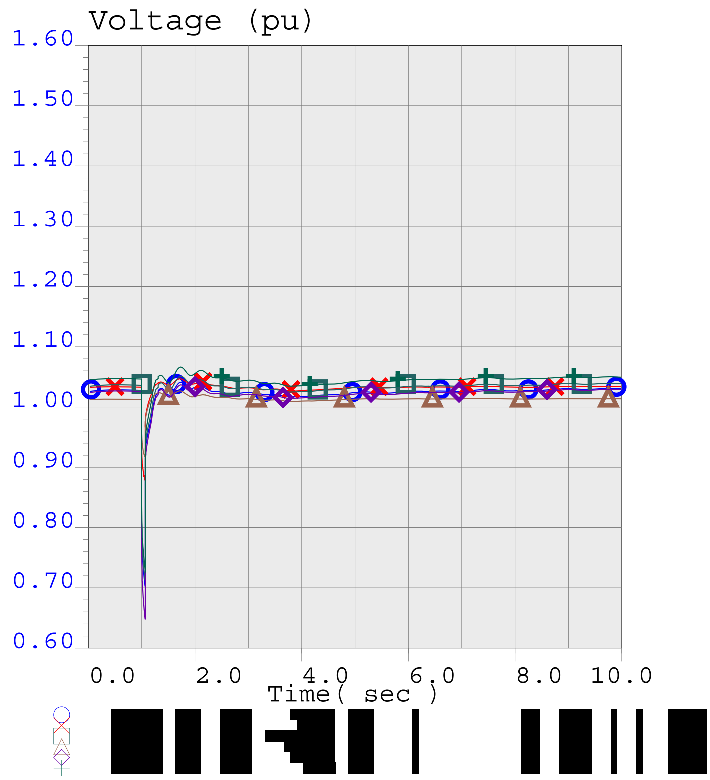

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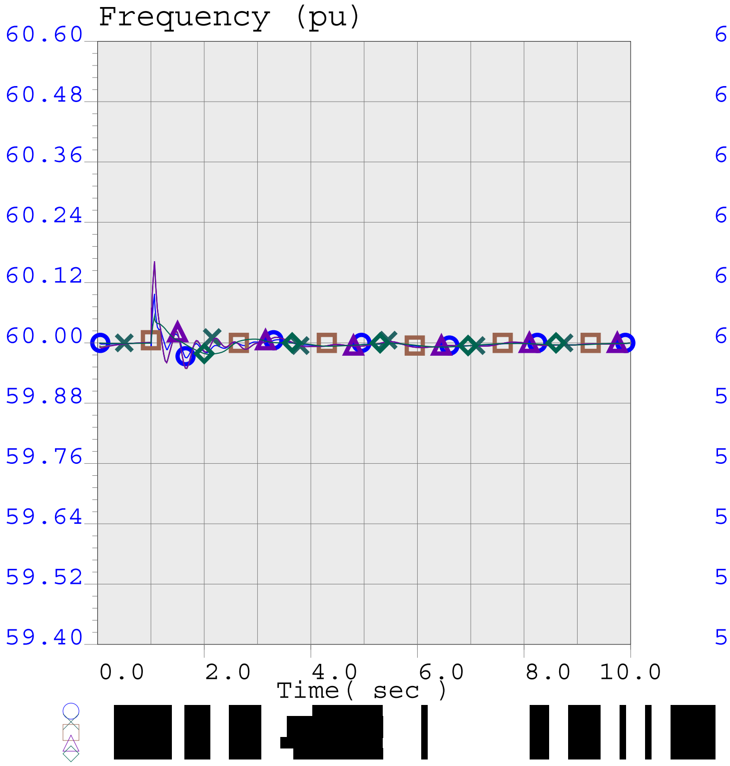

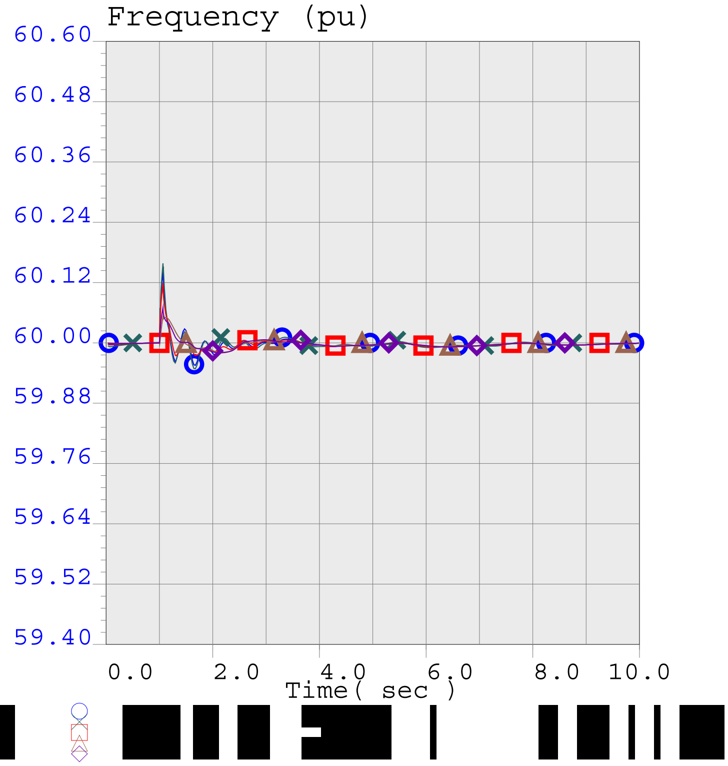

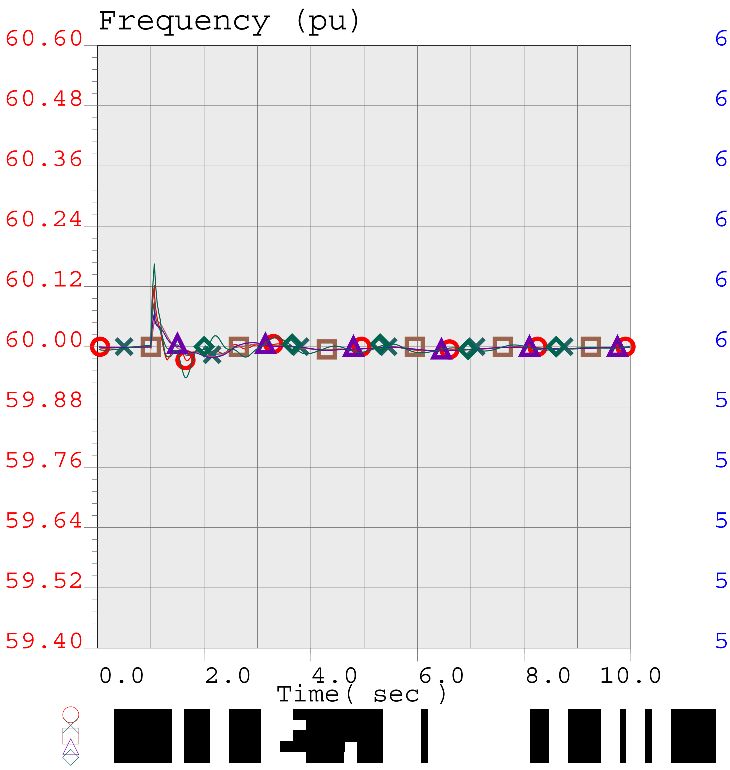

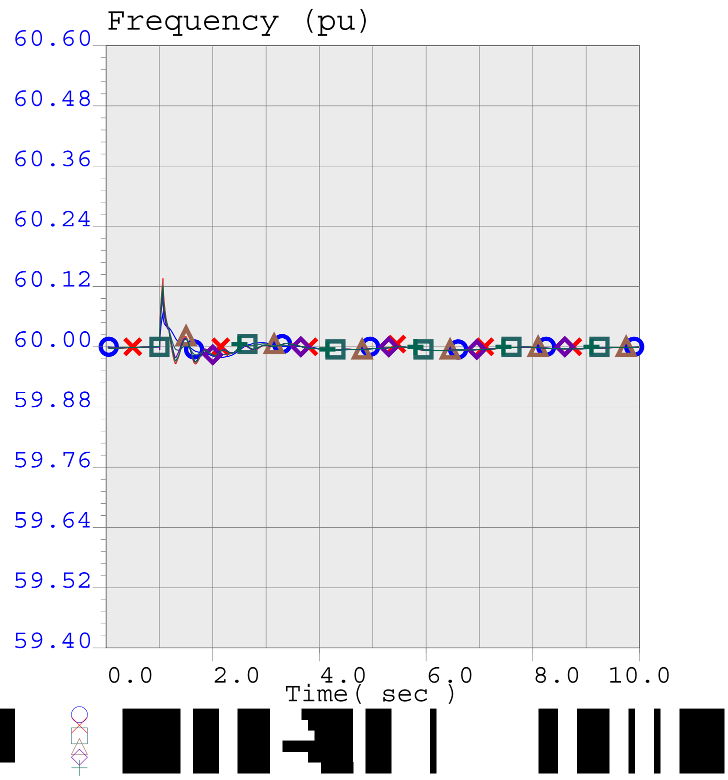

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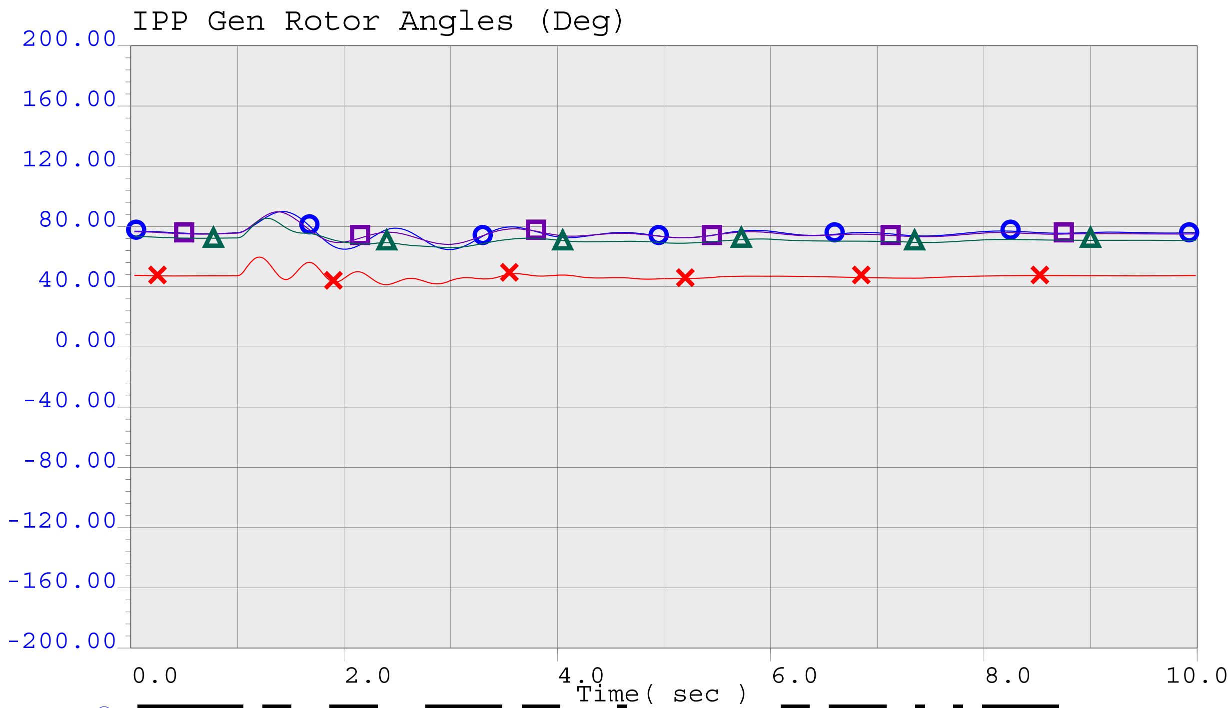
SYSTEM IMPACT STUDY (Rotor Angles)



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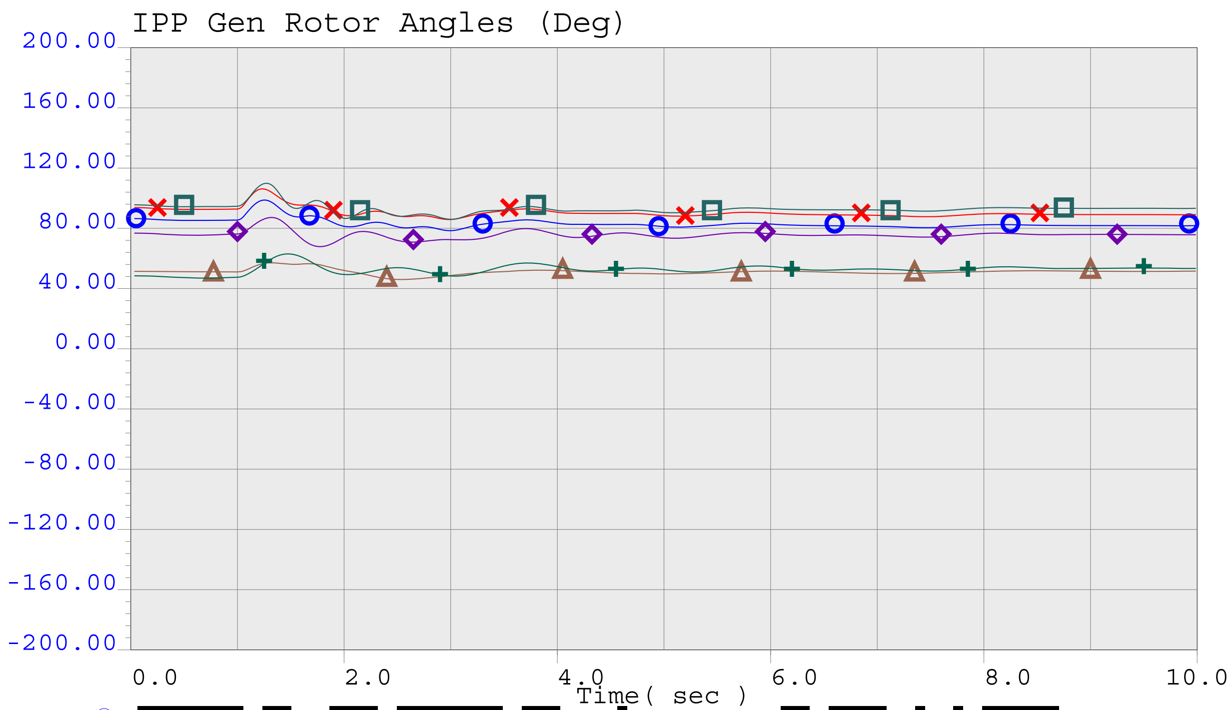

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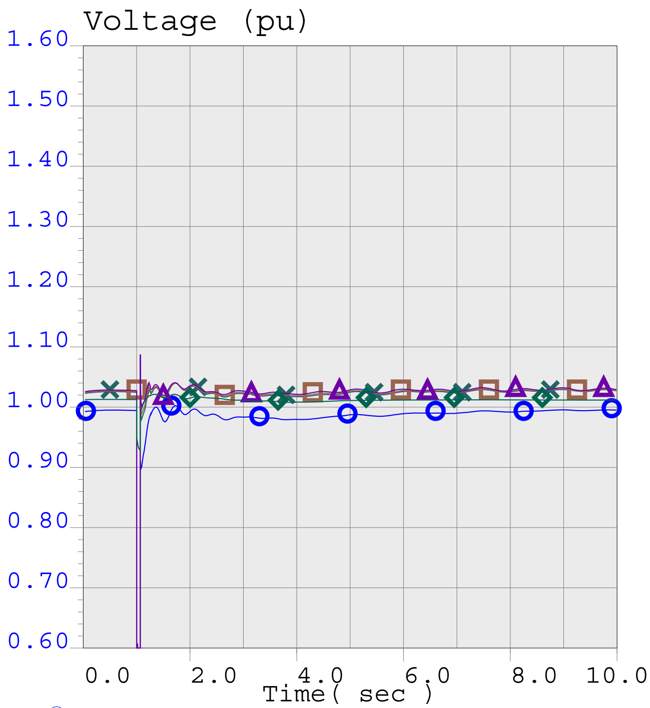

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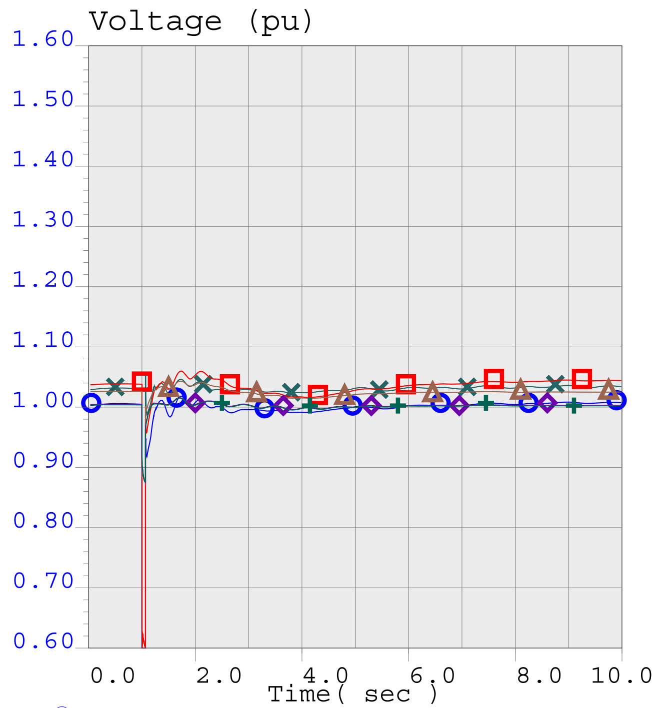

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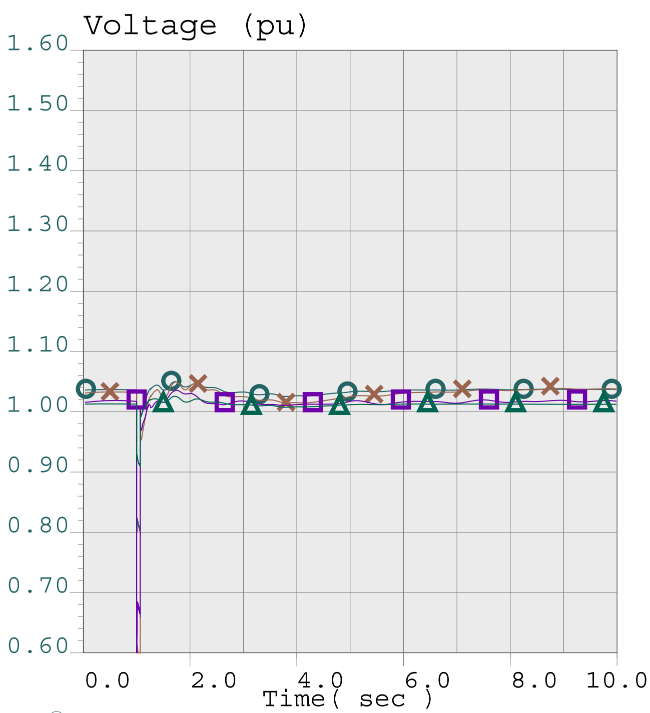

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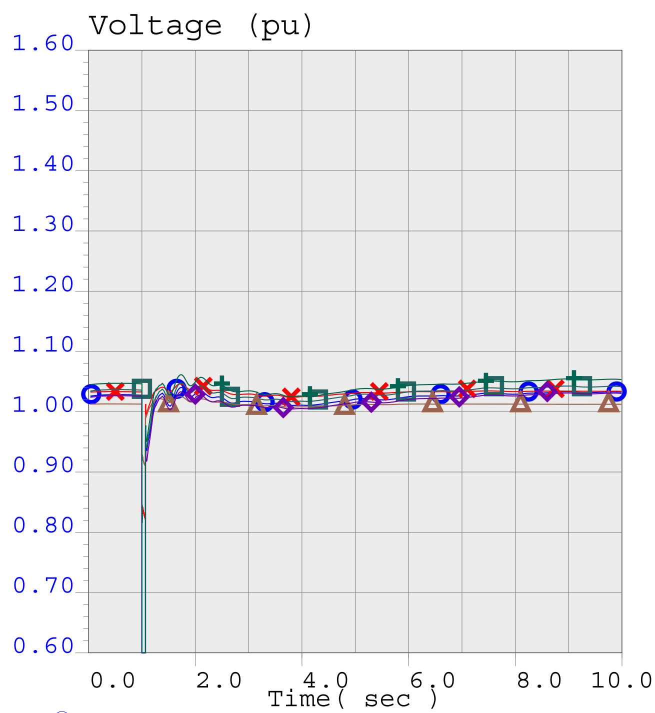

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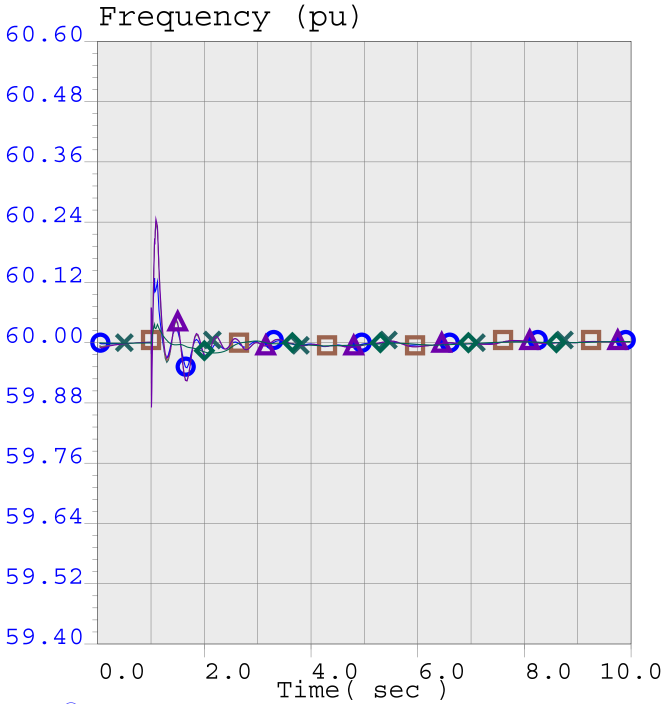

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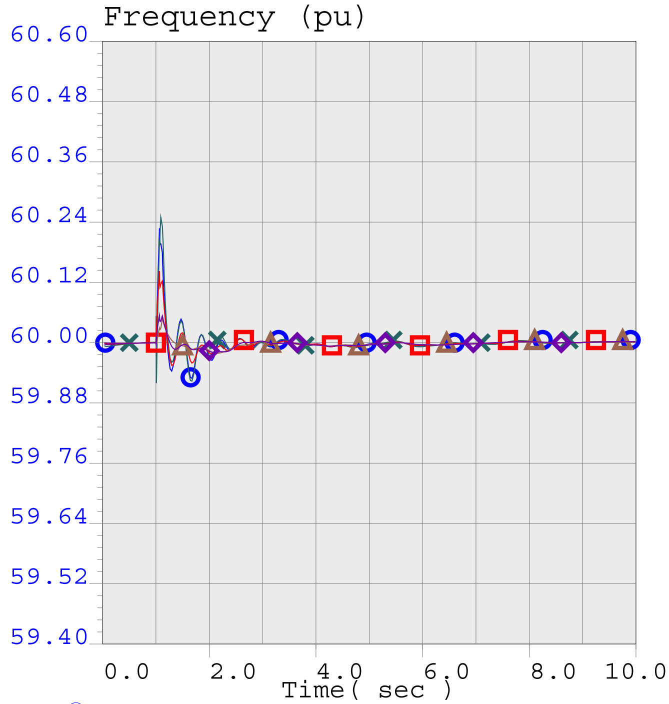

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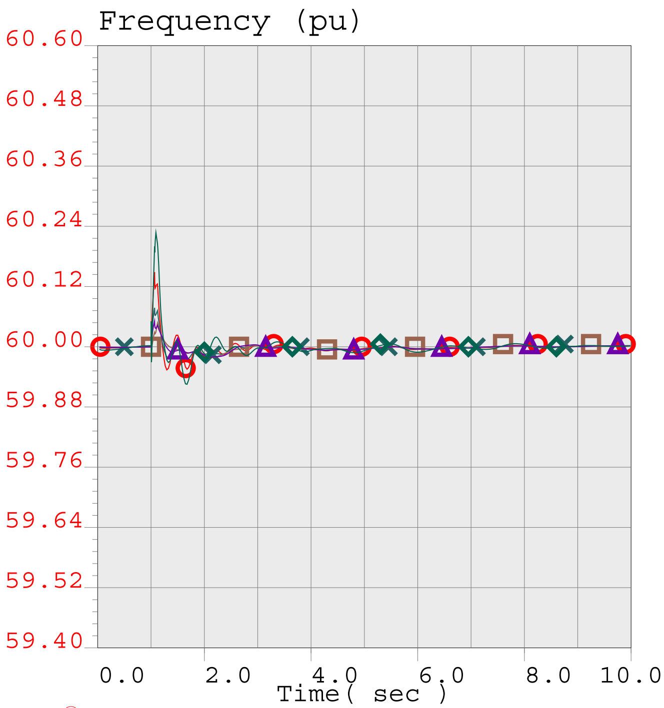

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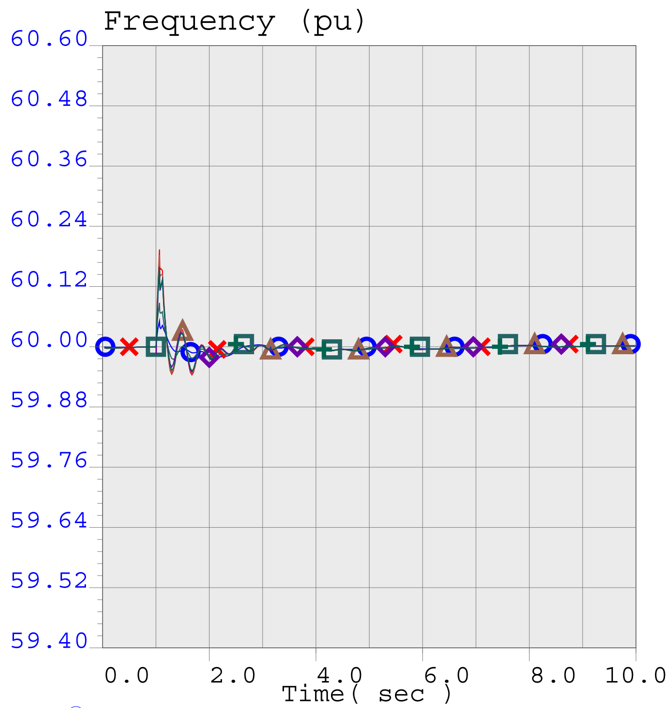

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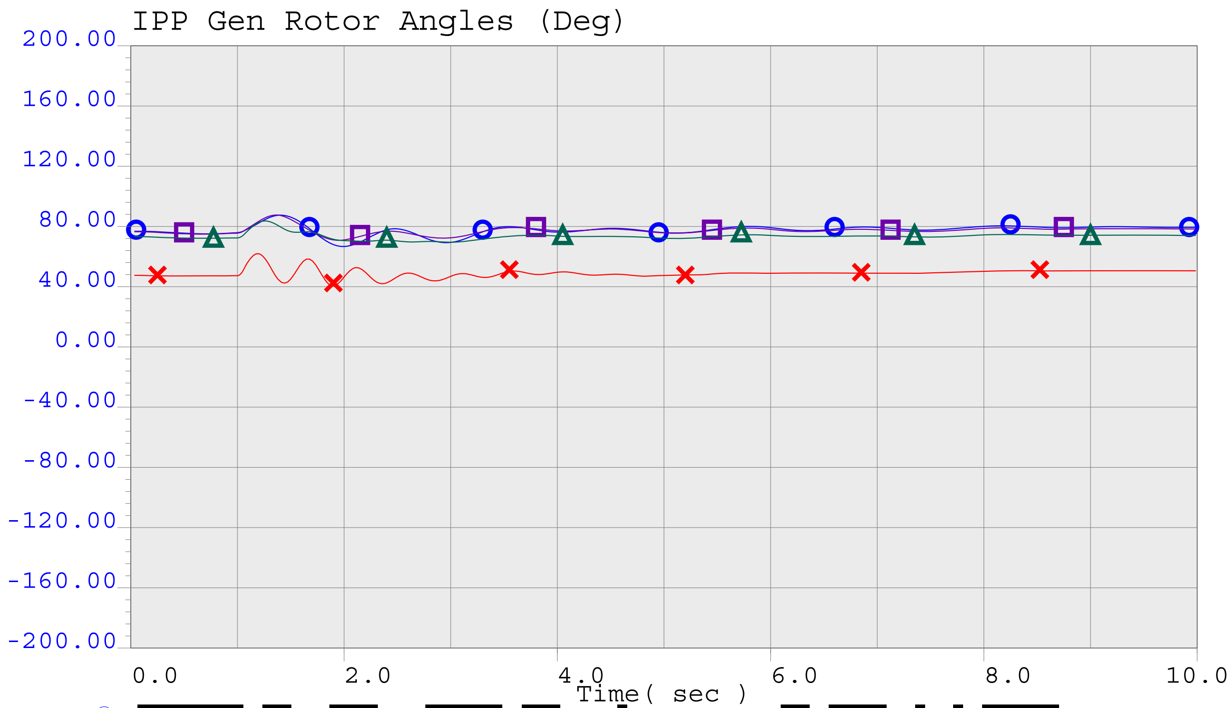
SYSTEM IMPACT STUDY (Rotor Angles)



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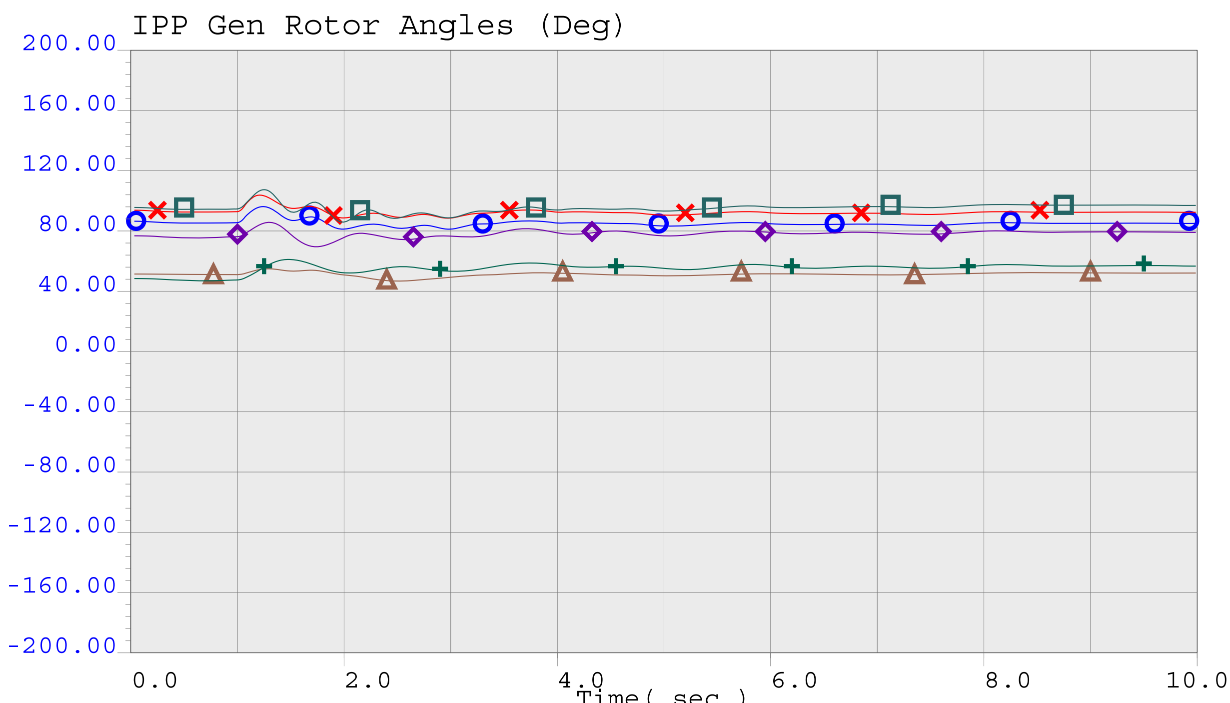

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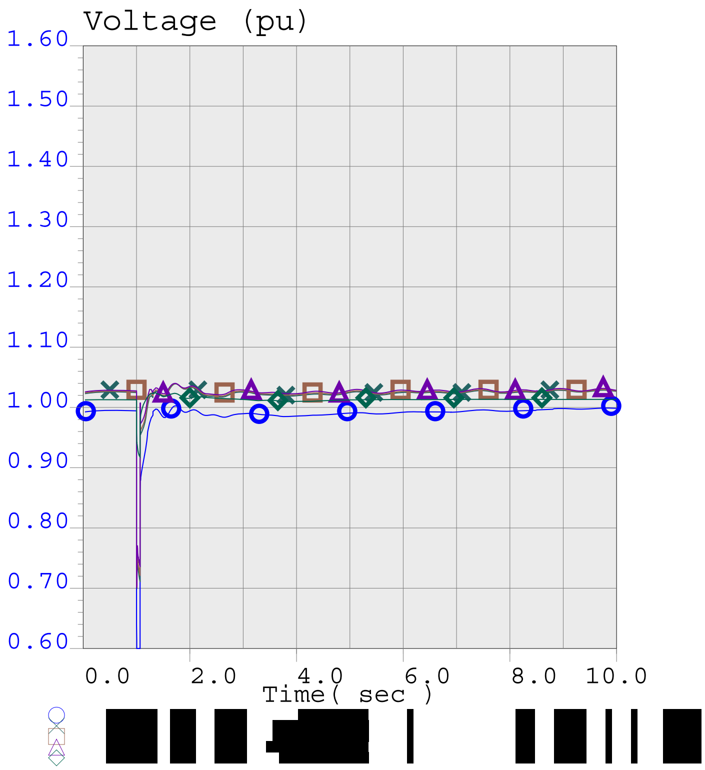

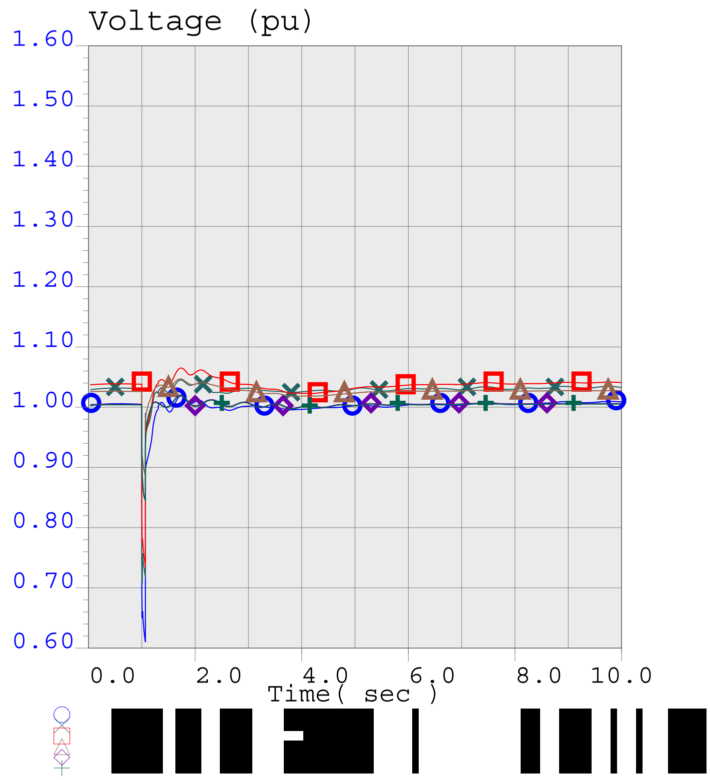

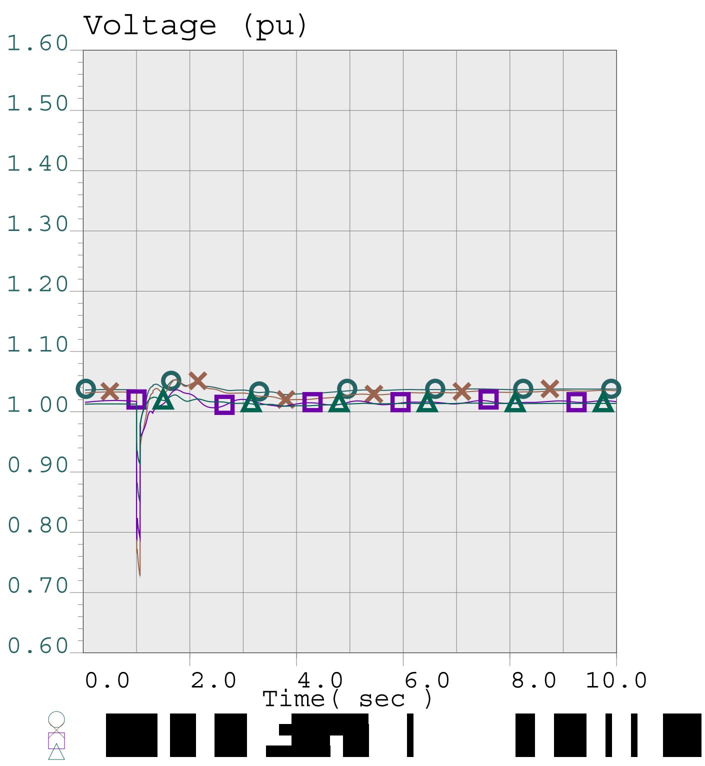

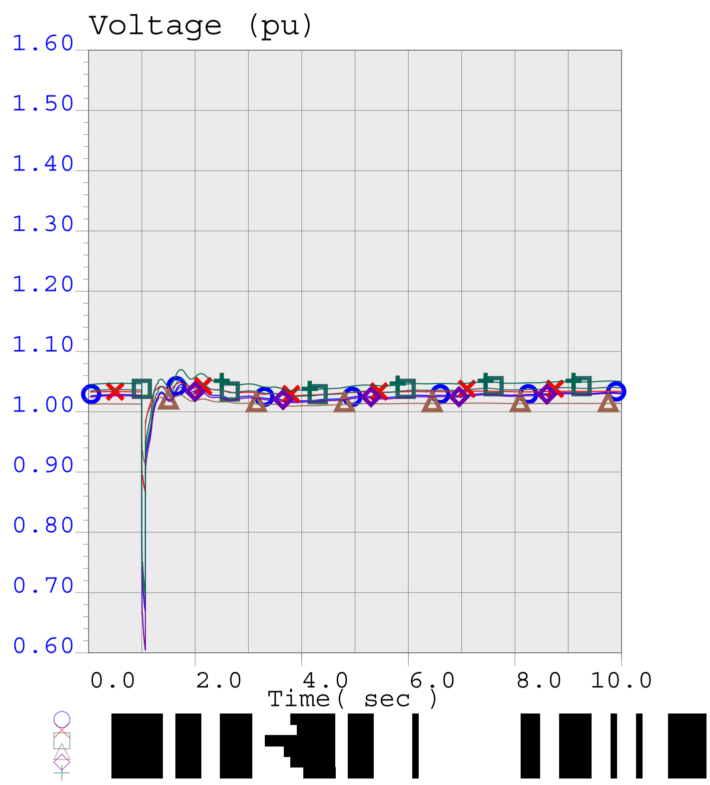

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Fri Aug 26 08:38:00 2022

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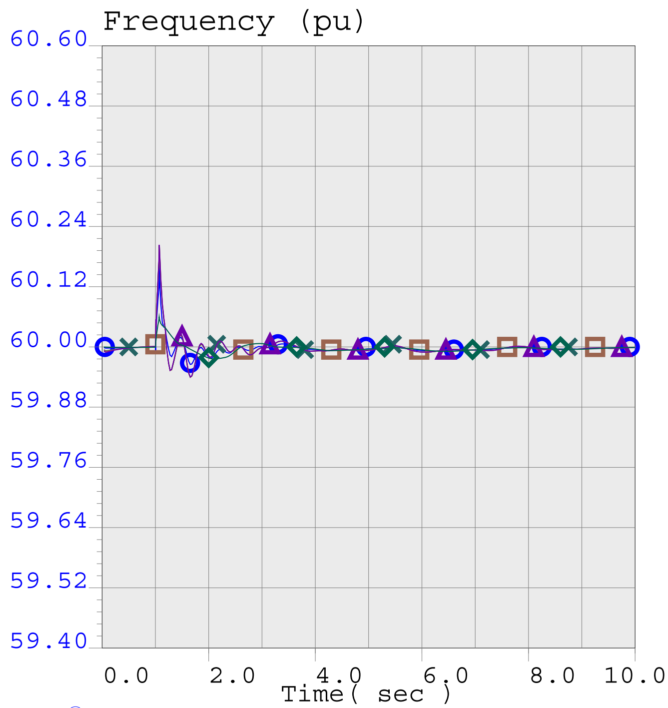

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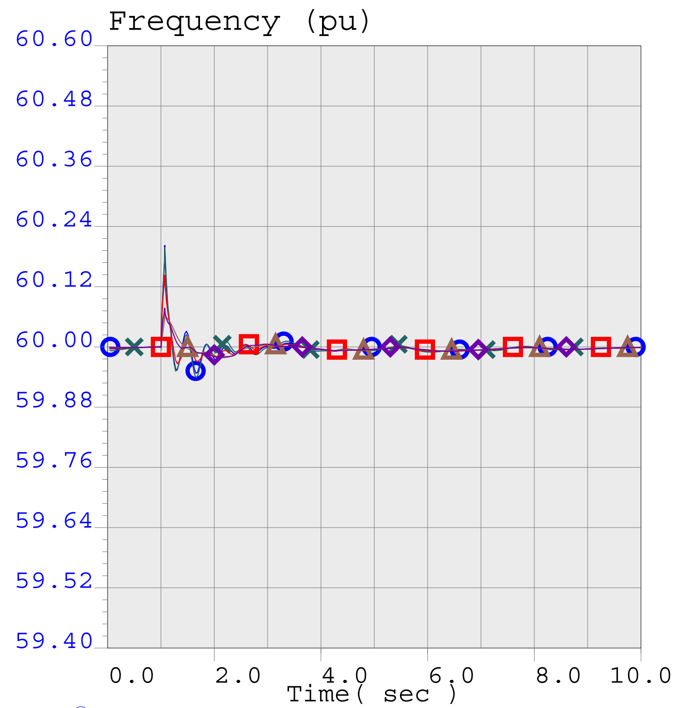

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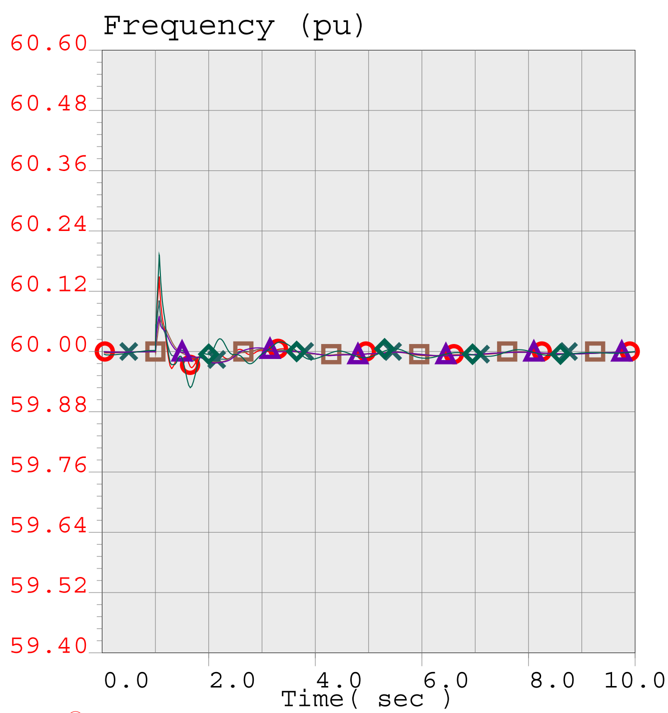

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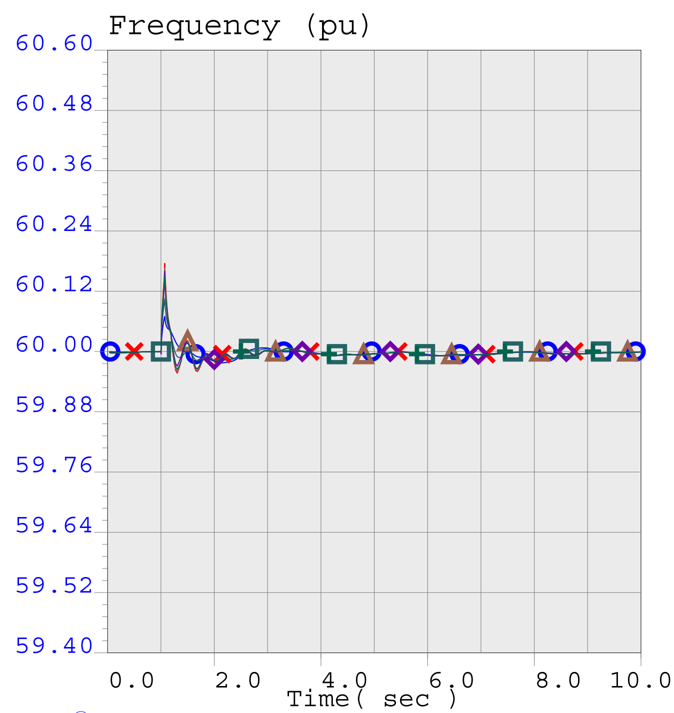

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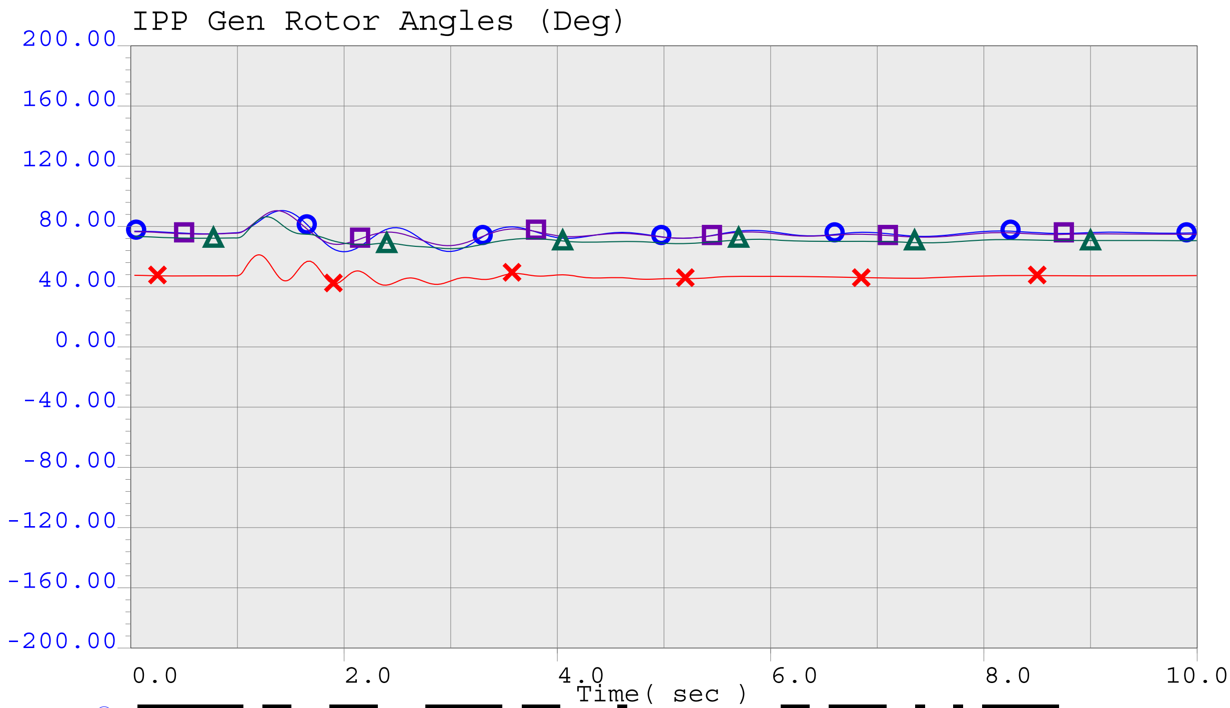

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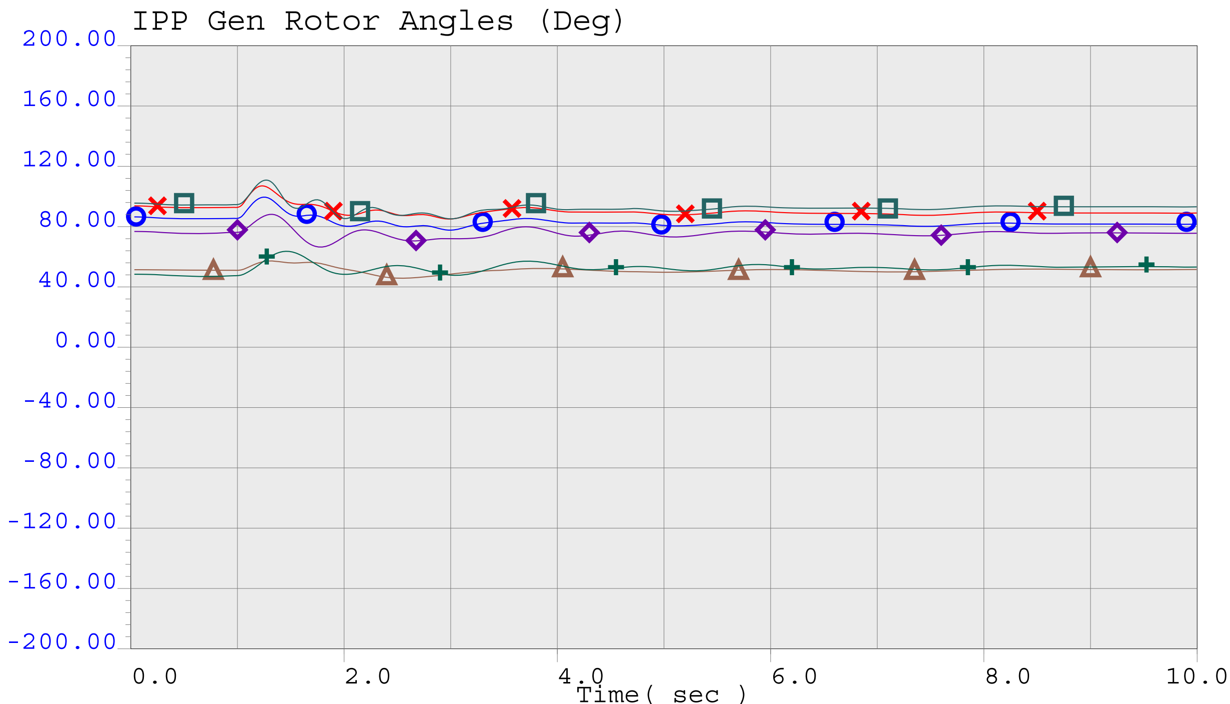

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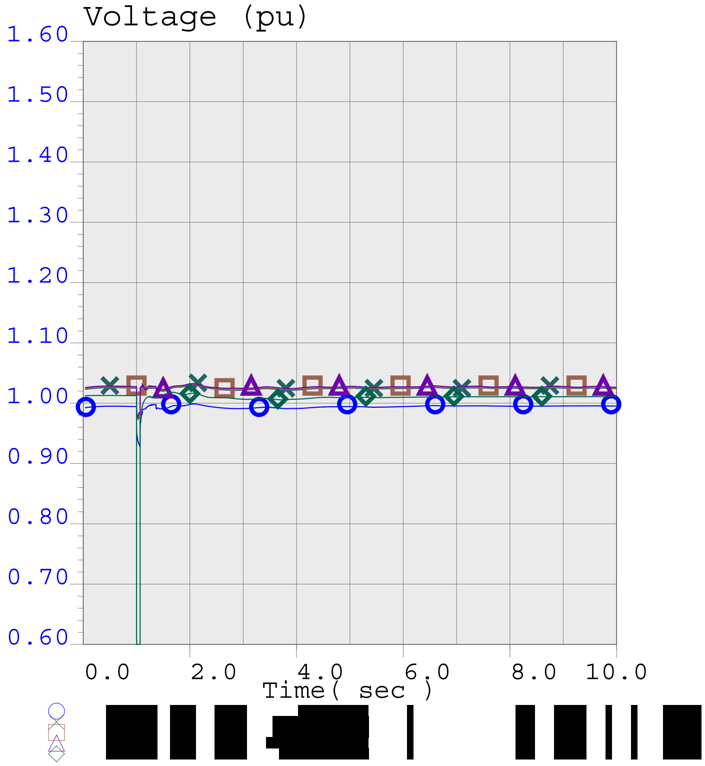

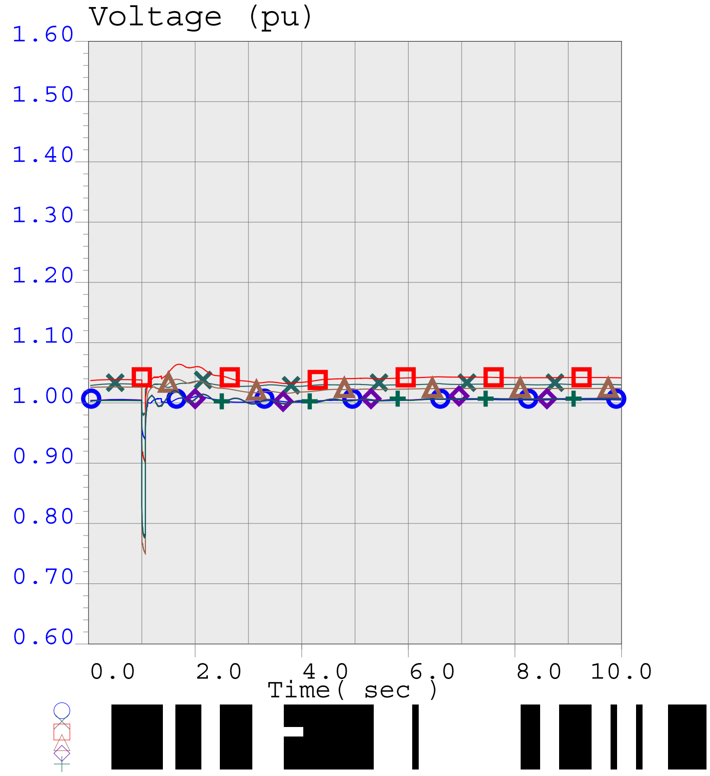

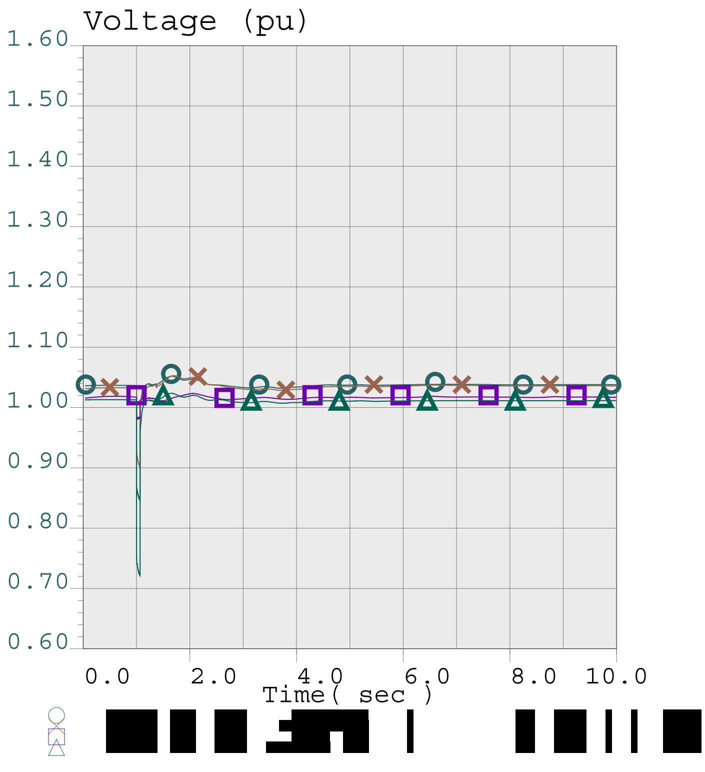

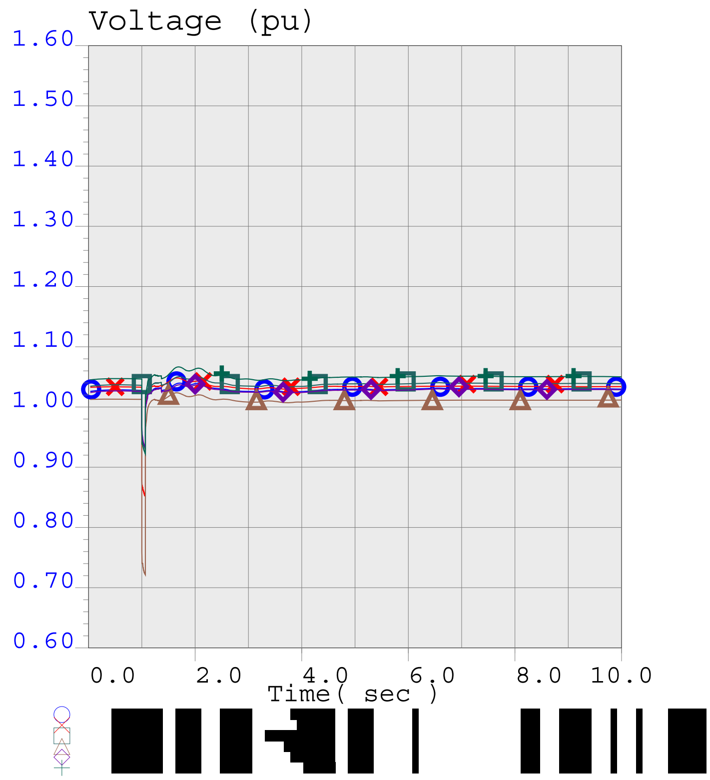

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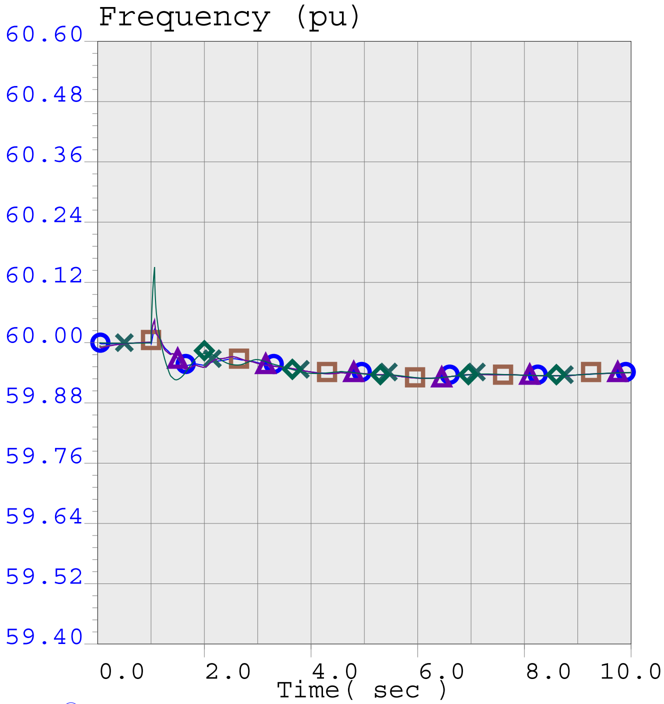

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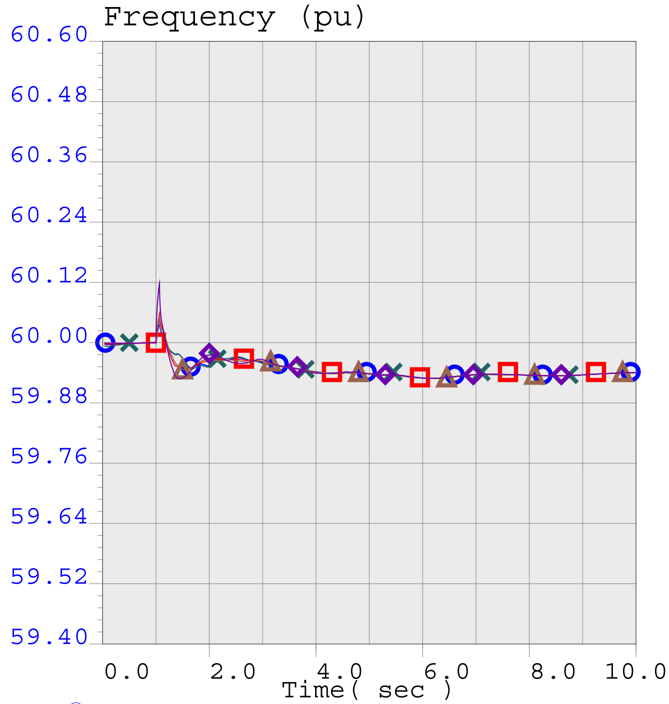

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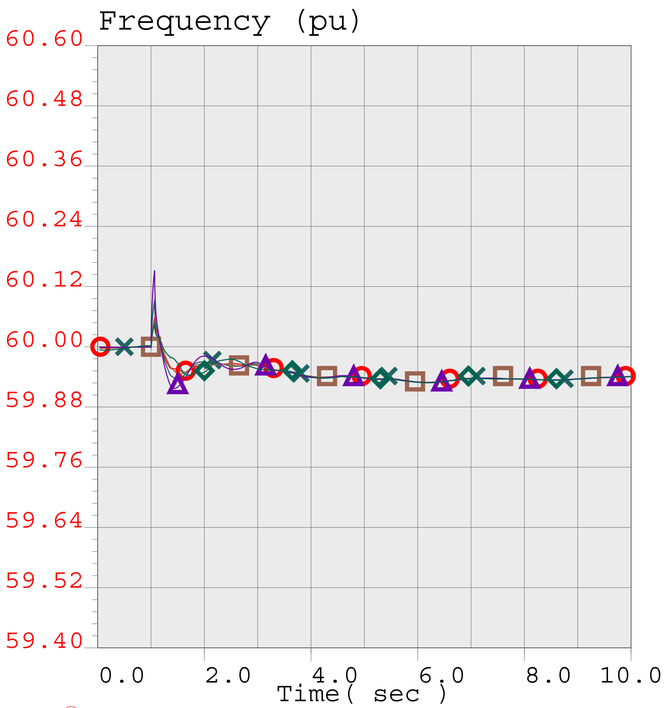

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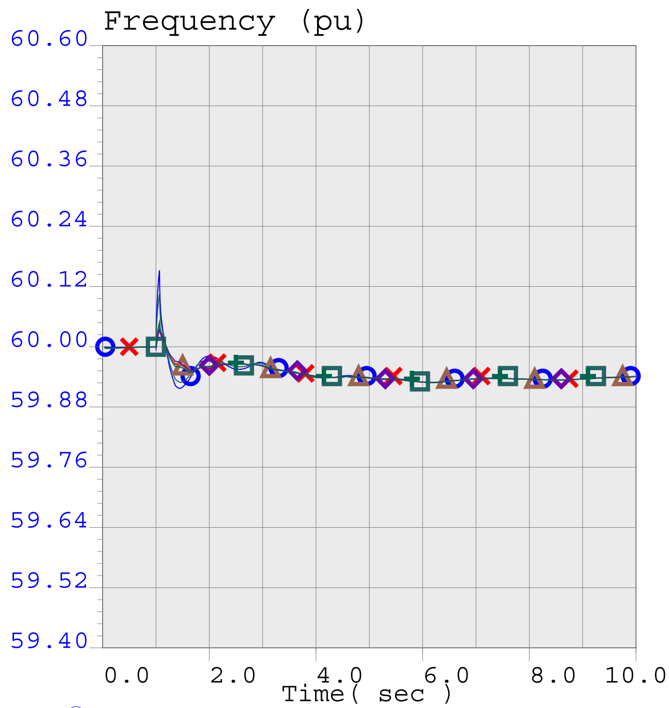

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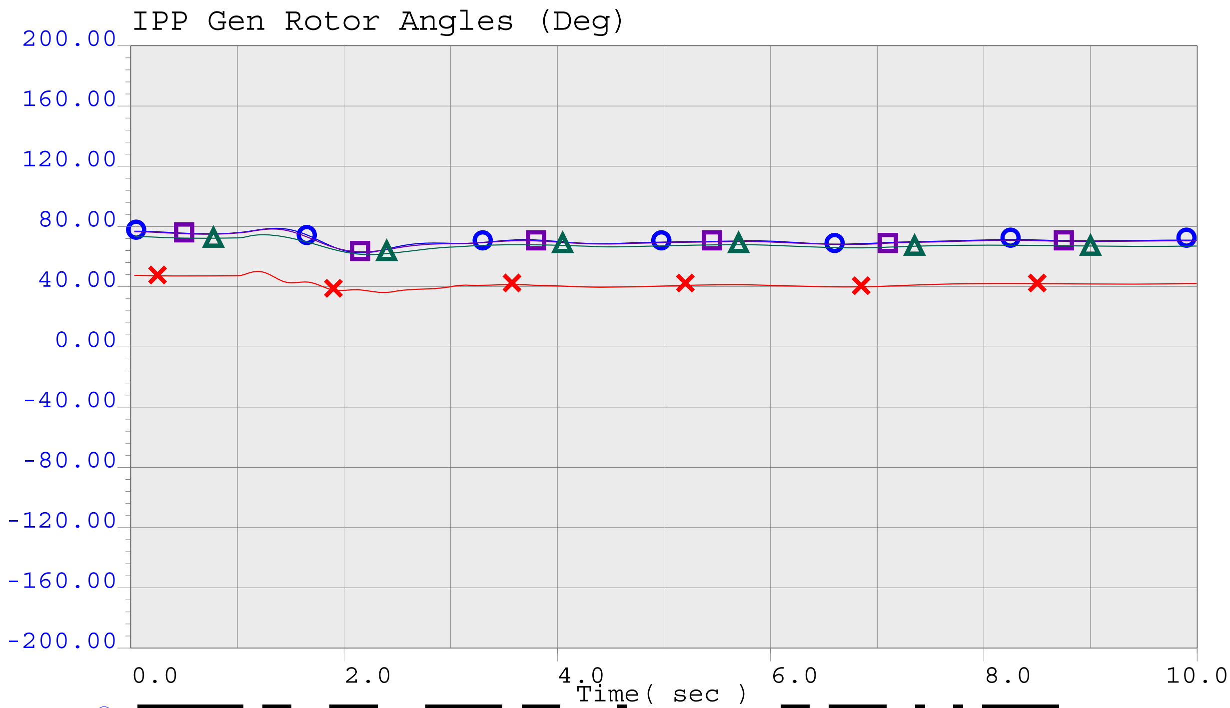

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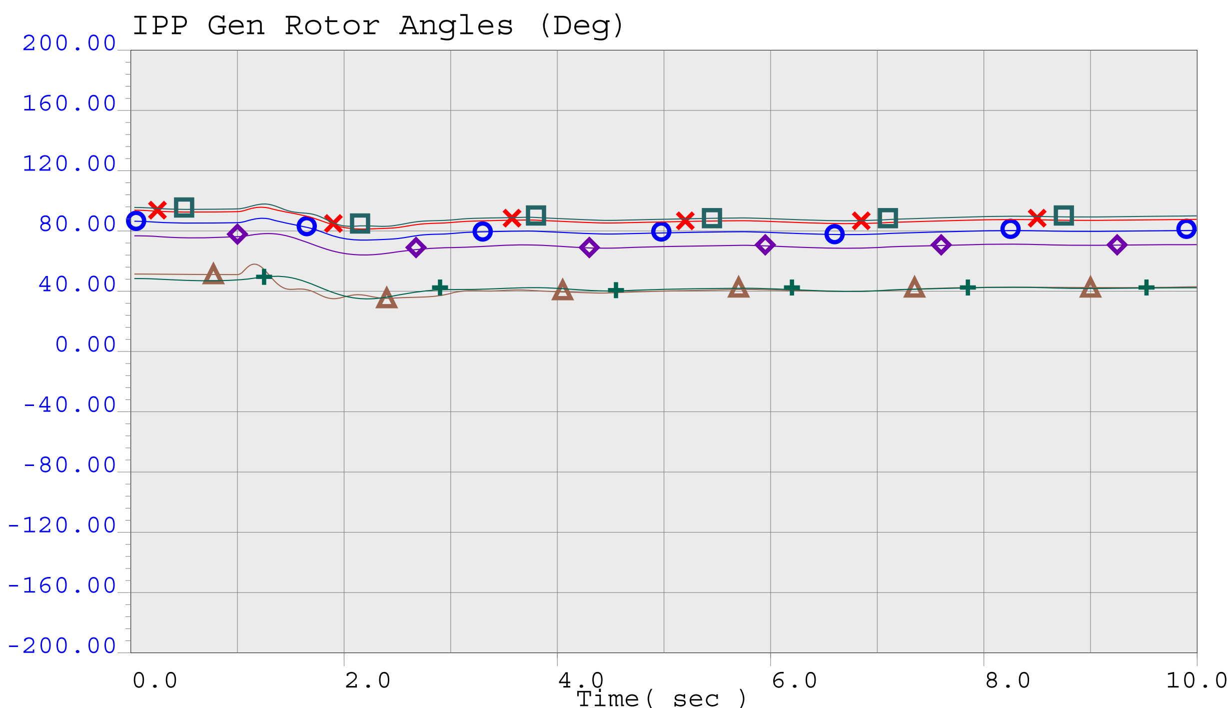

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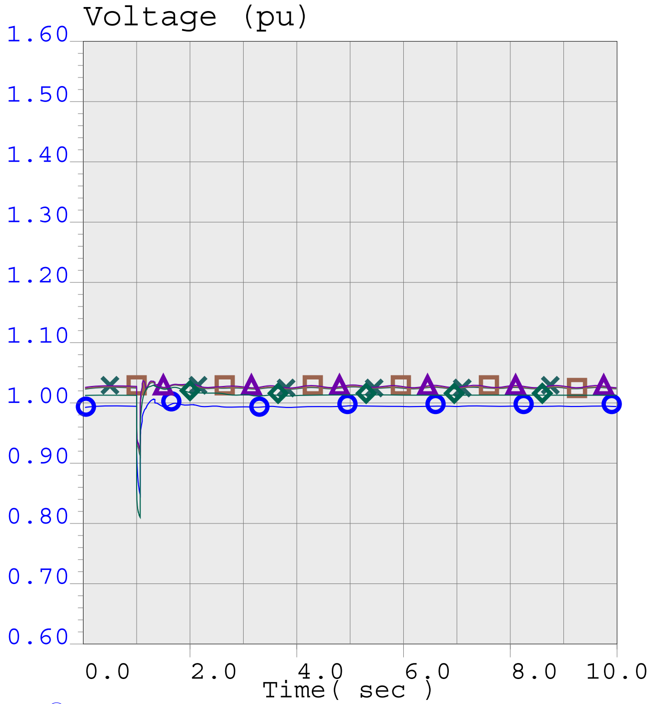

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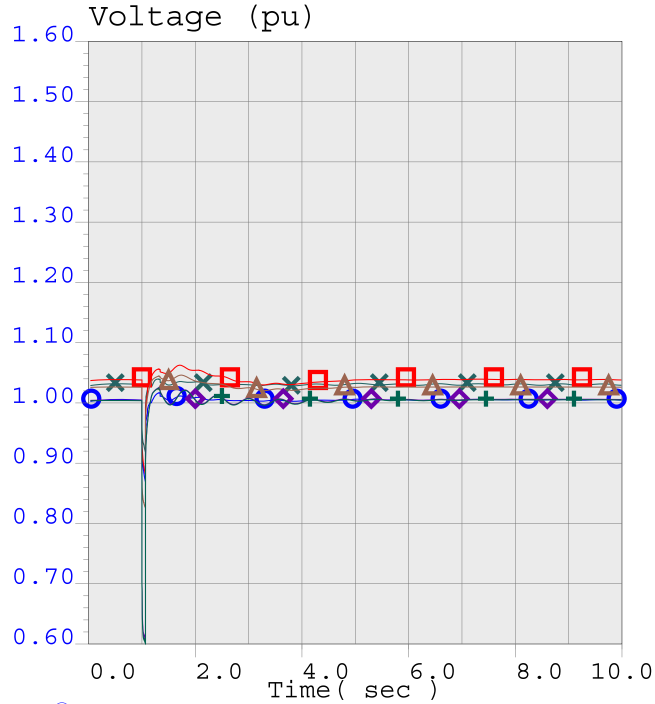

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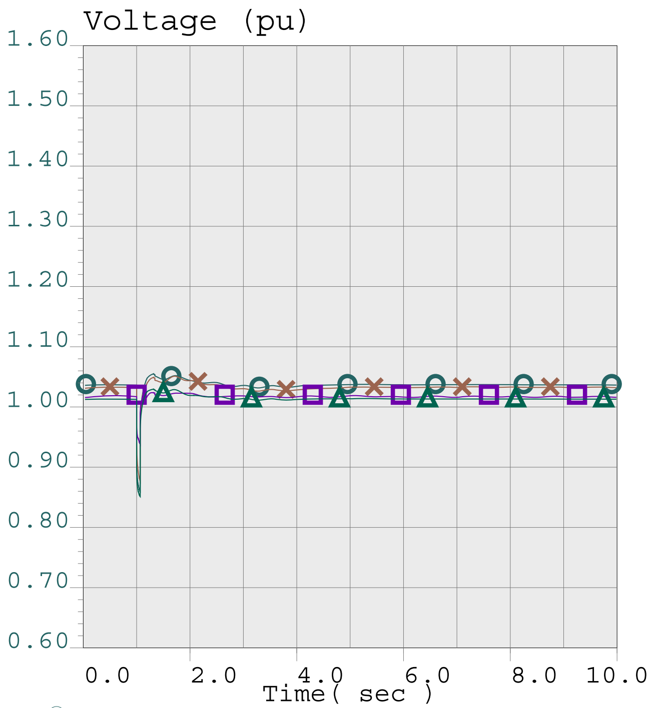

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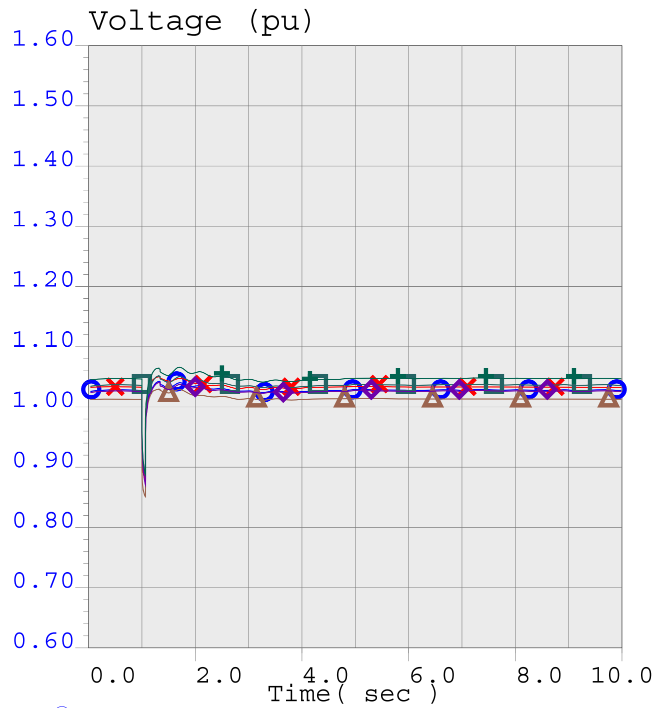

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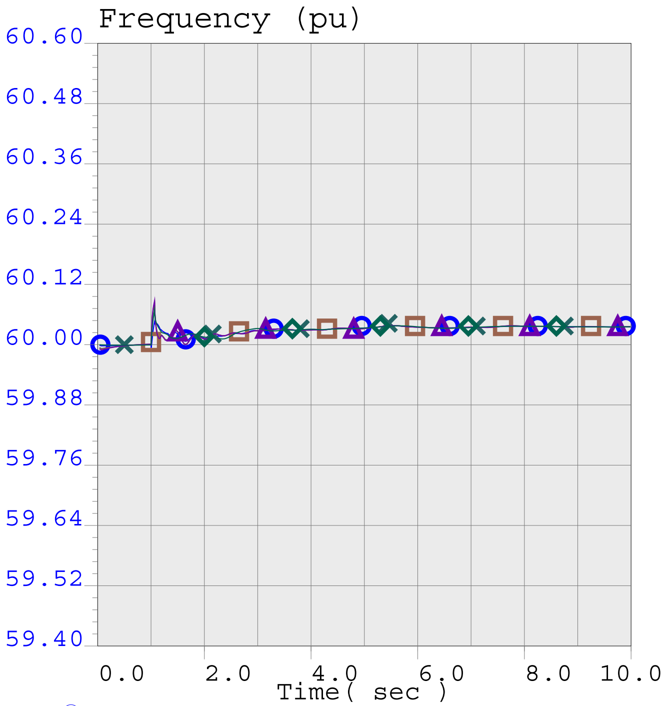

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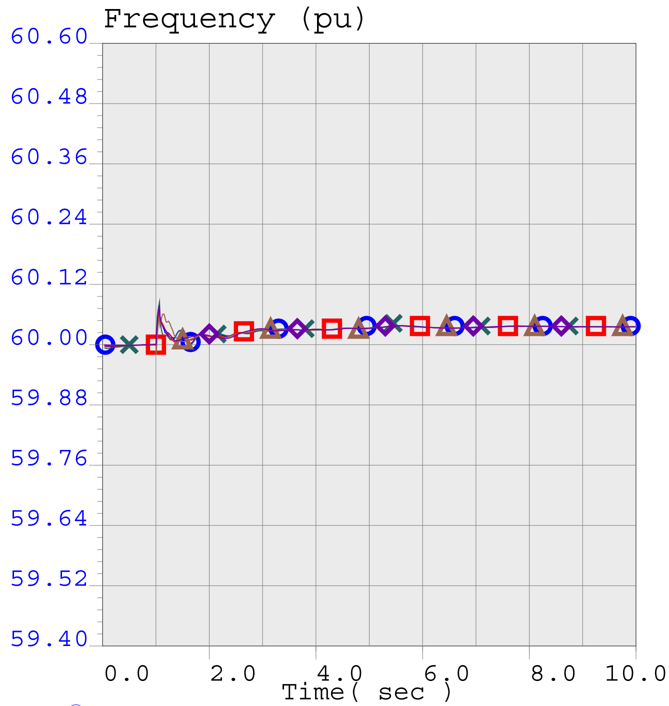

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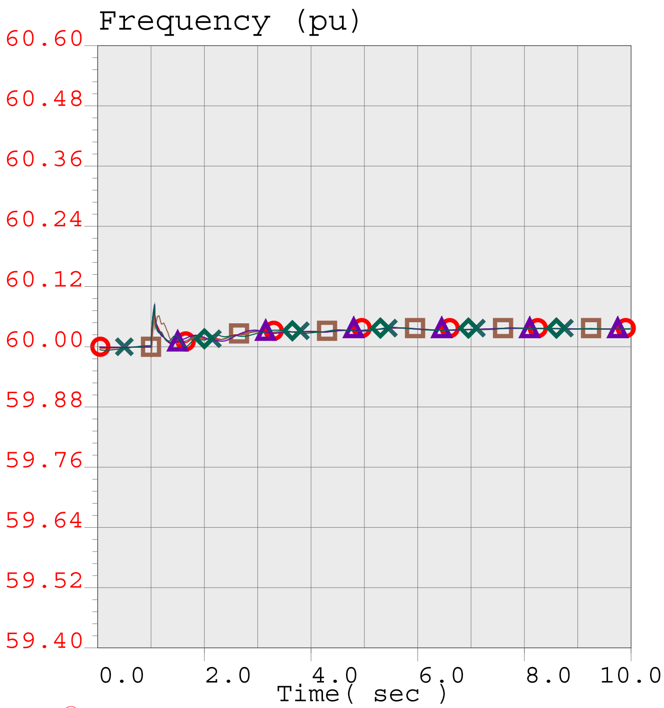

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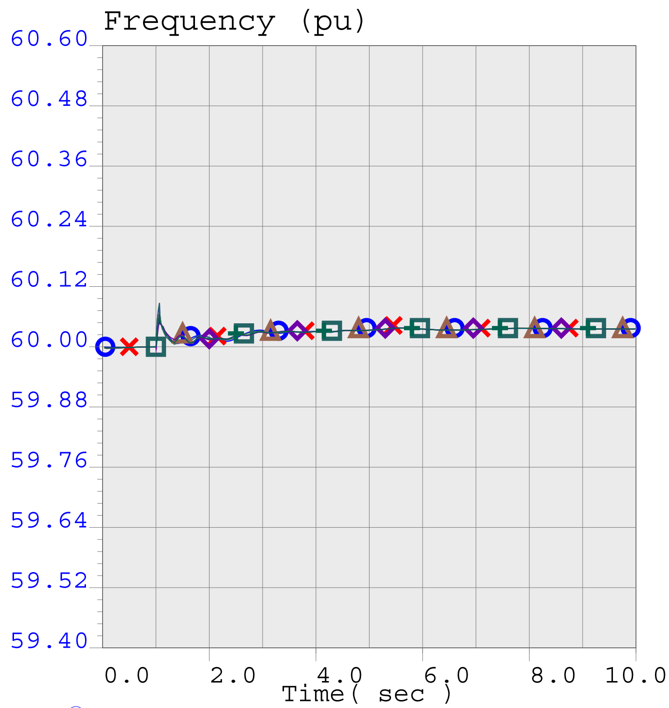

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Fri Aug 26 08:38:07 2022

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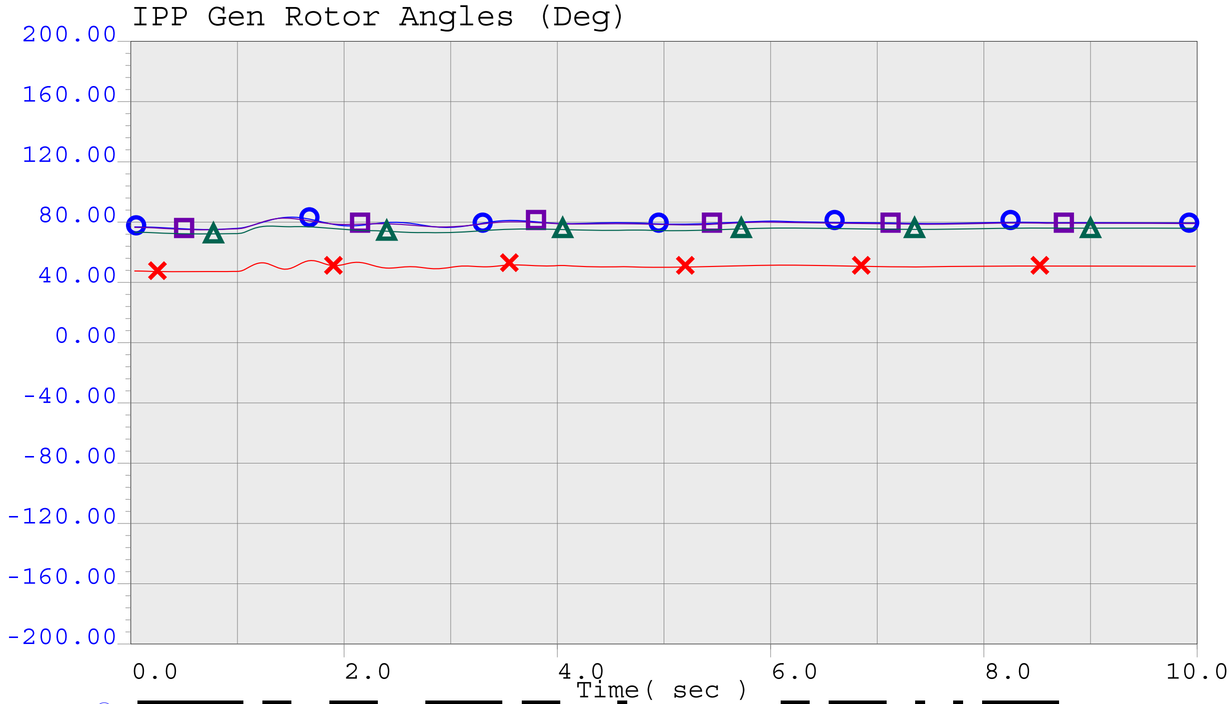

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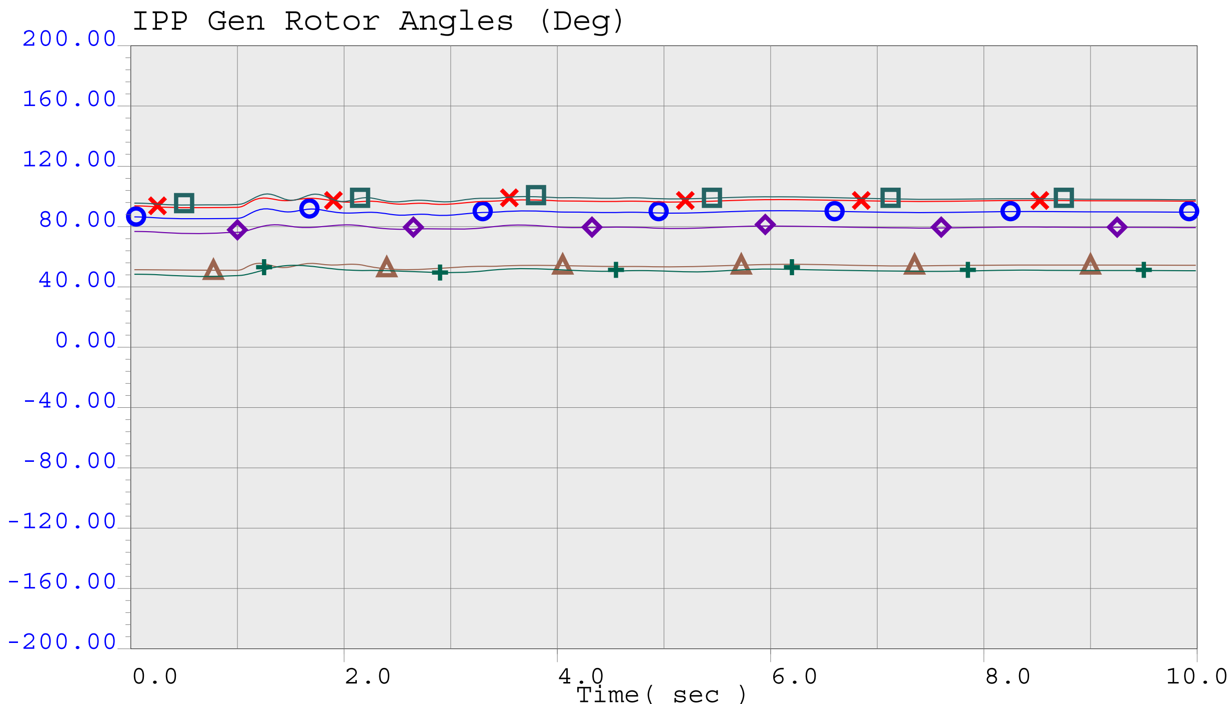

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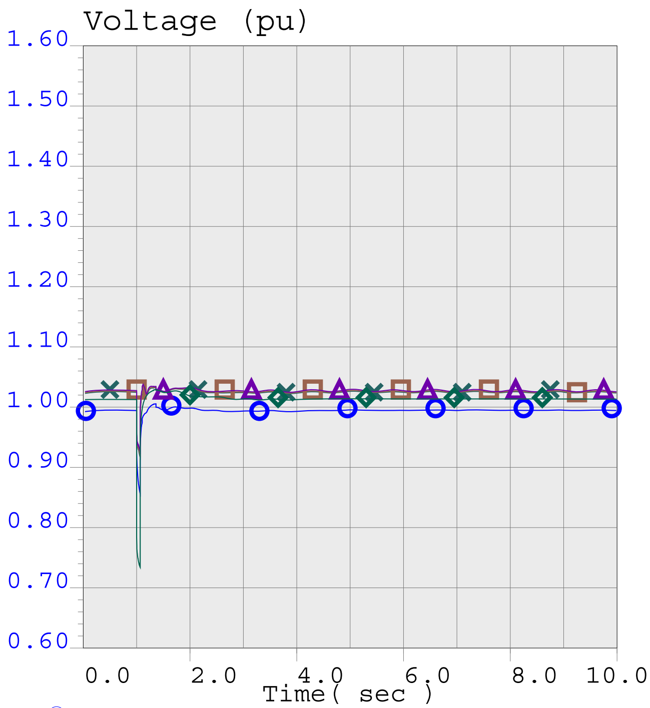

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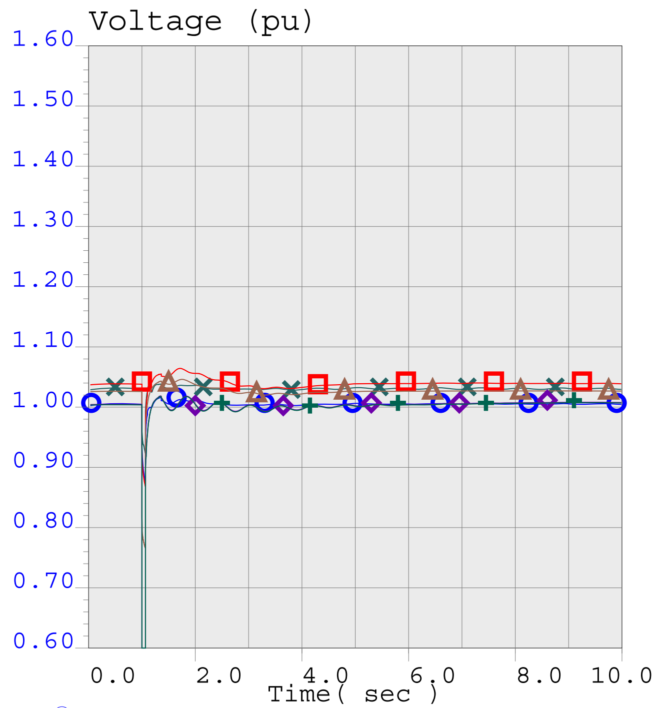

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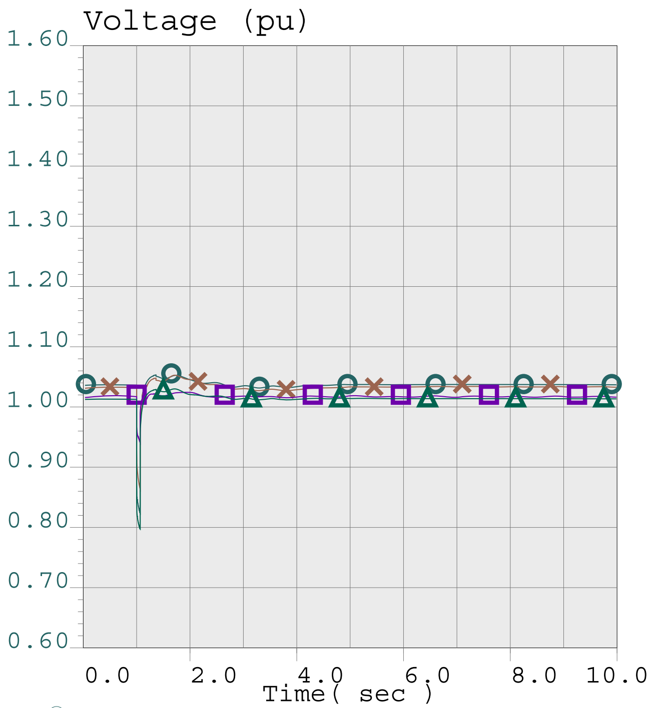

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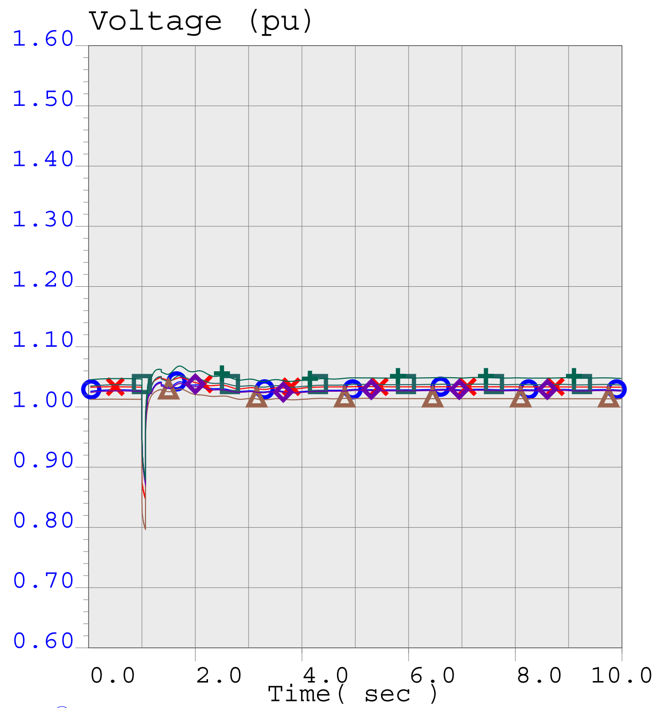

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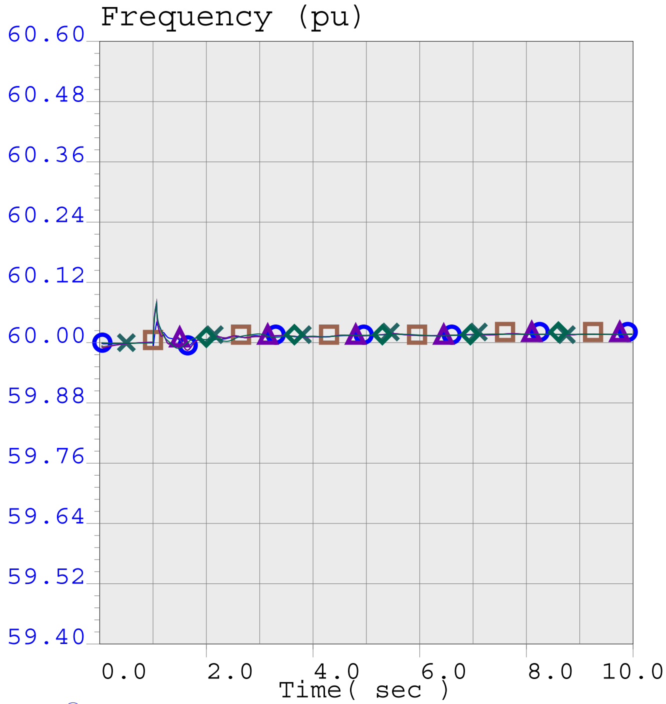

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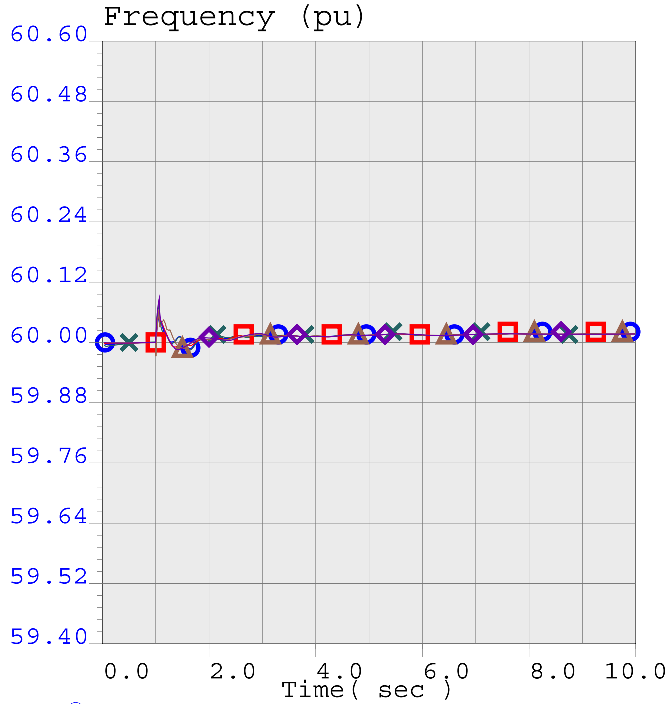

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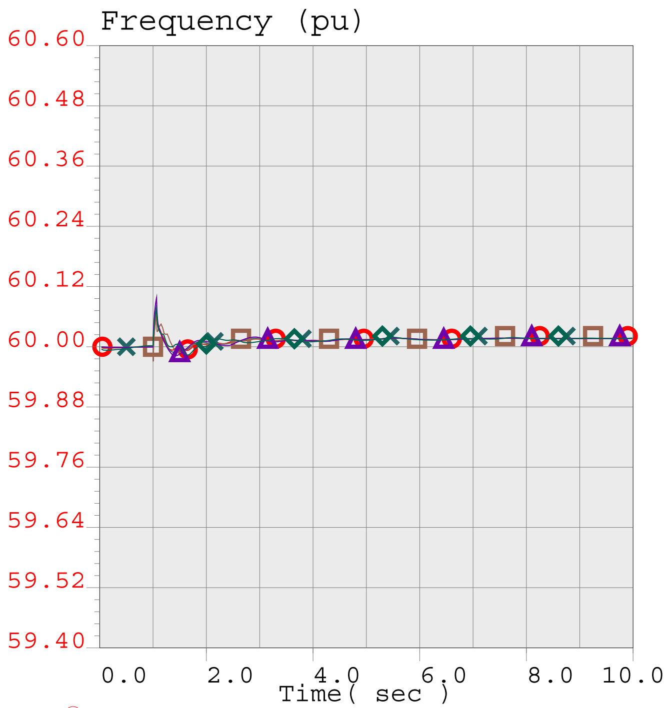

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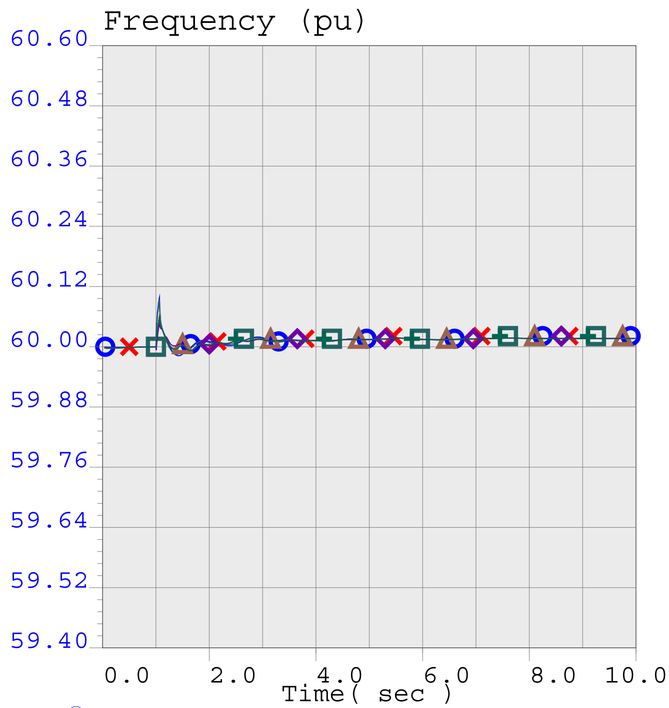

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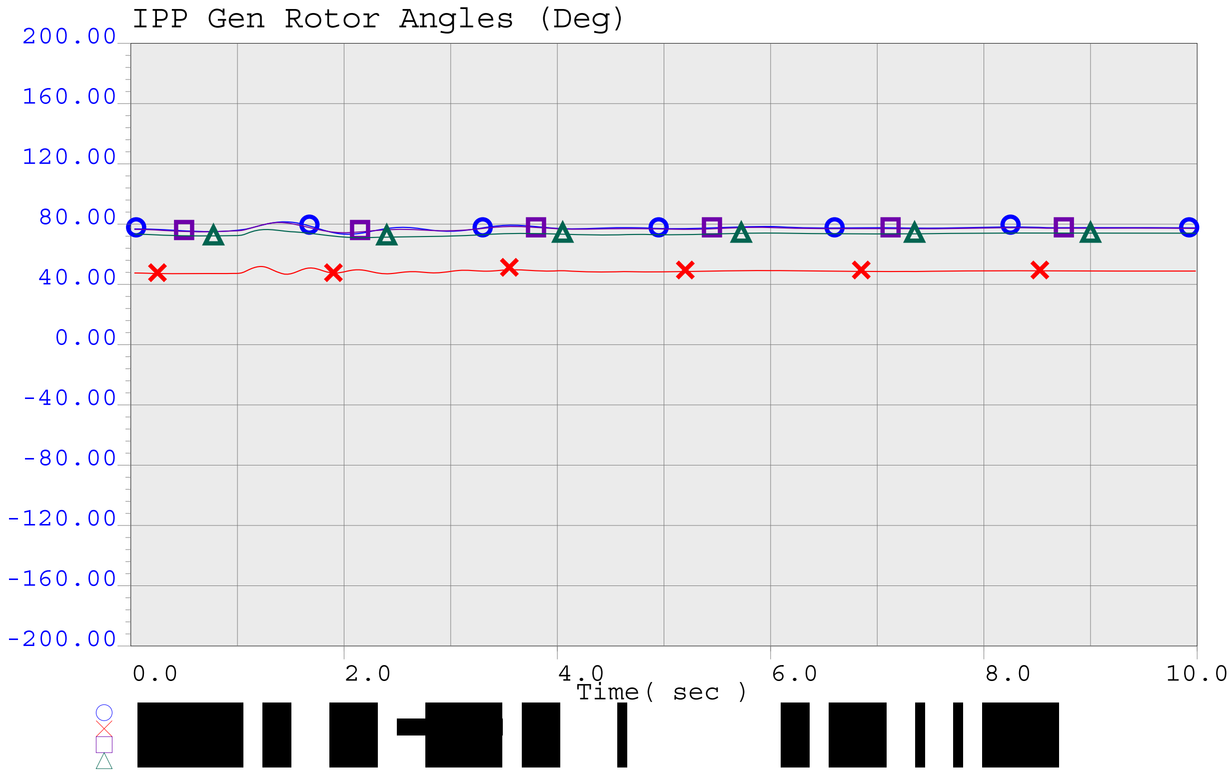

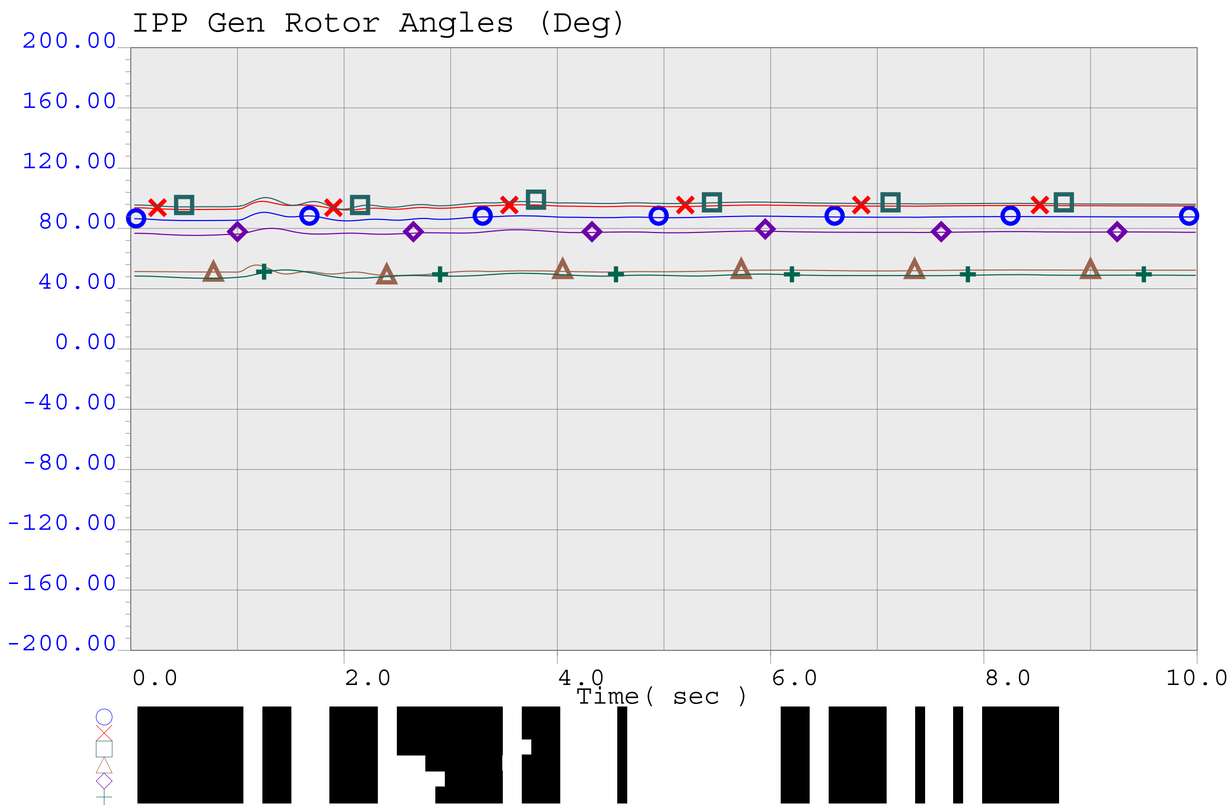

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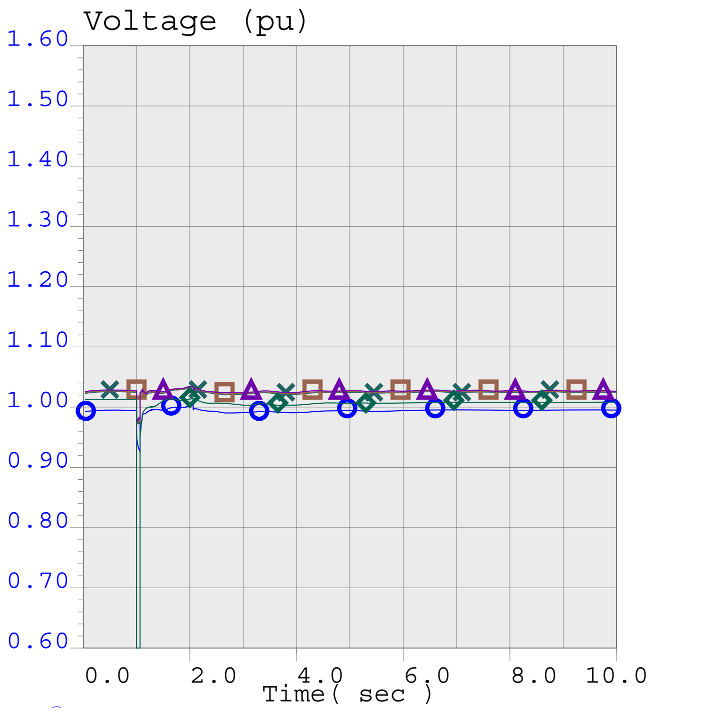

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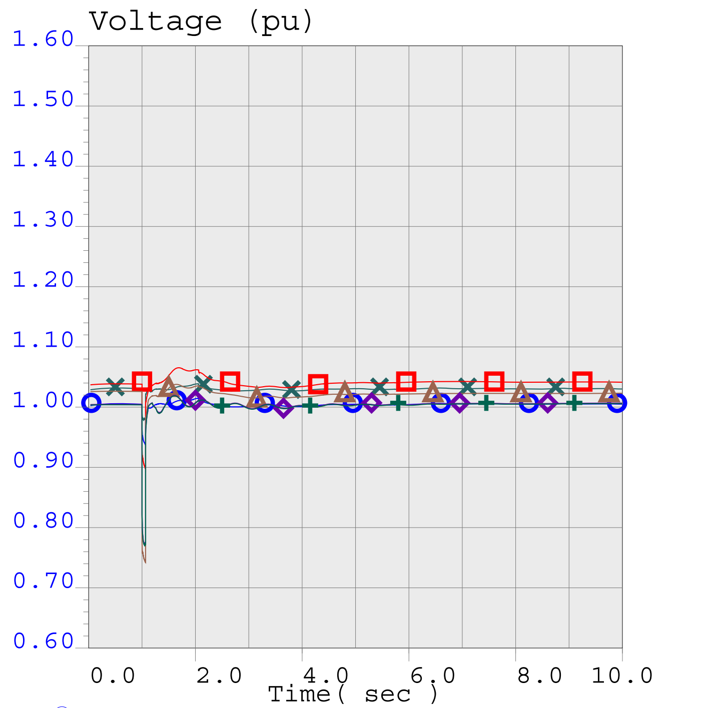

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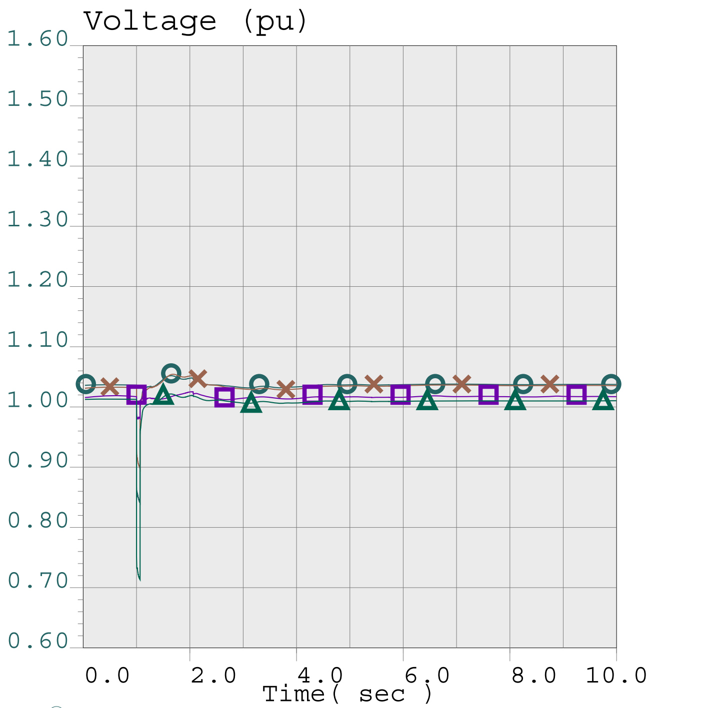

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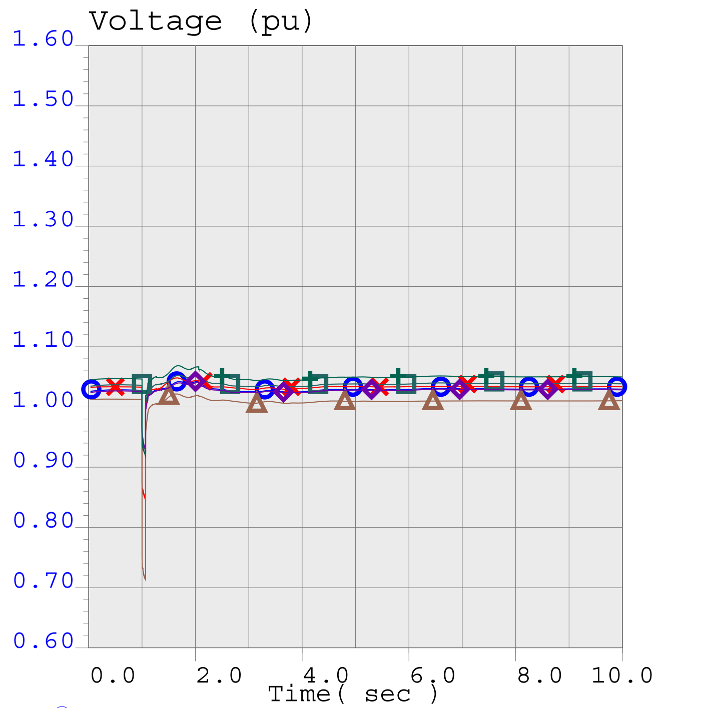

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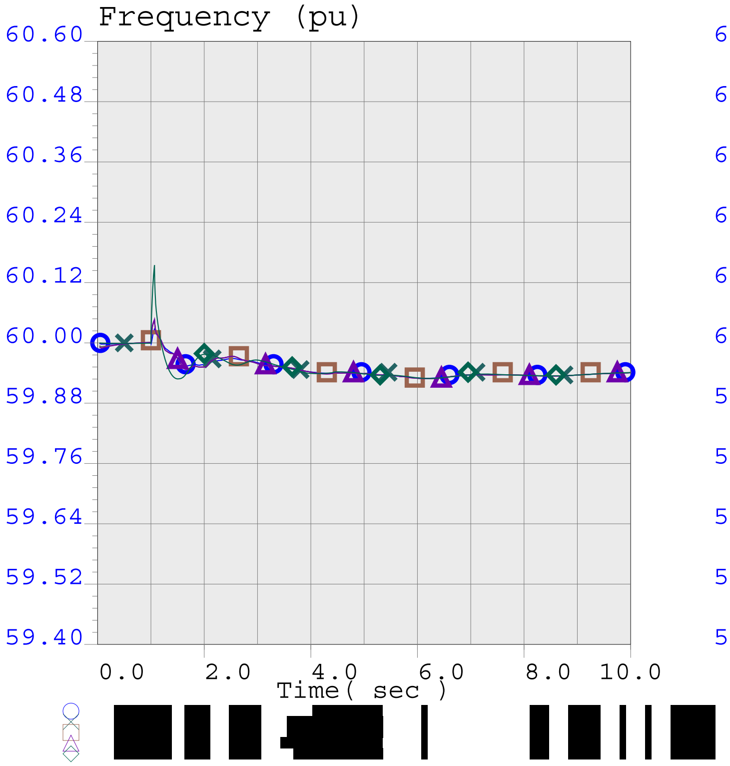

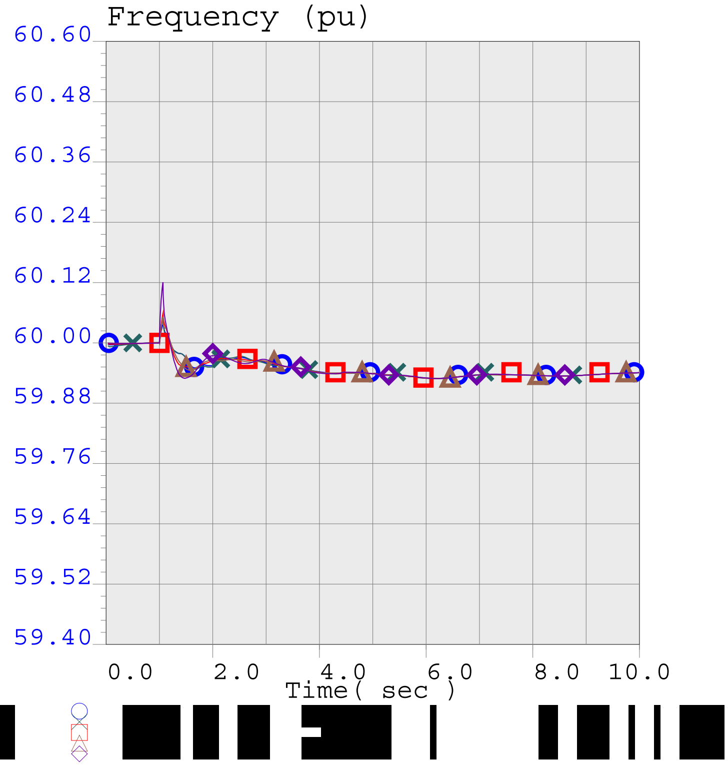

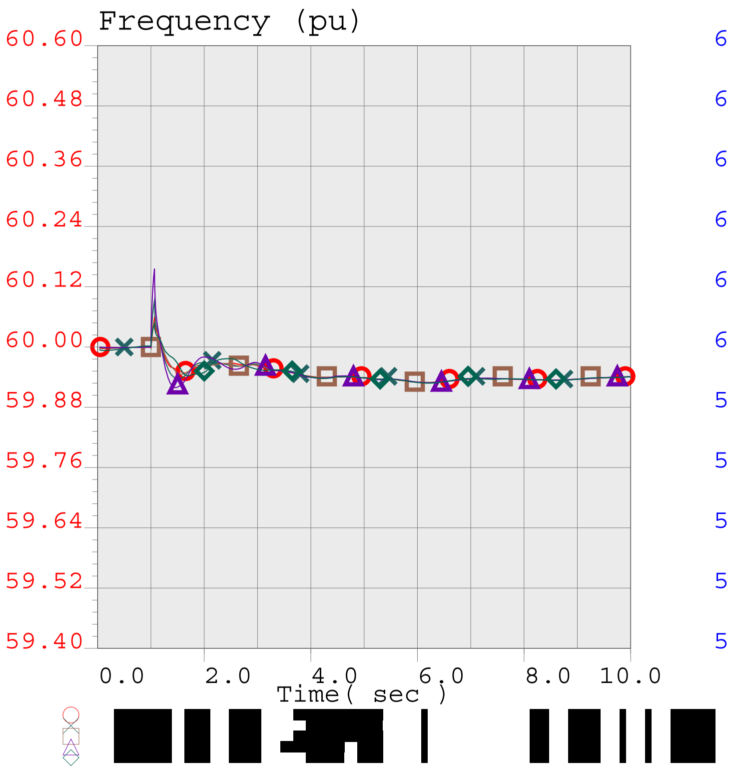

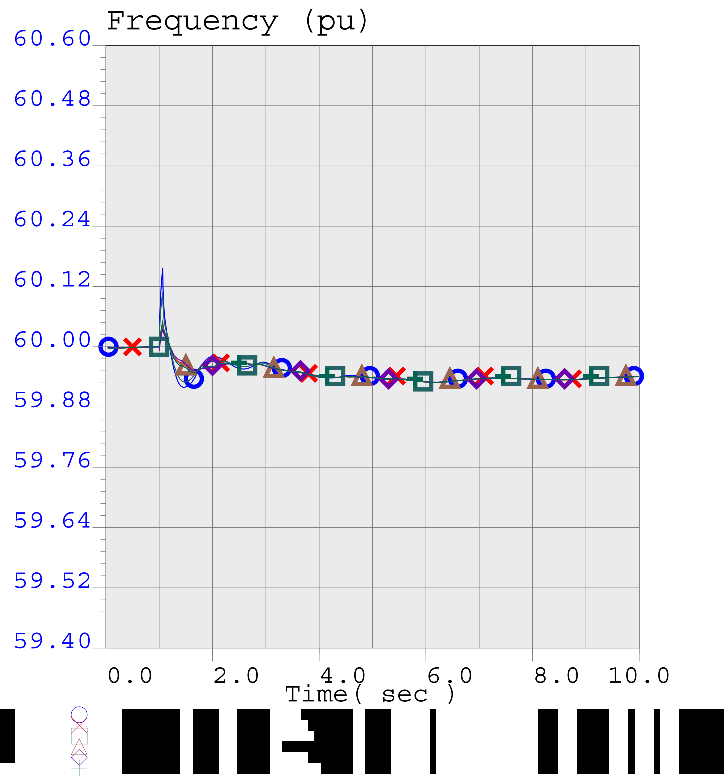

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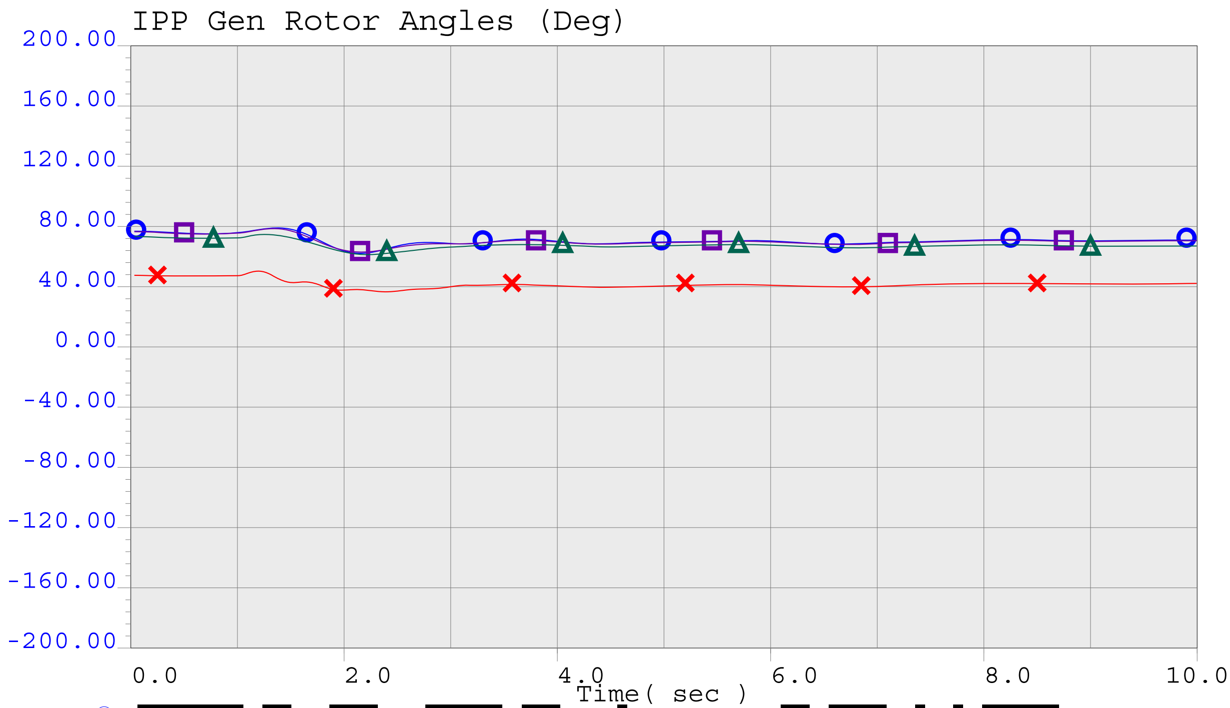

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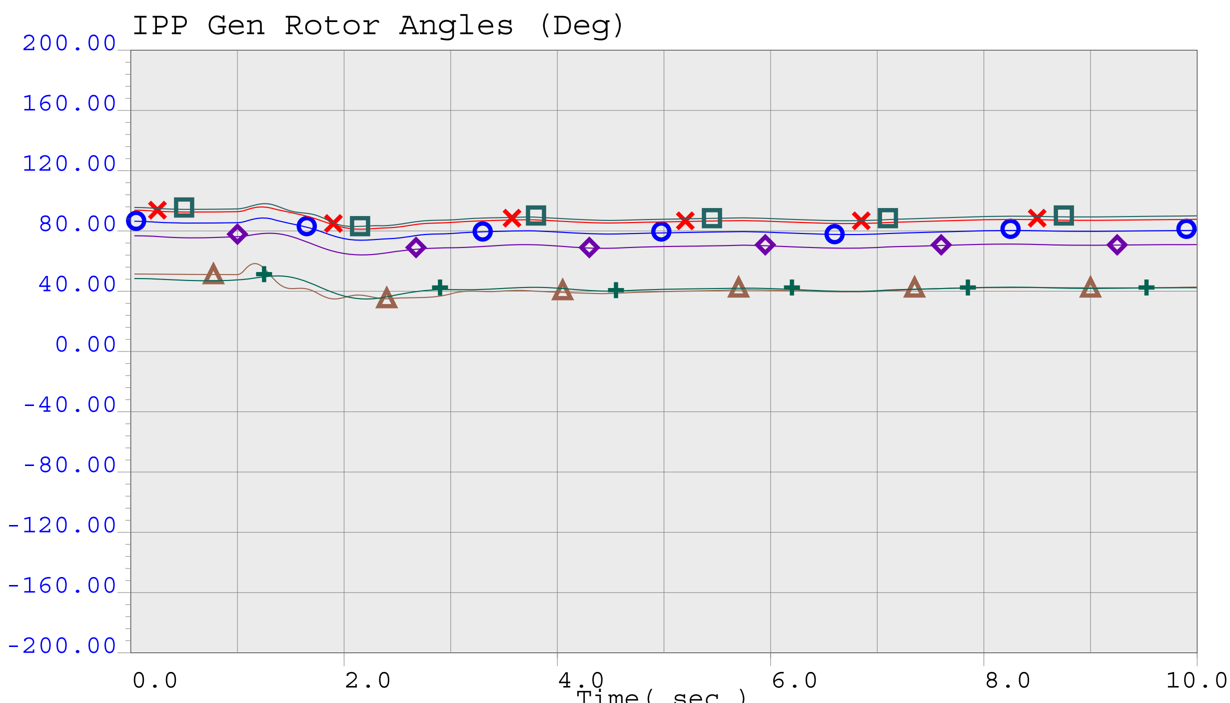

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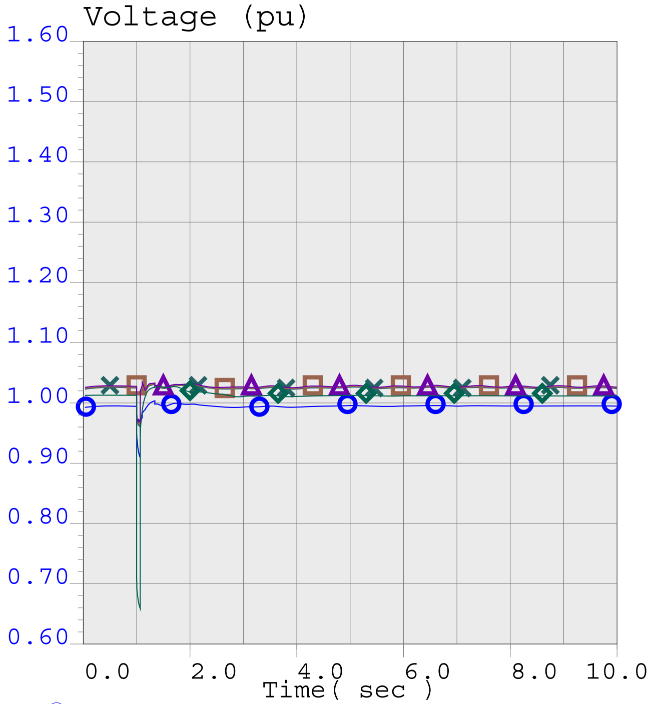

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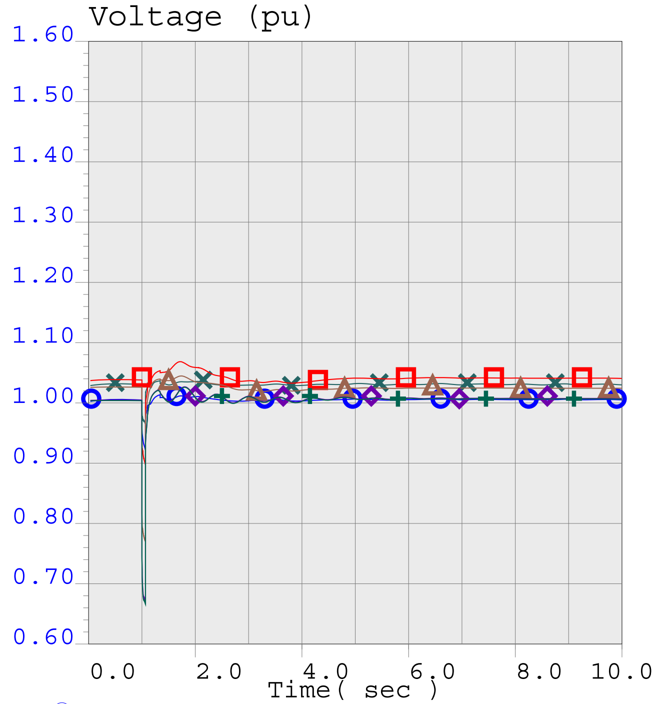

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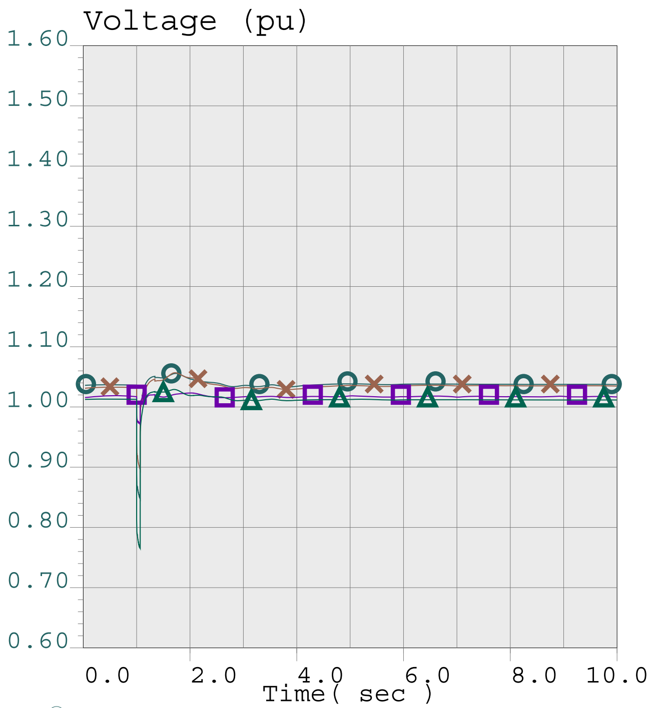

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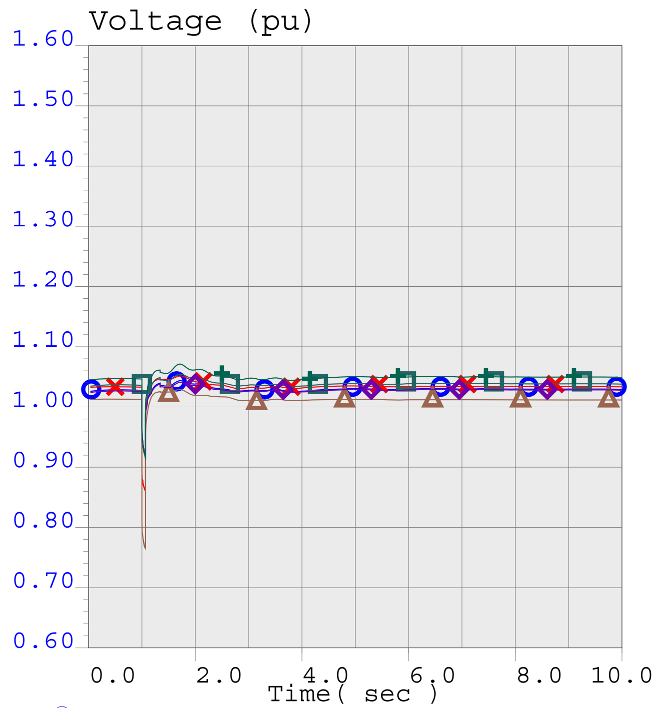

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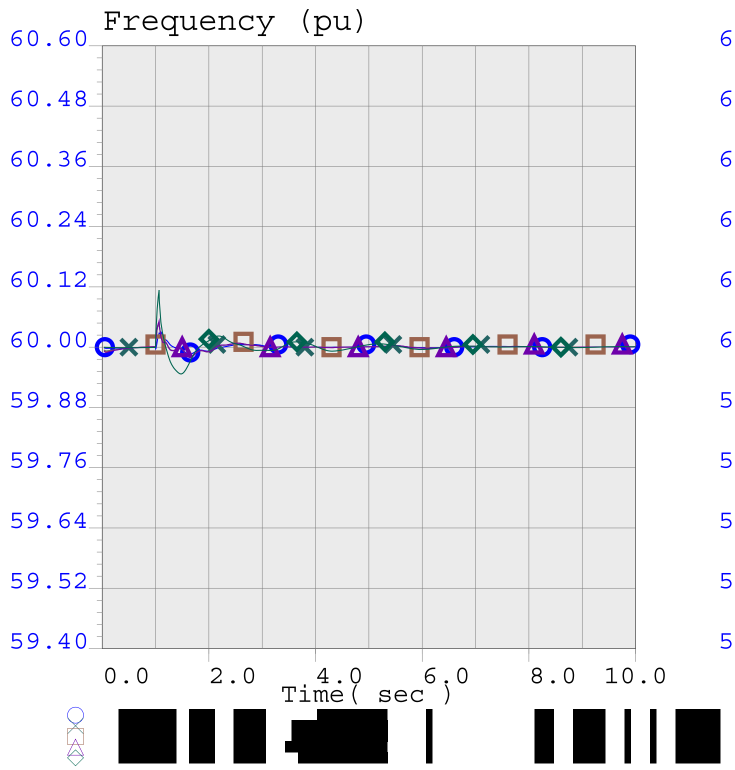

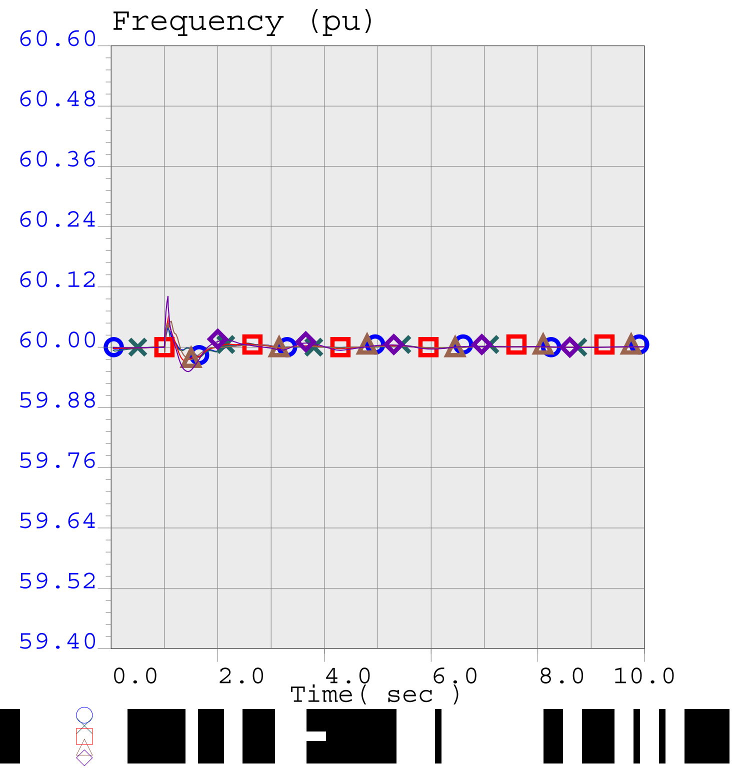

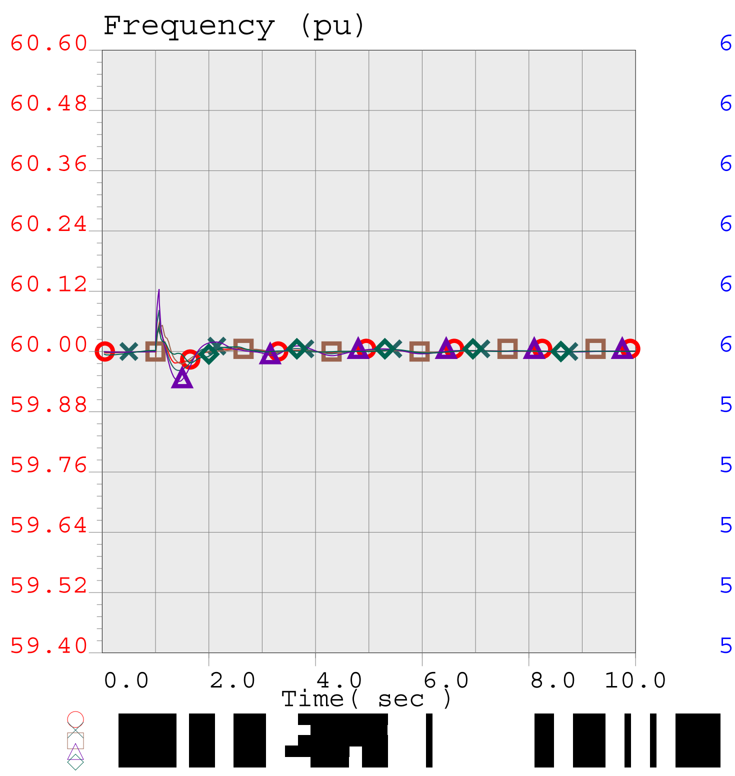

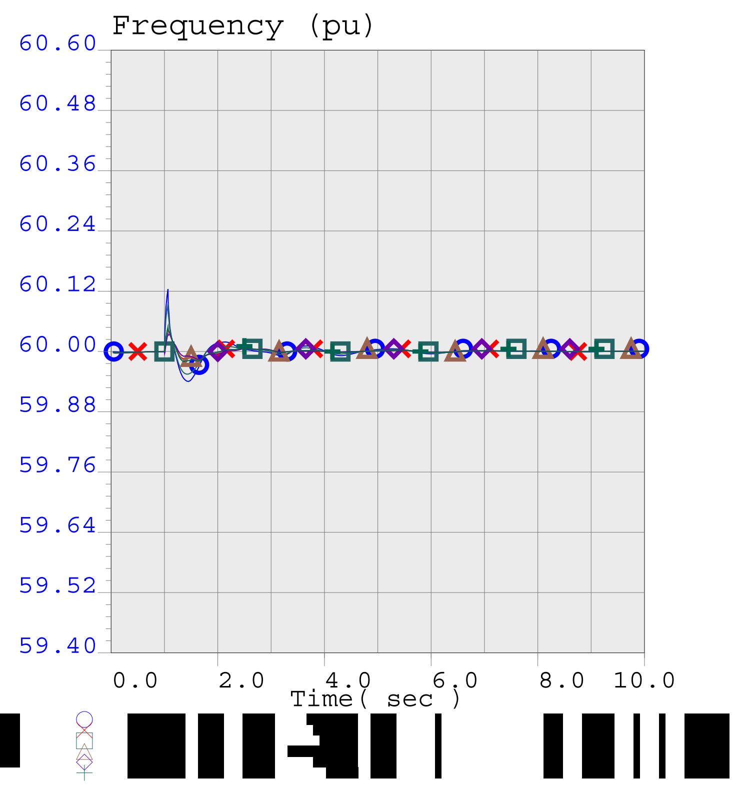

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SYSTEM IMPACT STUDY (Rotor Angles)

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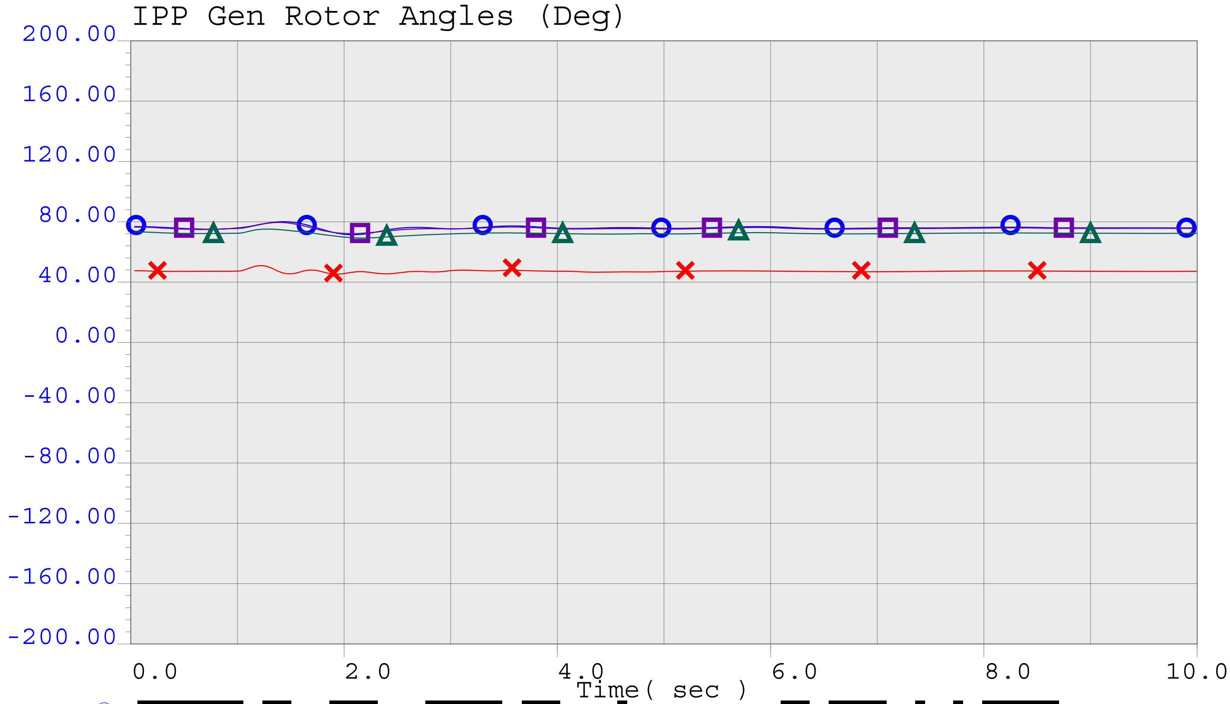

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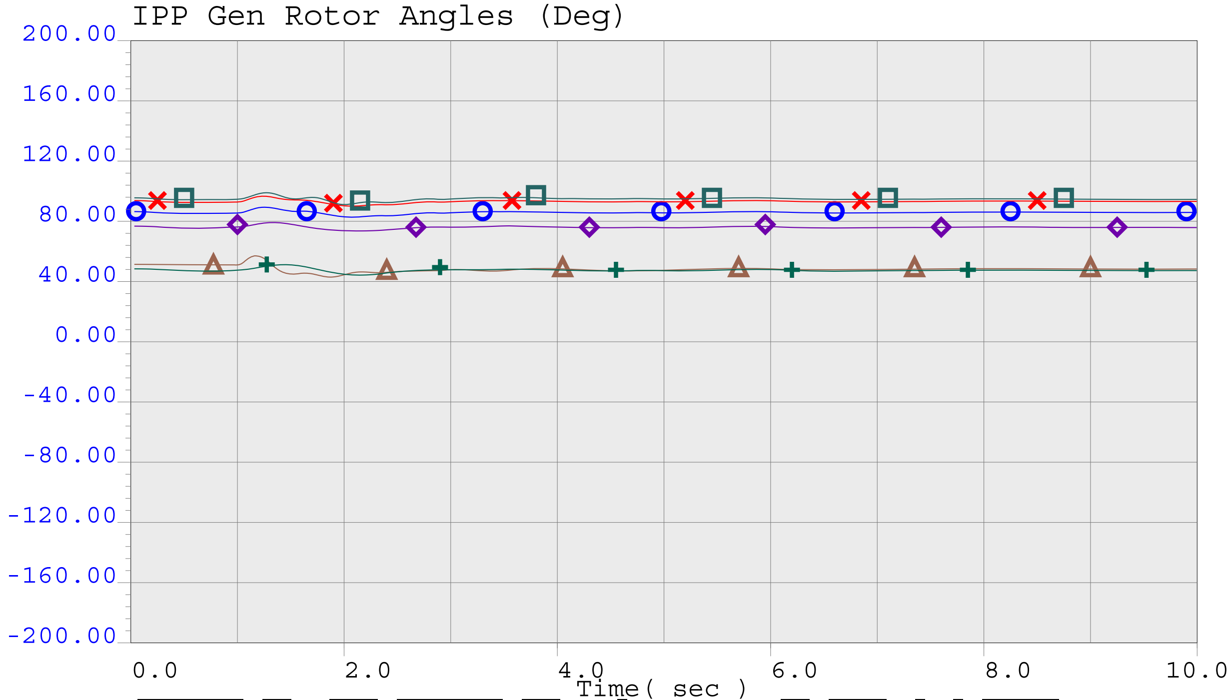

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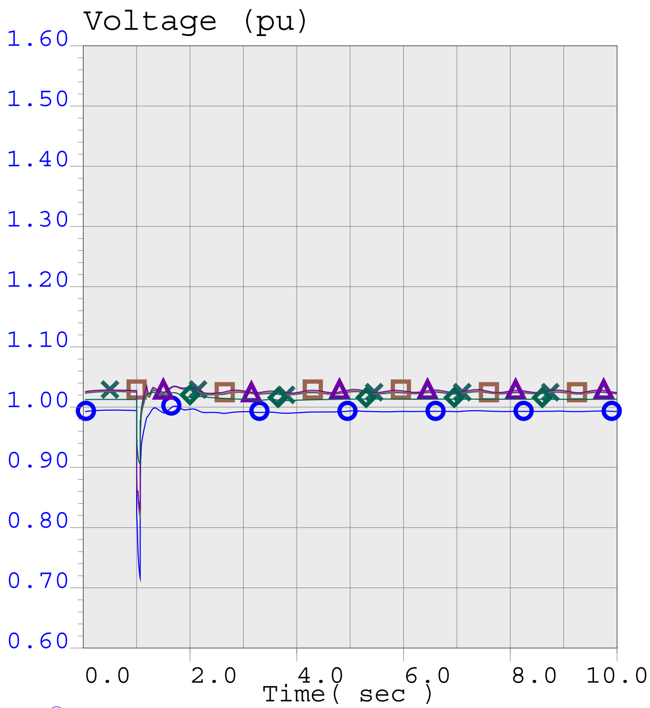

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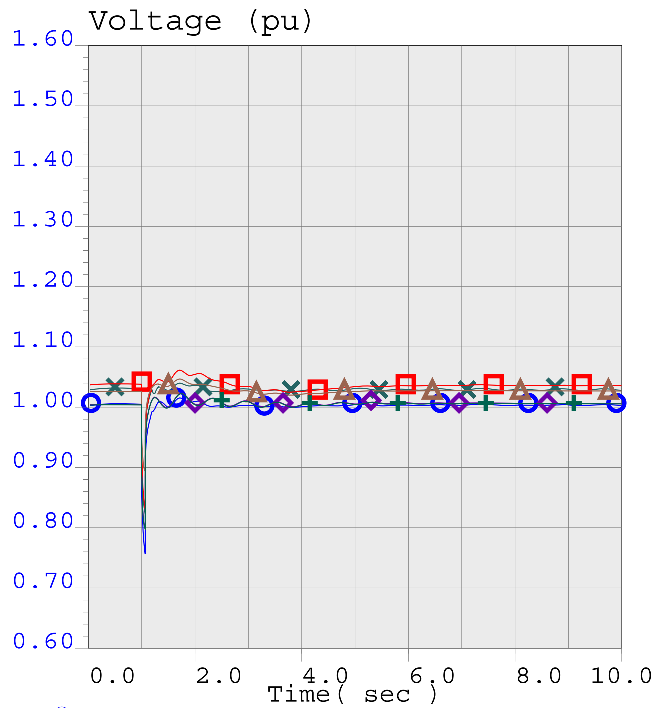

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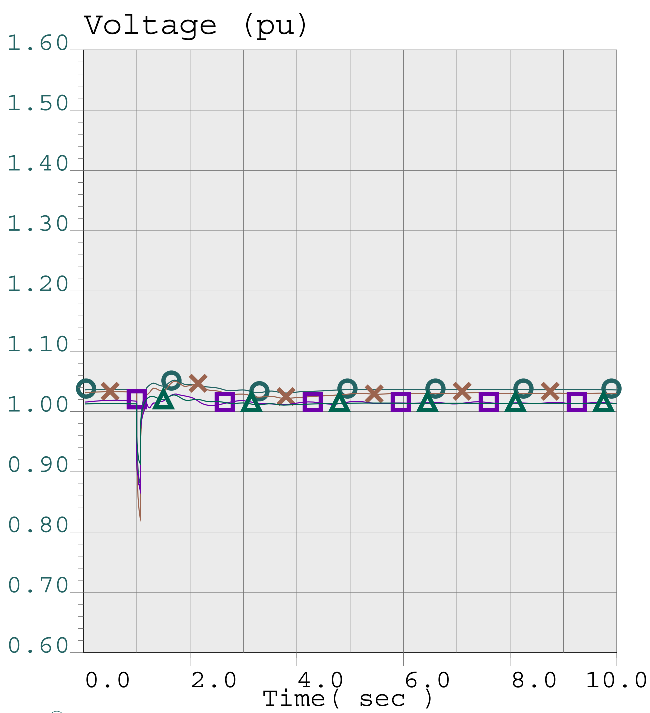

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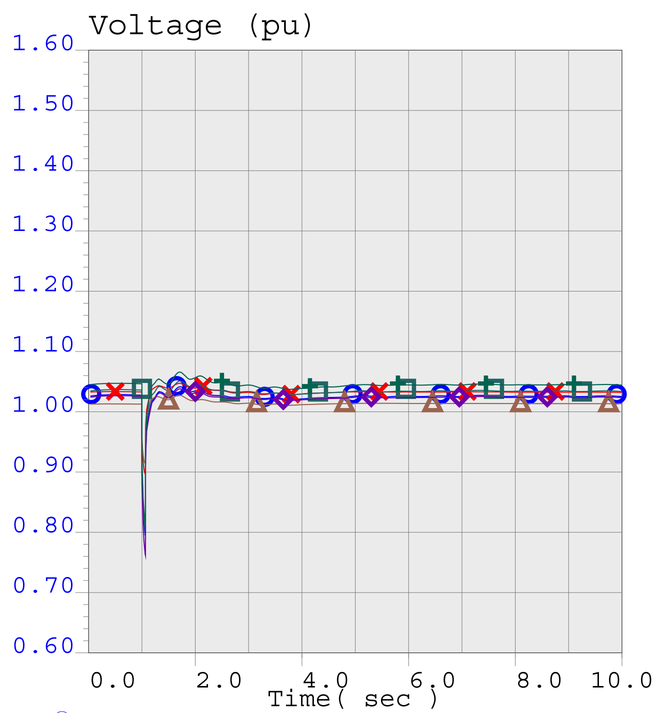

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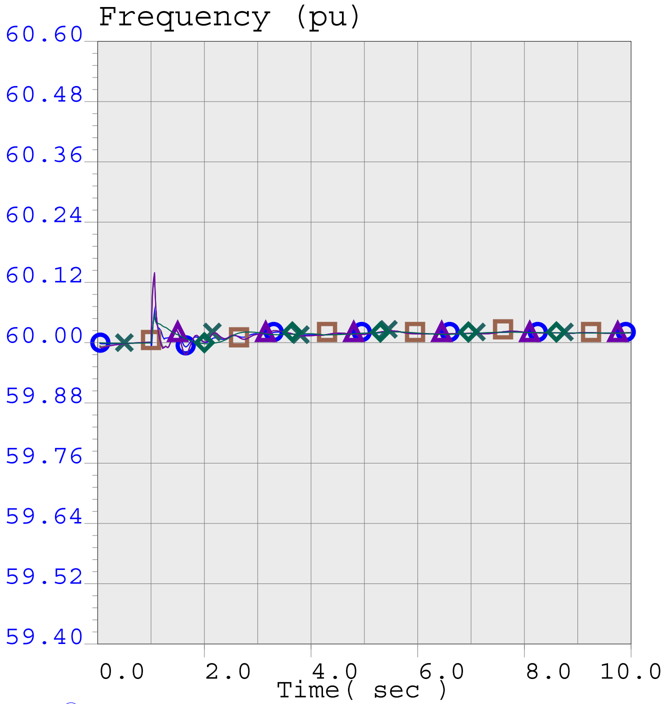

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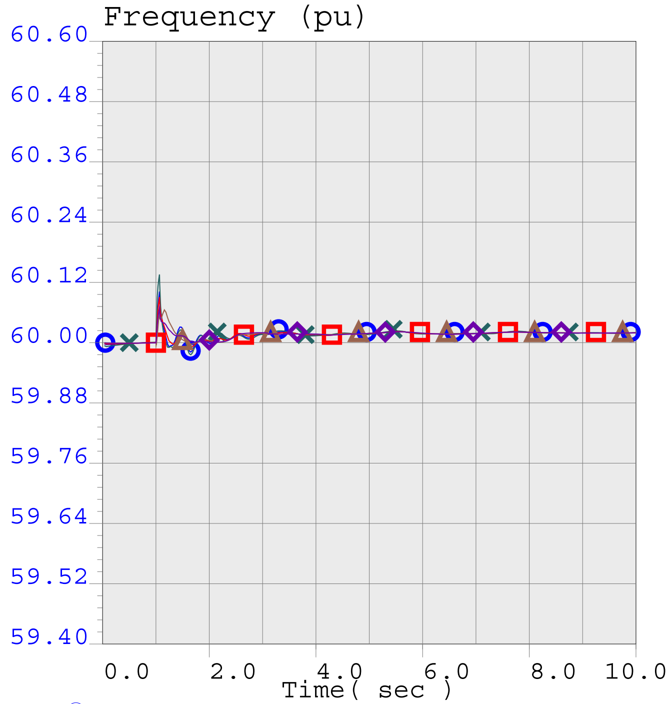

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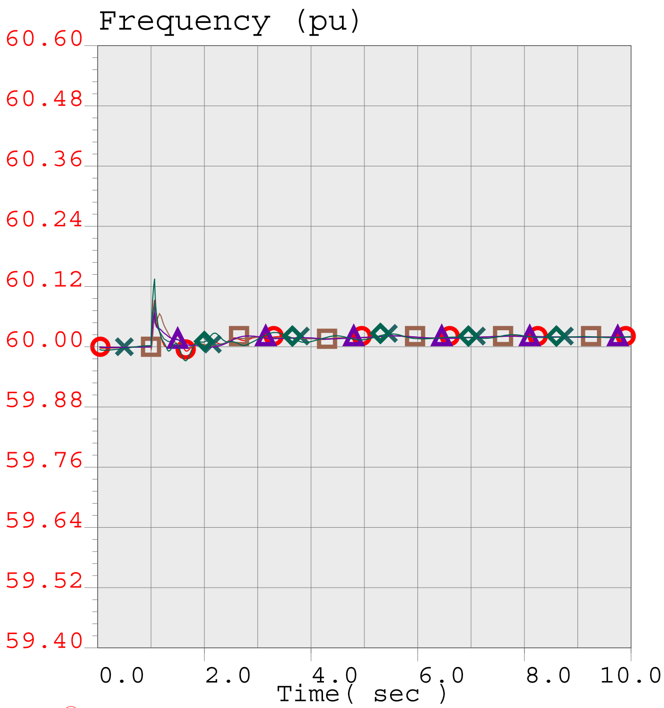

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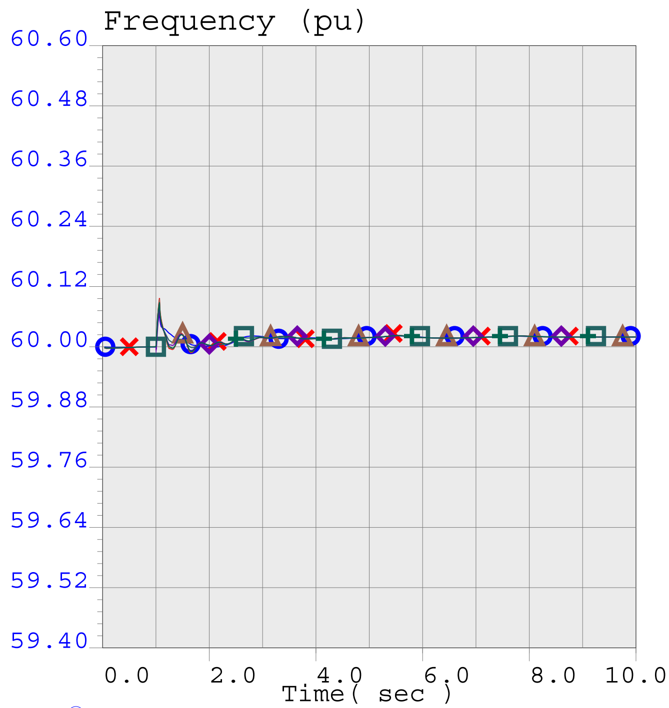

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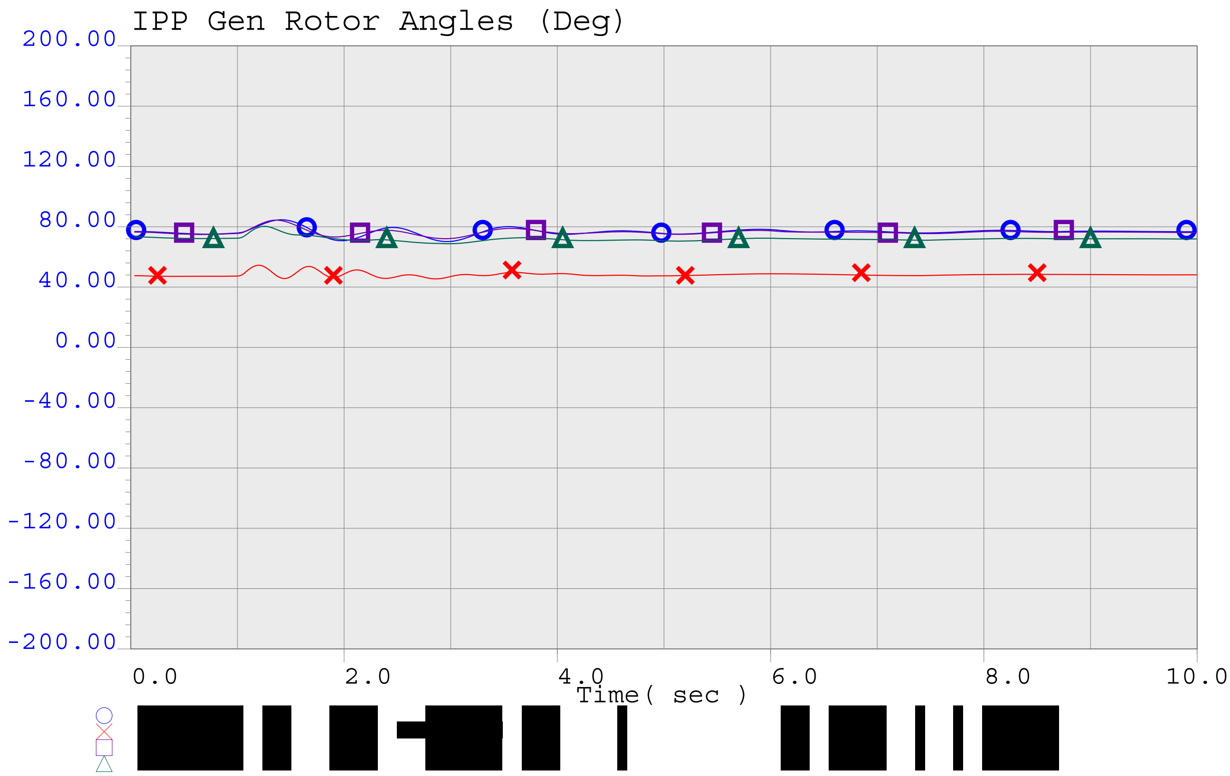
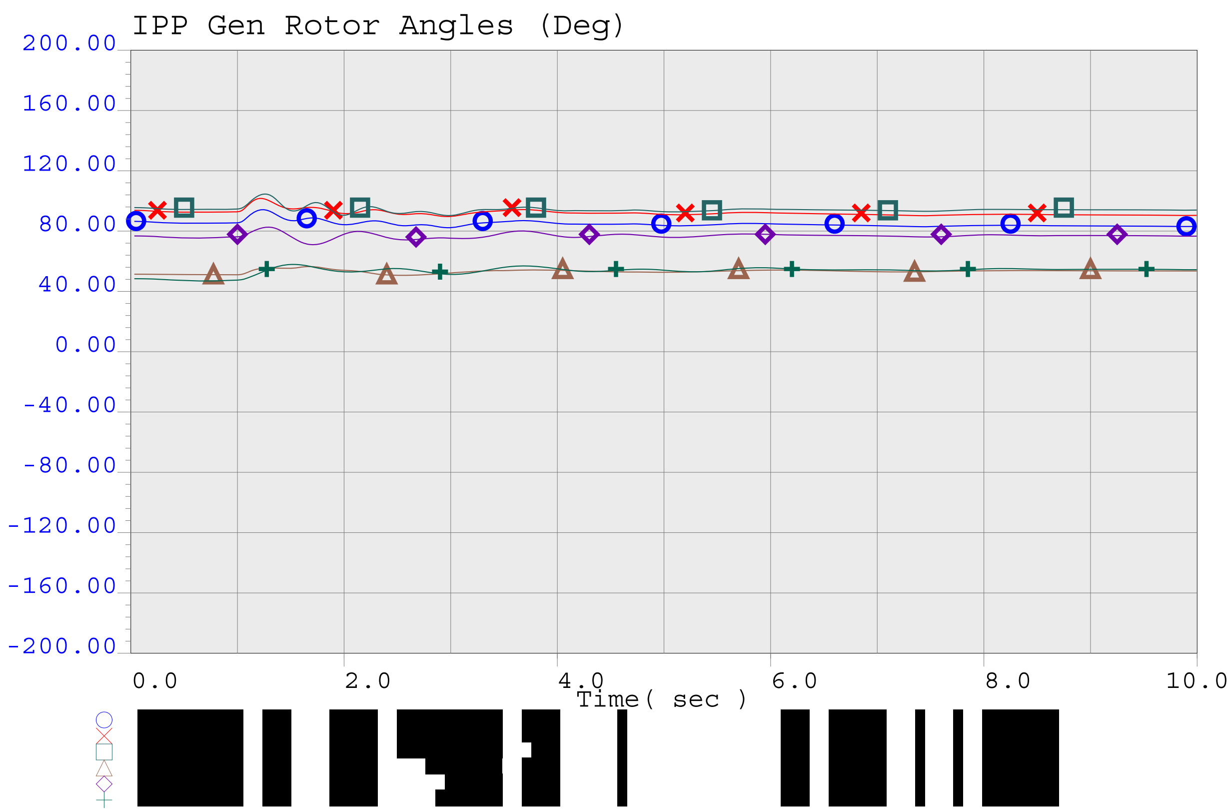
Fri Aug 26 08:38:21 2022

SYSTEM IMPACT STUDY (Rotor Angles)





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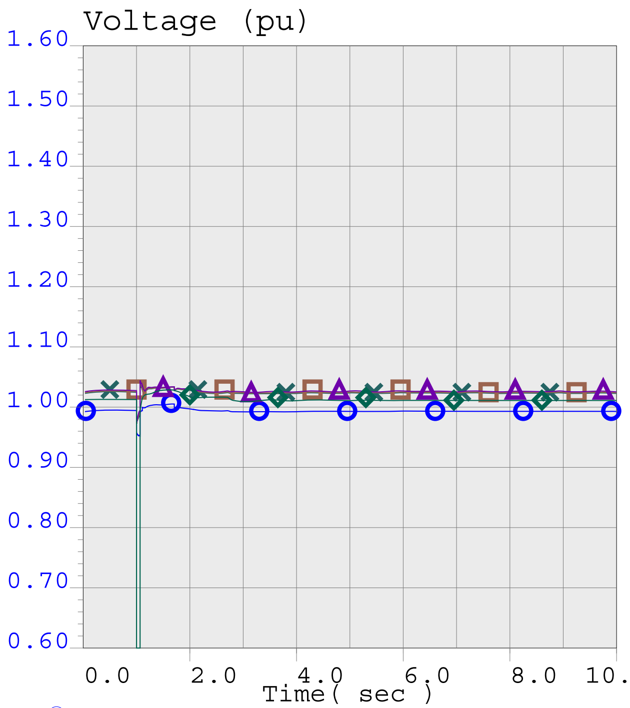
Fri Aug 26 08:38:21 2022

SYSTEM IMPACT STUDY (Voltage)



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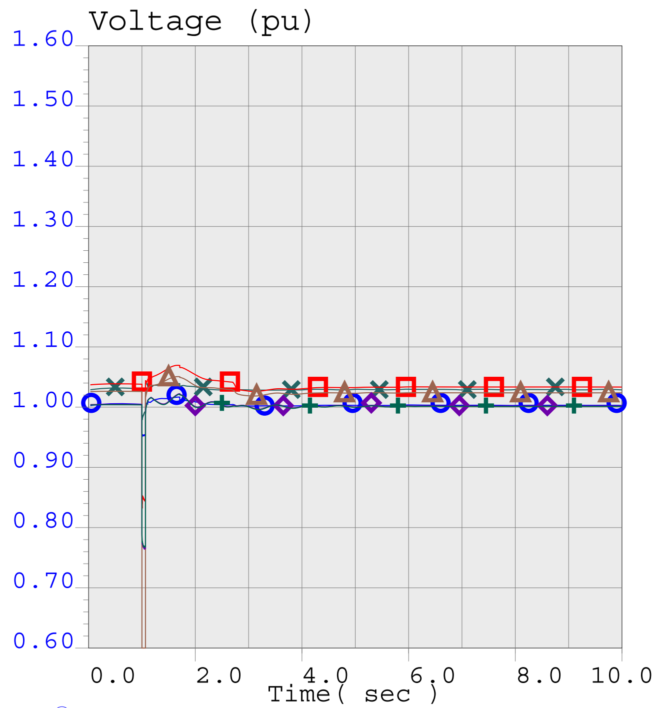

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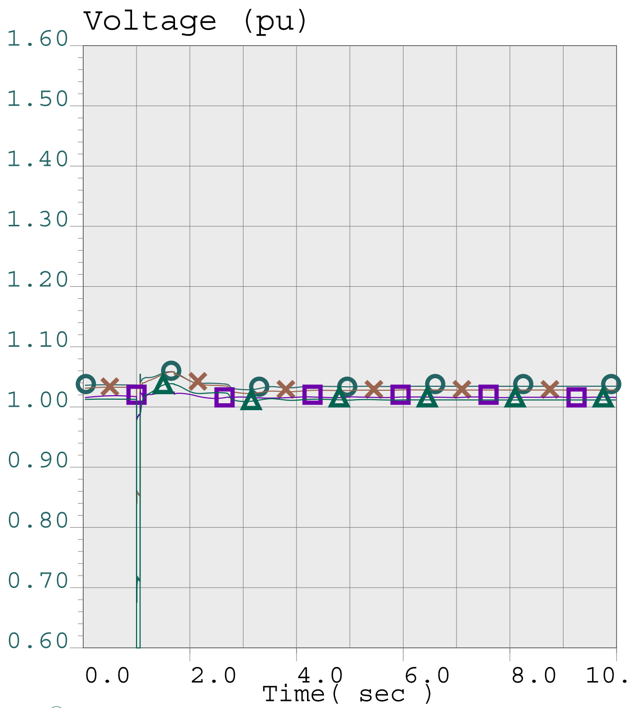

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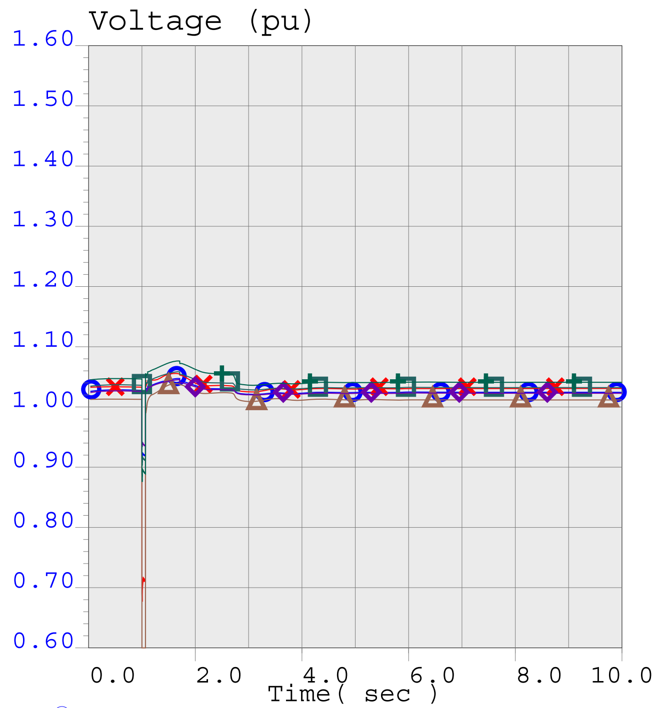

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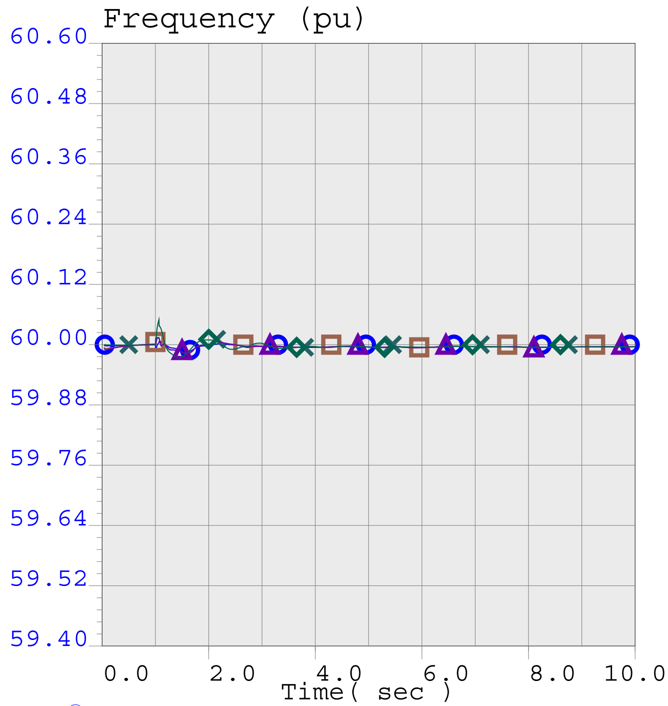
Fri Aug 26 08:38:24 2022

SYSTEM IMPACT STUDY (Frequency)



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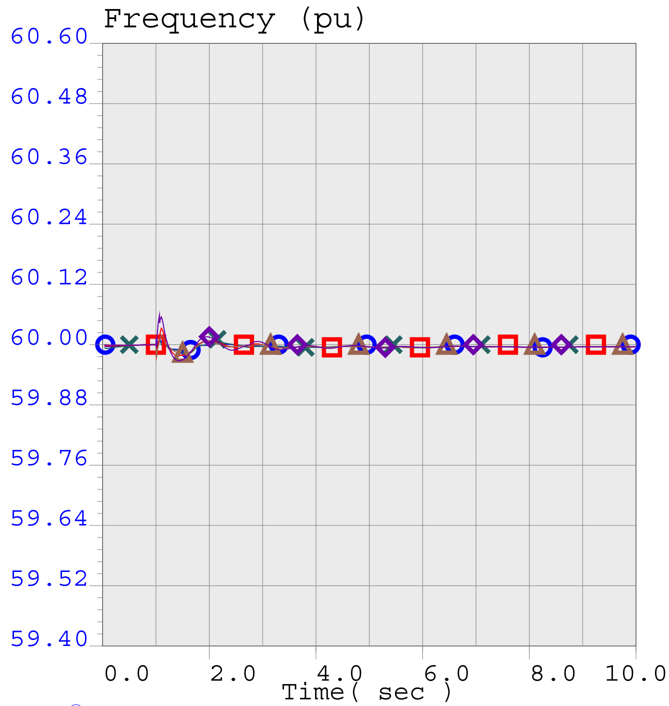

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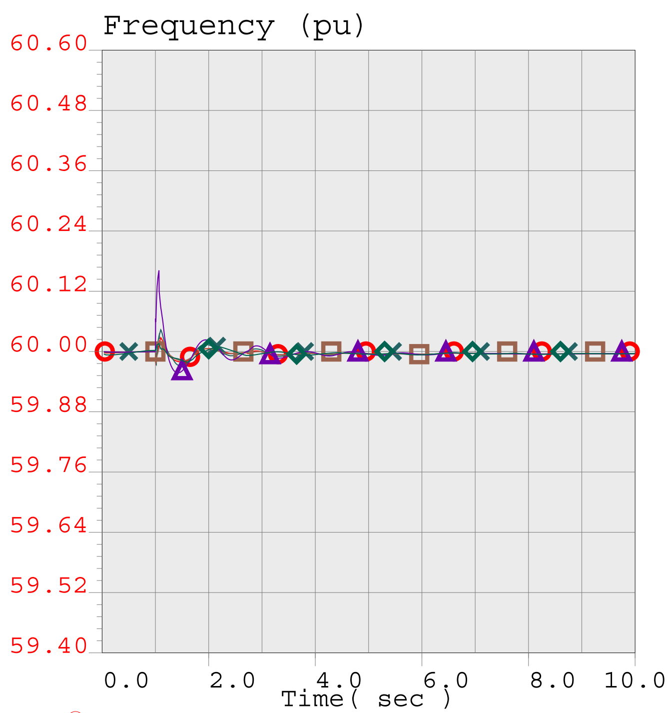

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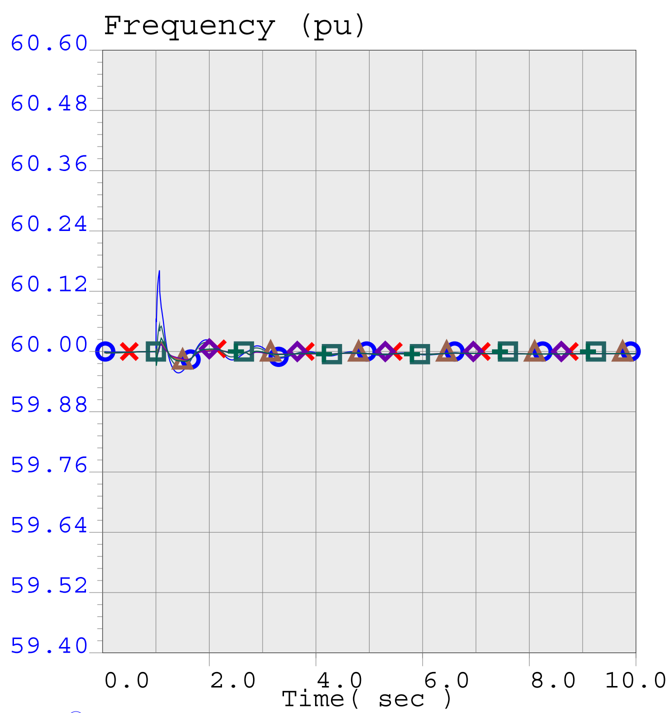

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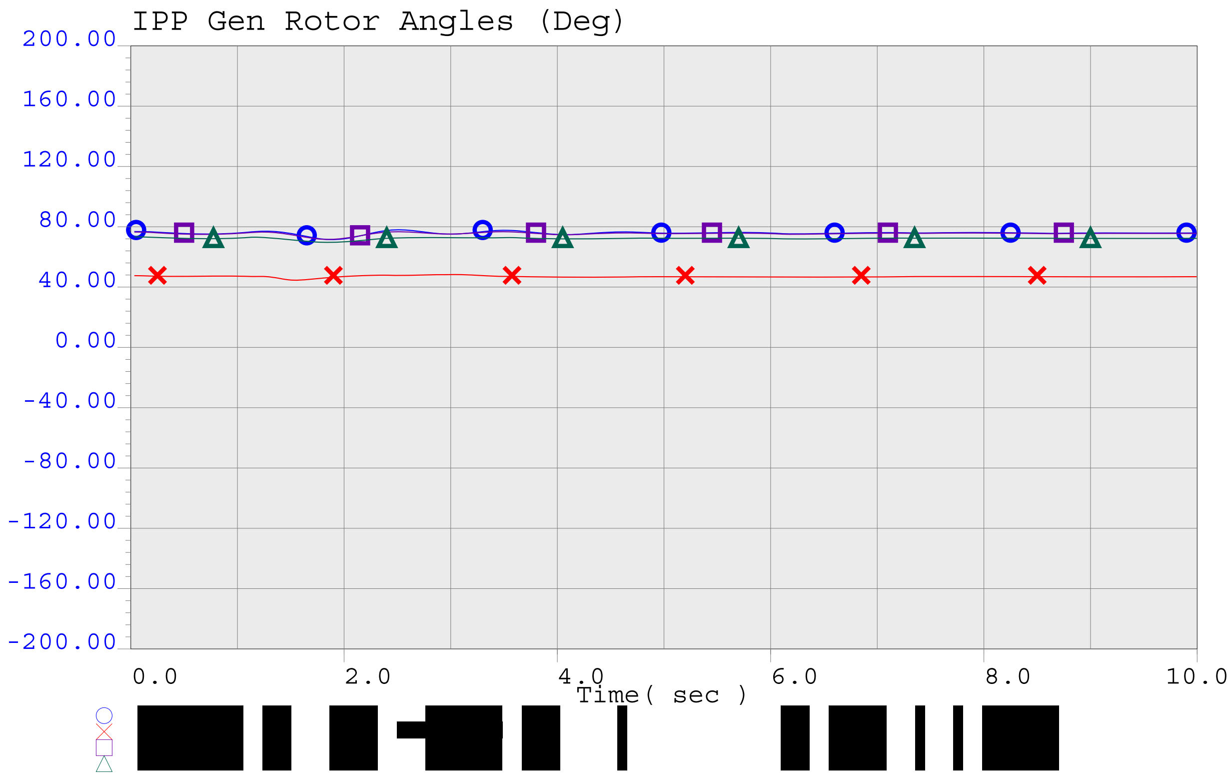
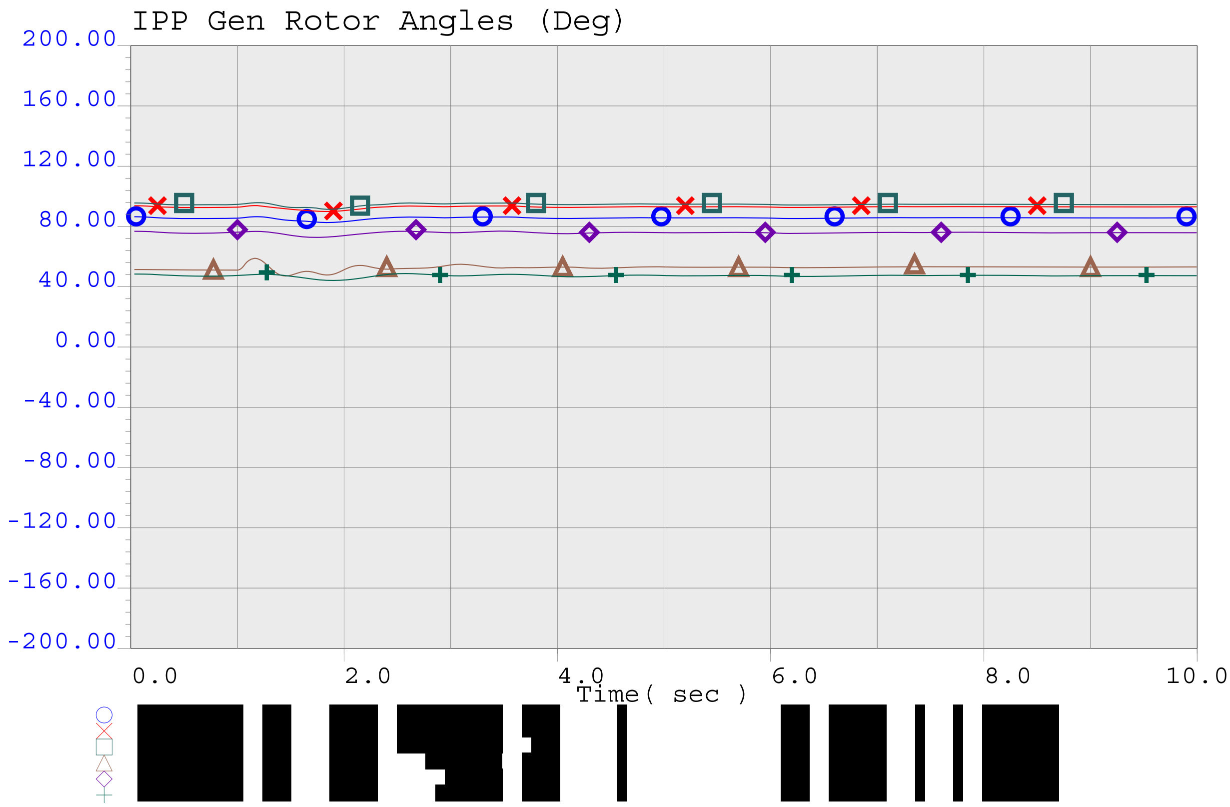
SYSTEM IMPACT STUDY (Rotor Angles)





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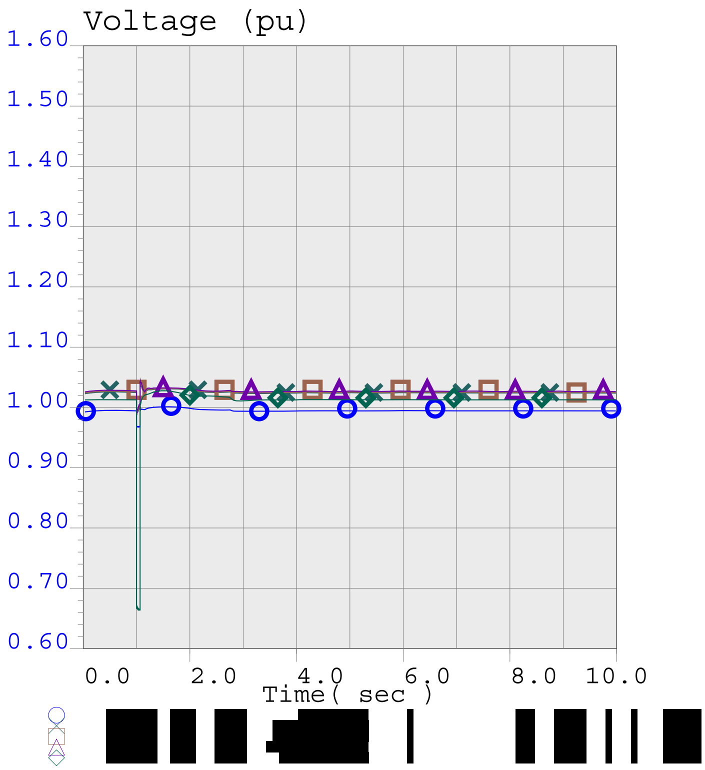

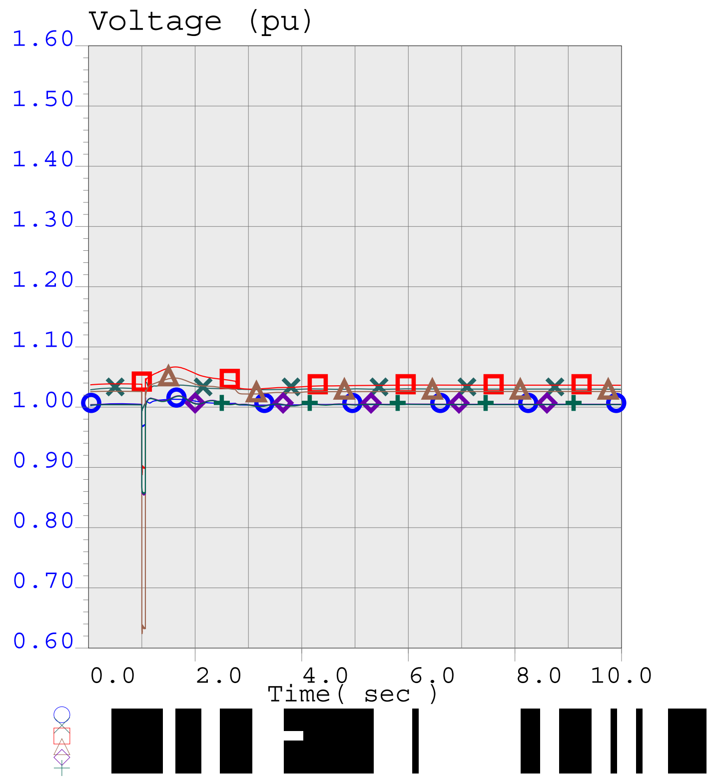

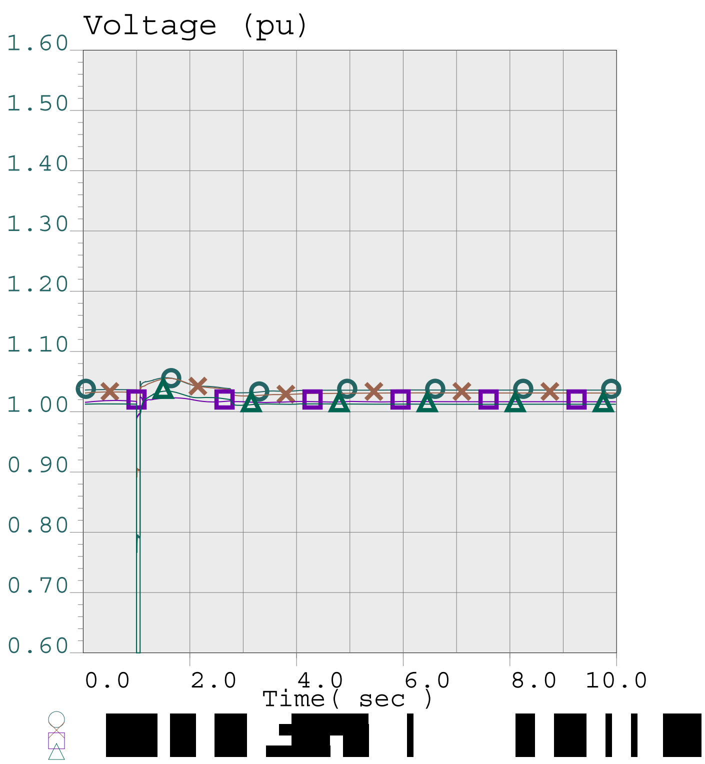

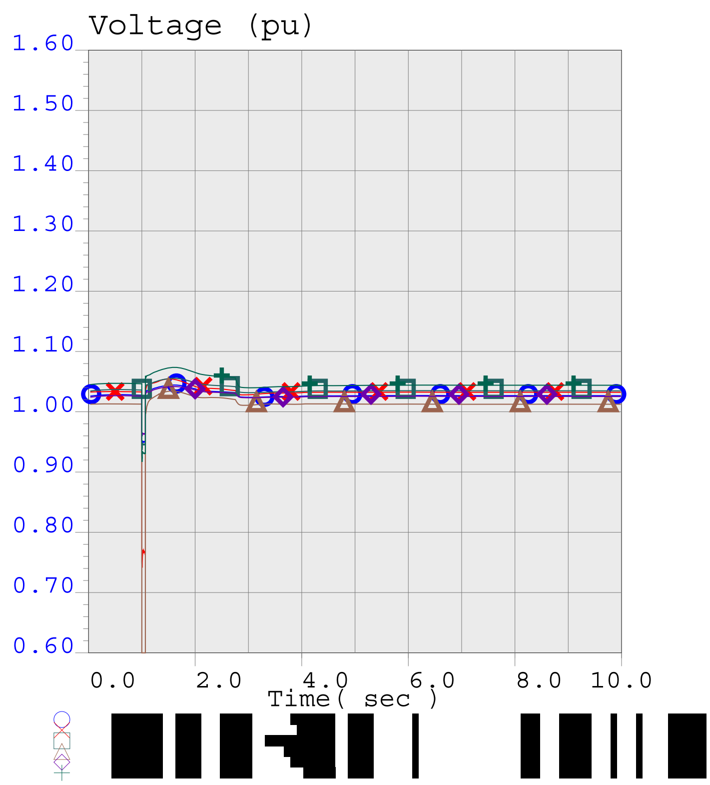

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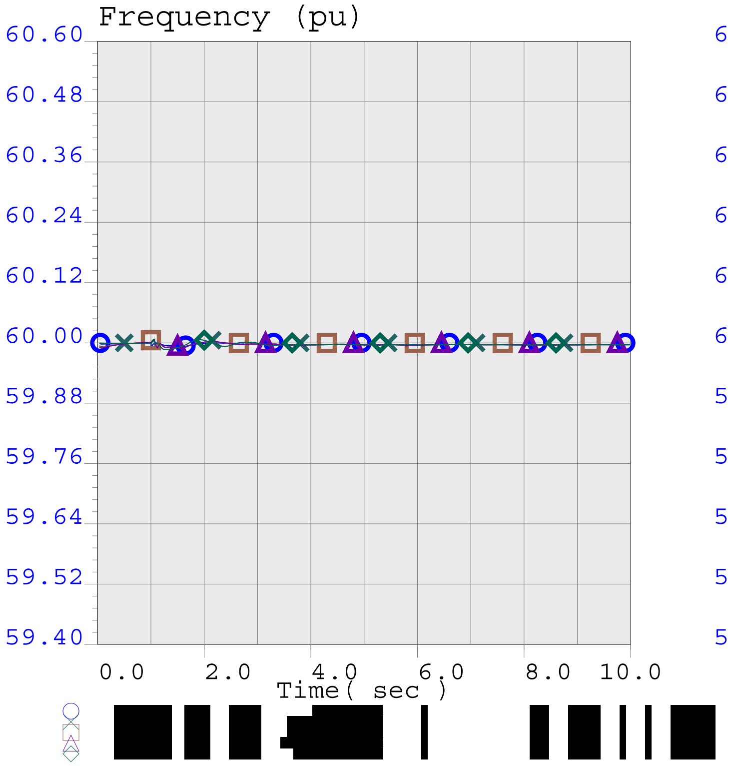

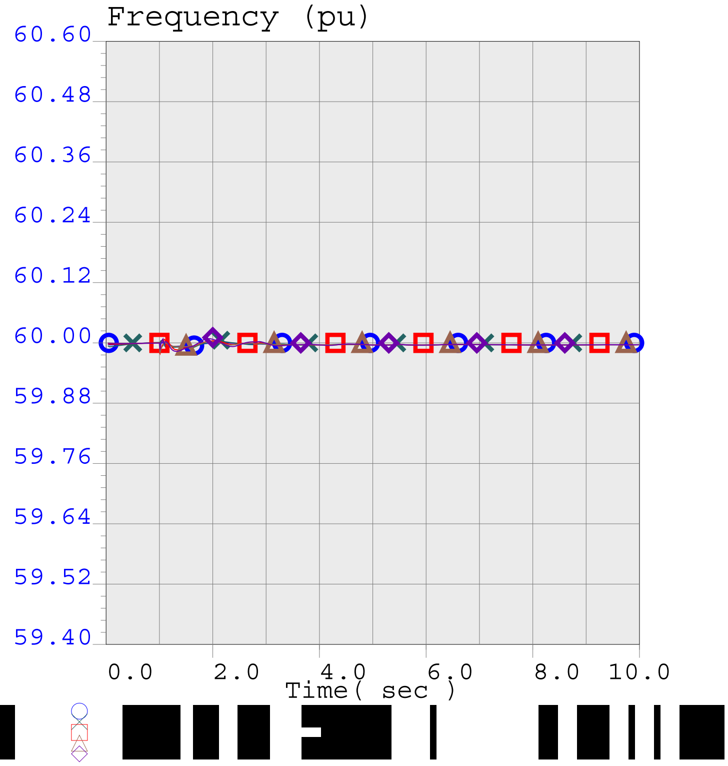

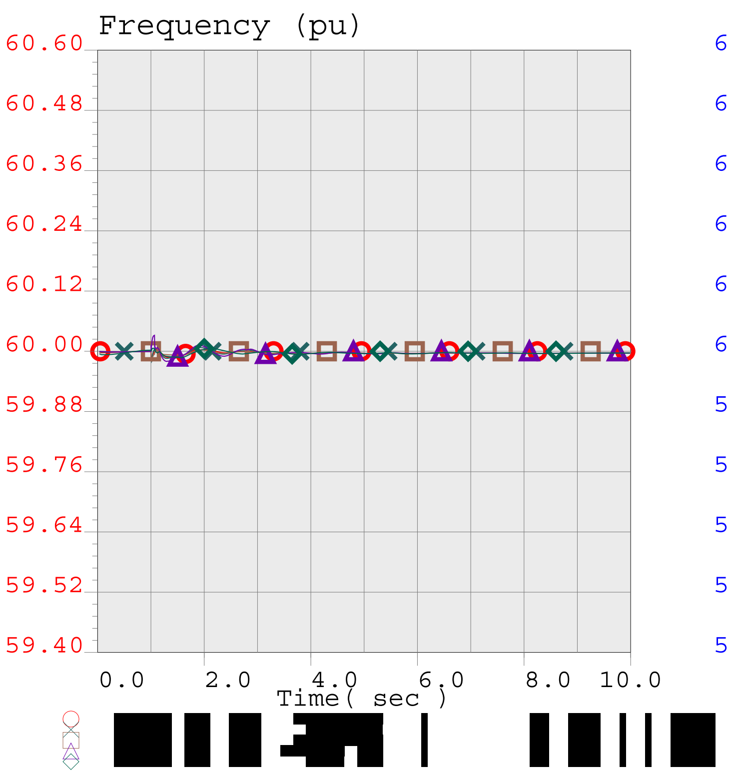

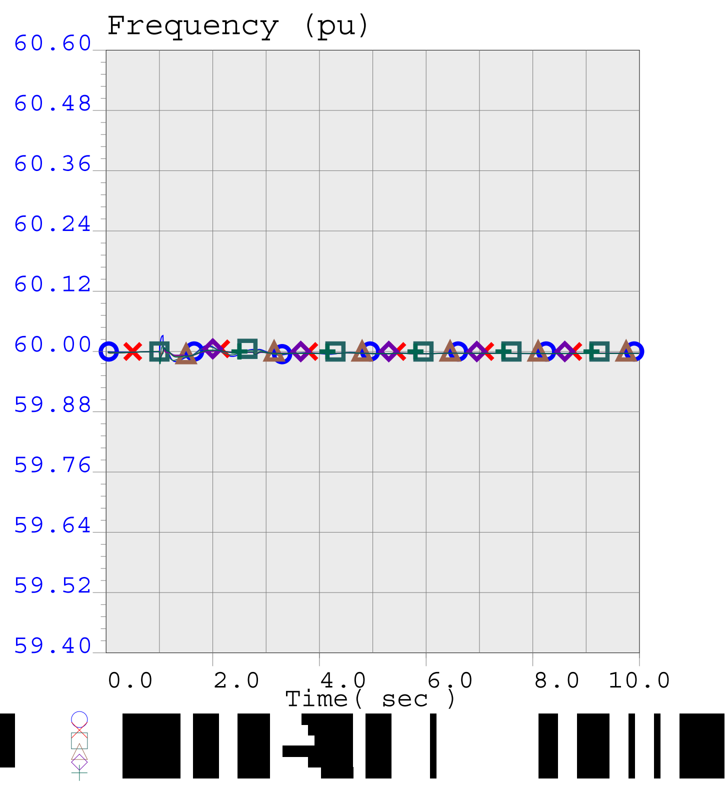

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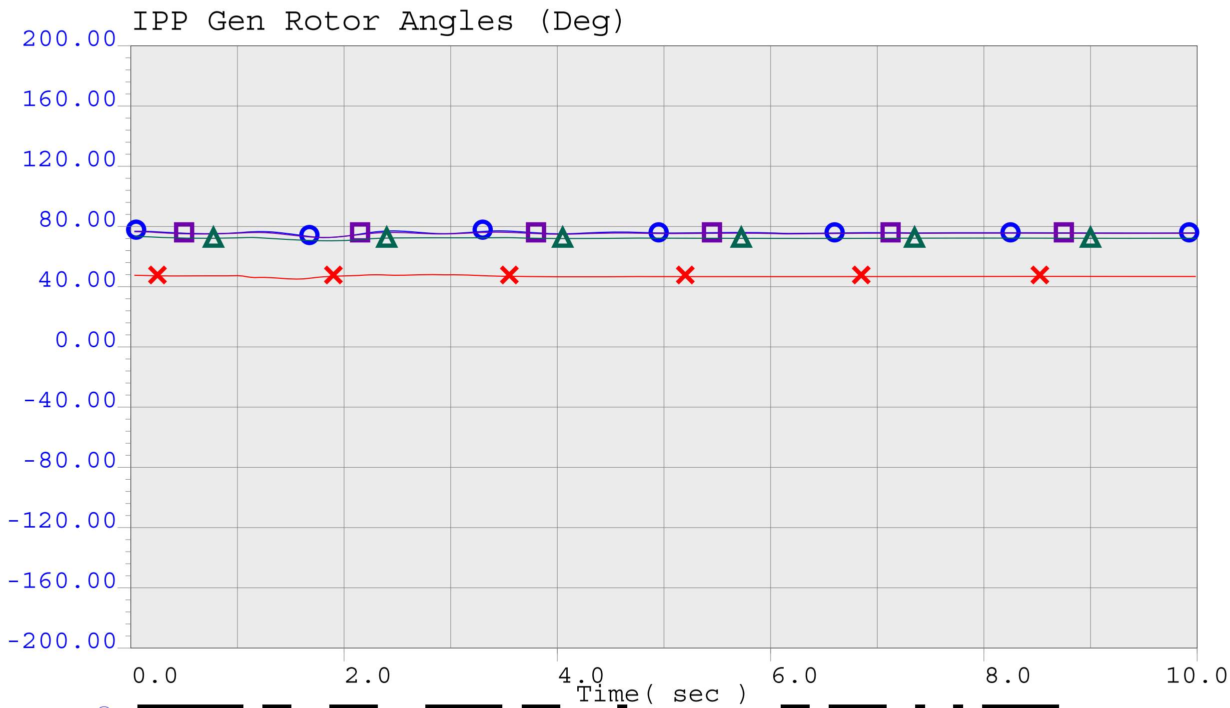
SYSTEM IMPACT STUDY (Rotor Angles)



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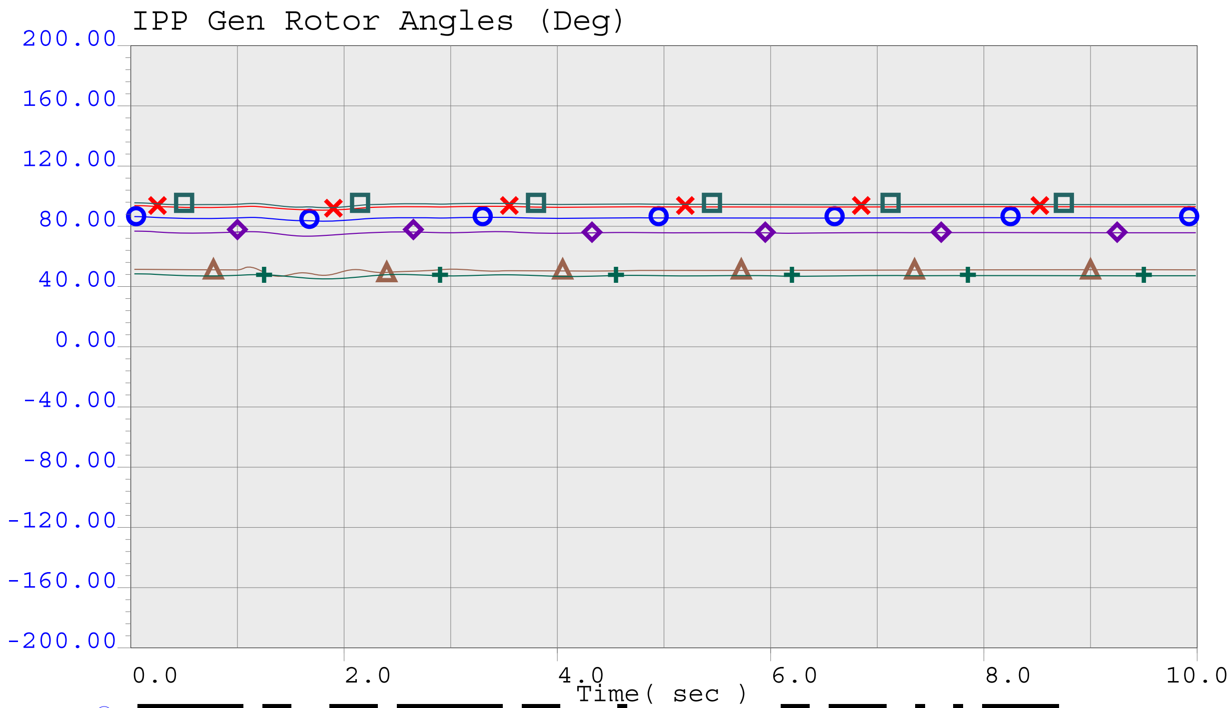

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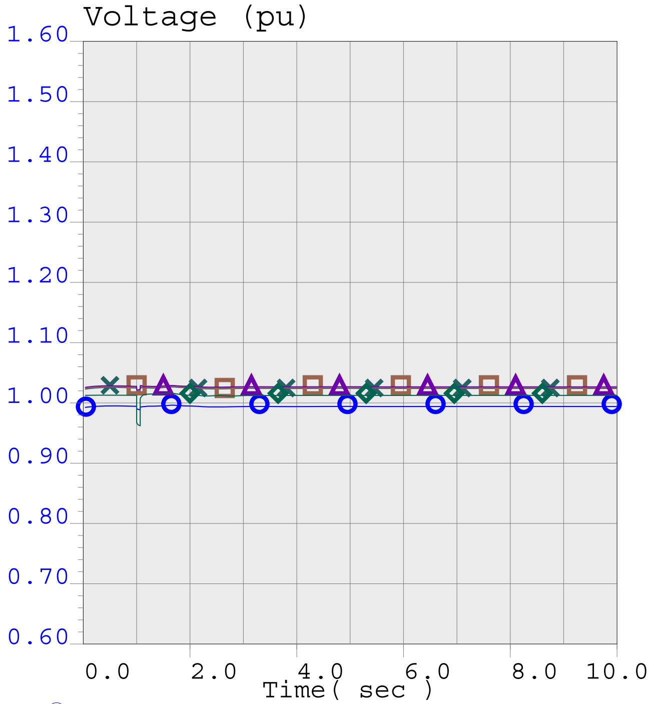

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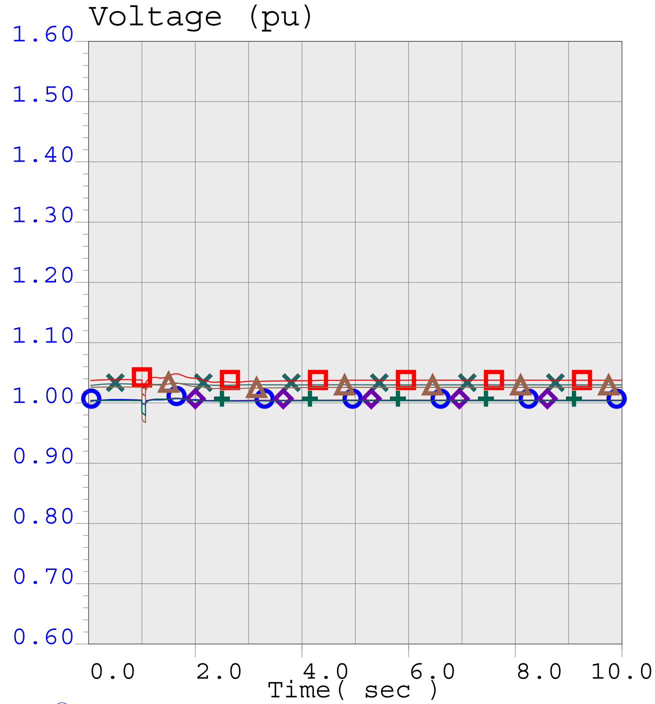

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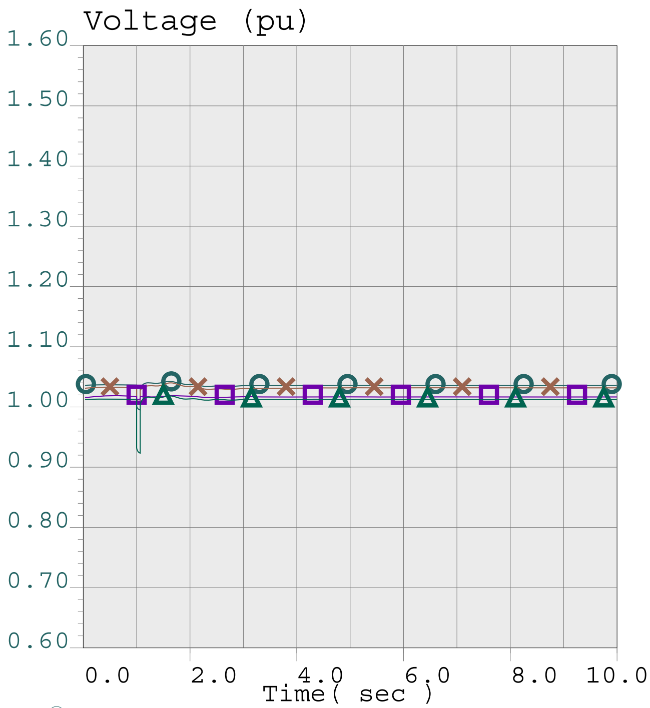

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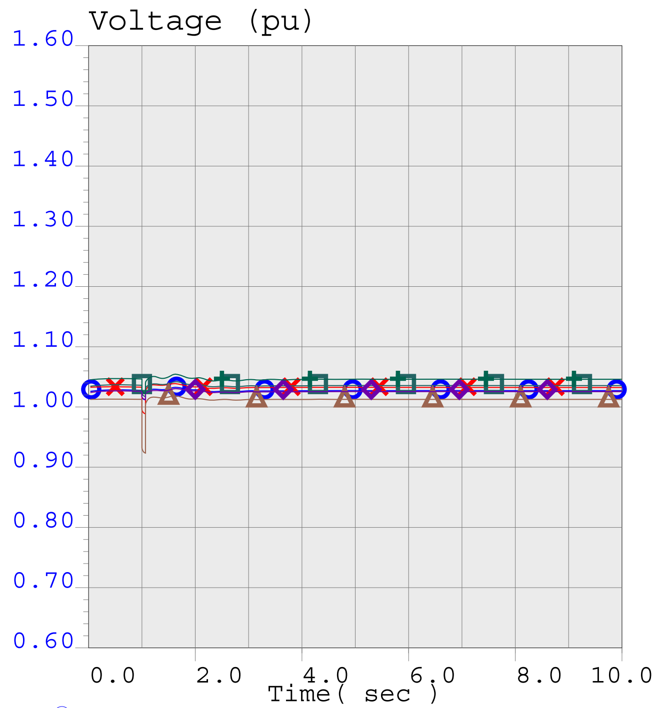

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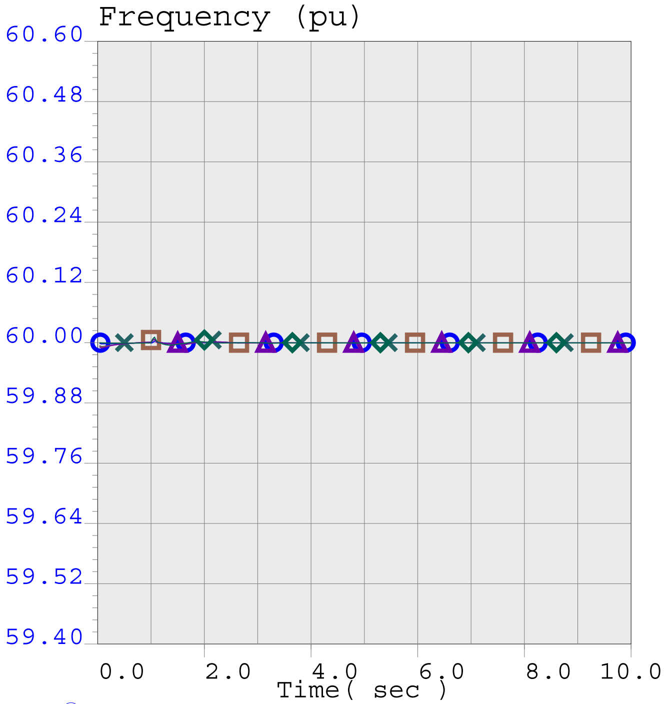

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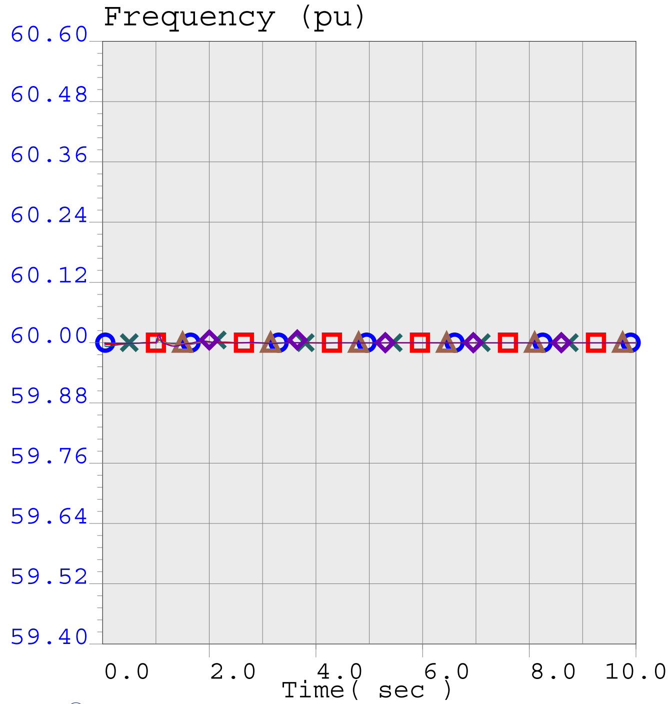

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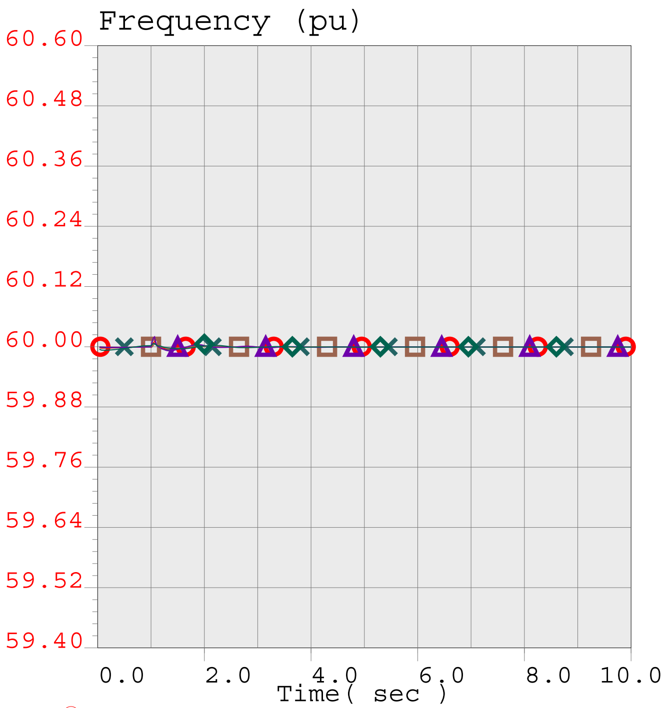

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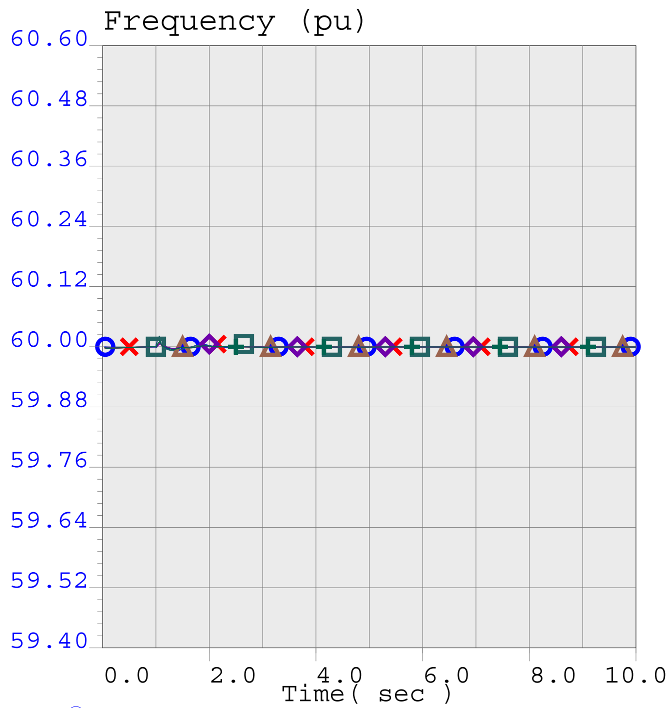

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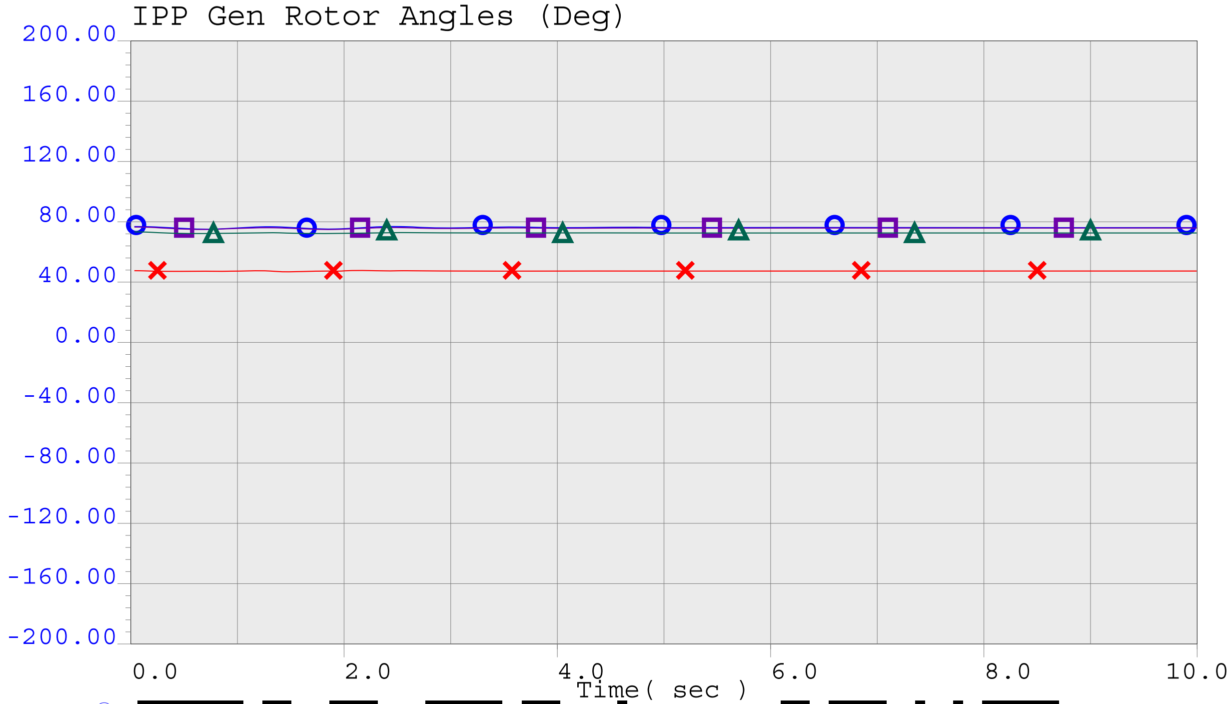
Fri Aug 26 08:38:29 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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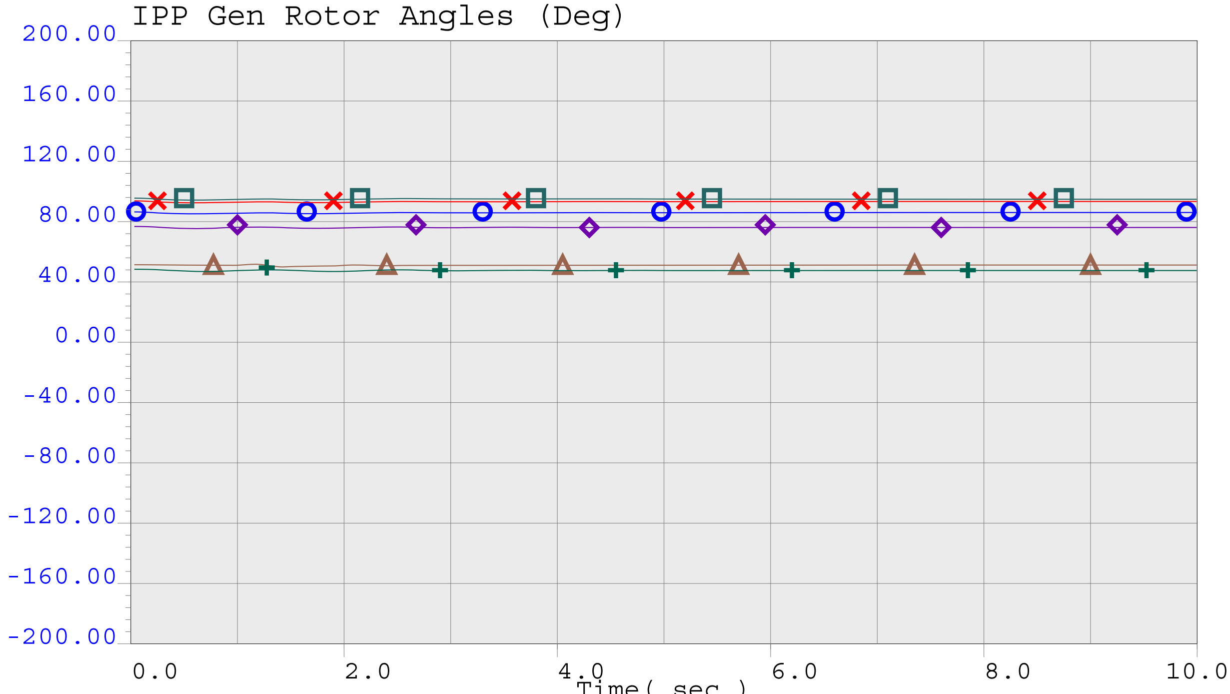

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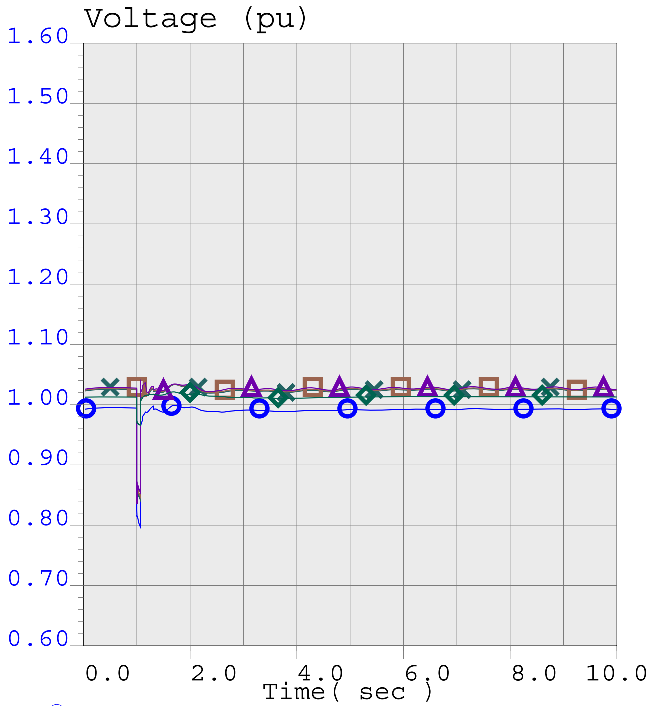
SYSTEM IMPACT STUDY (Voltage)



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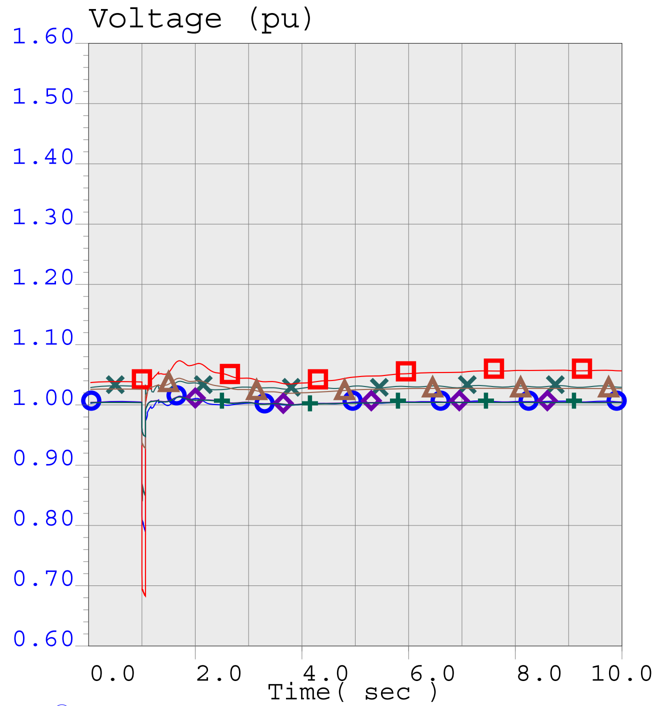

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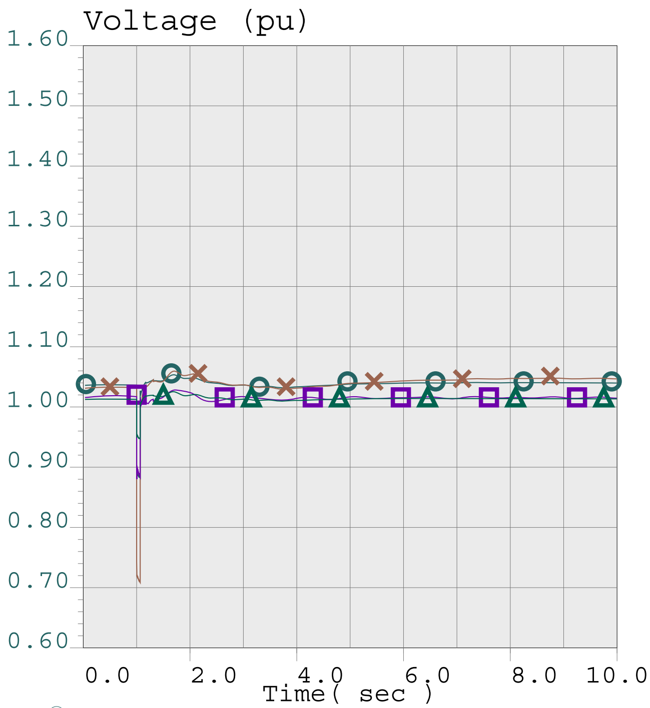

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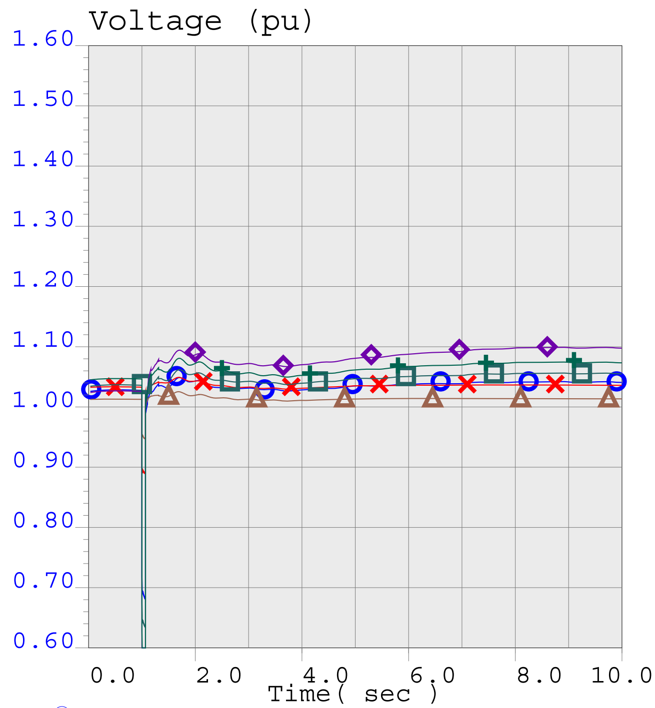

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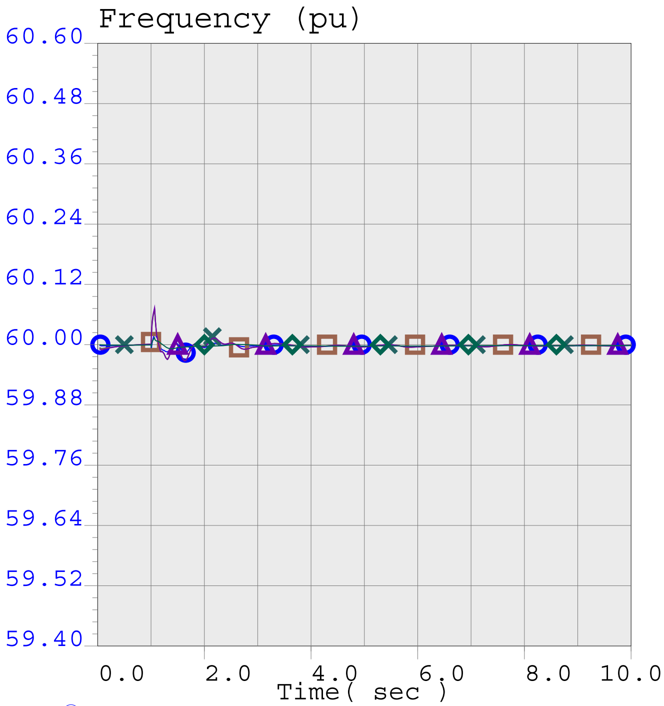
Fri Aug 26 08:38:31 2022

SYSTEM IMPACT STUDY (Frequency)



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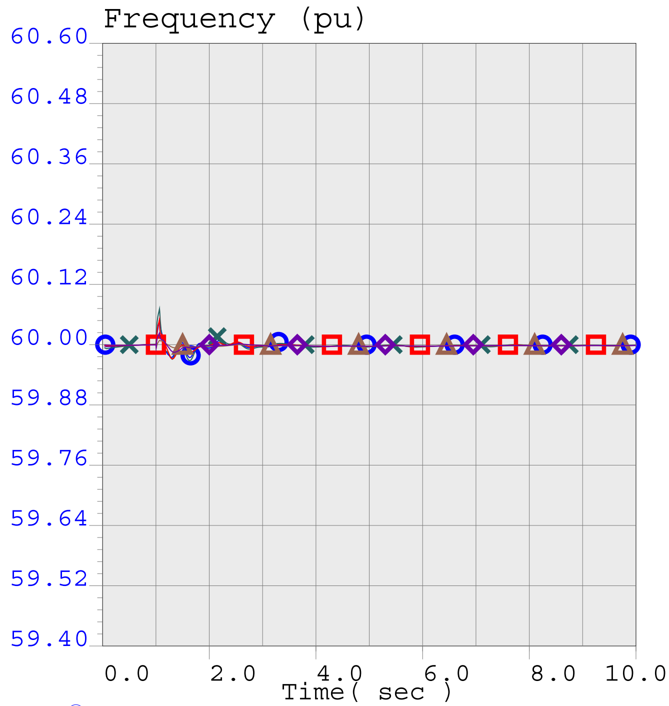

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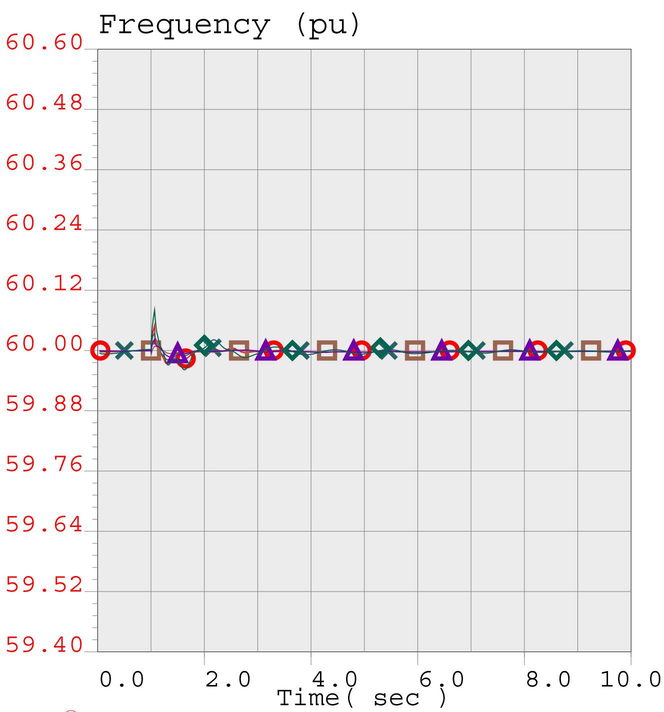

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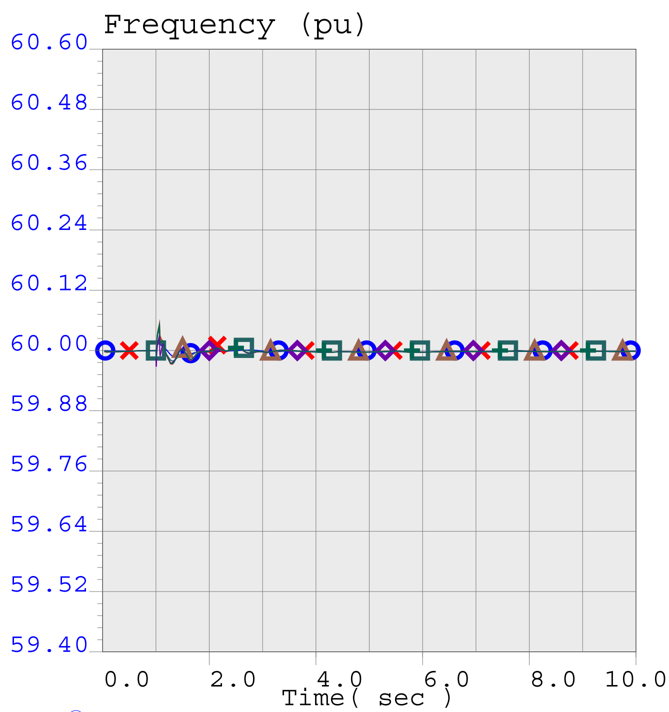

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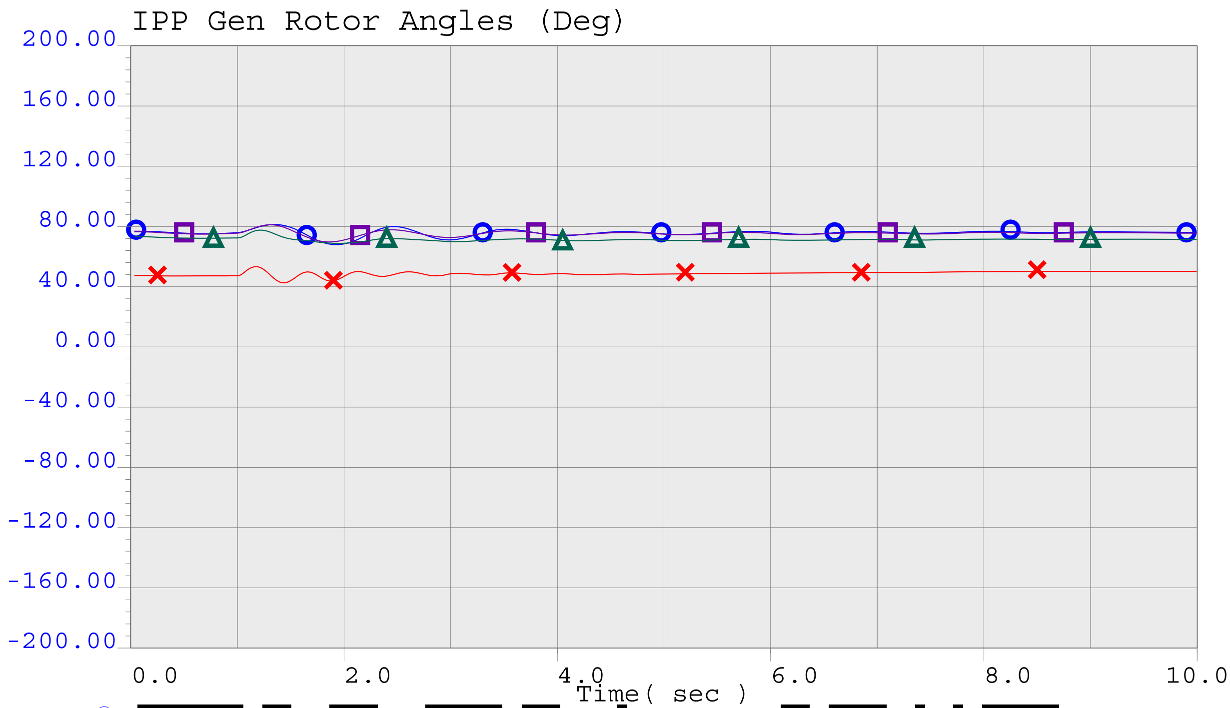

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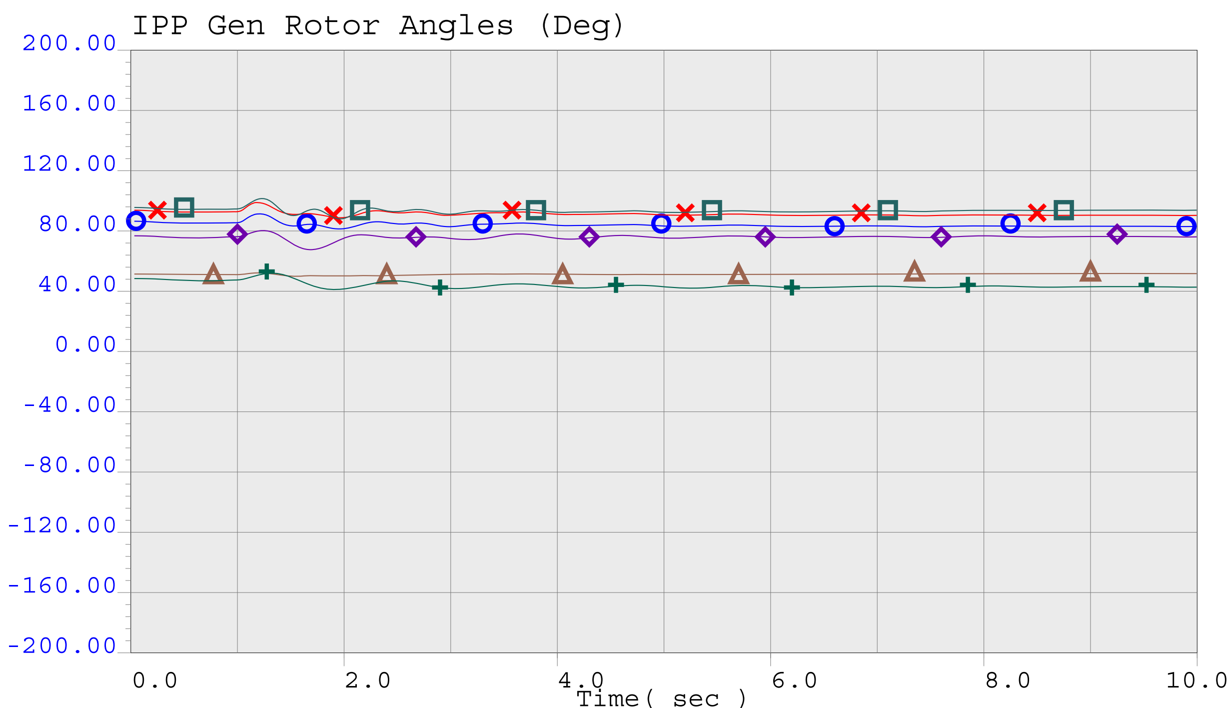

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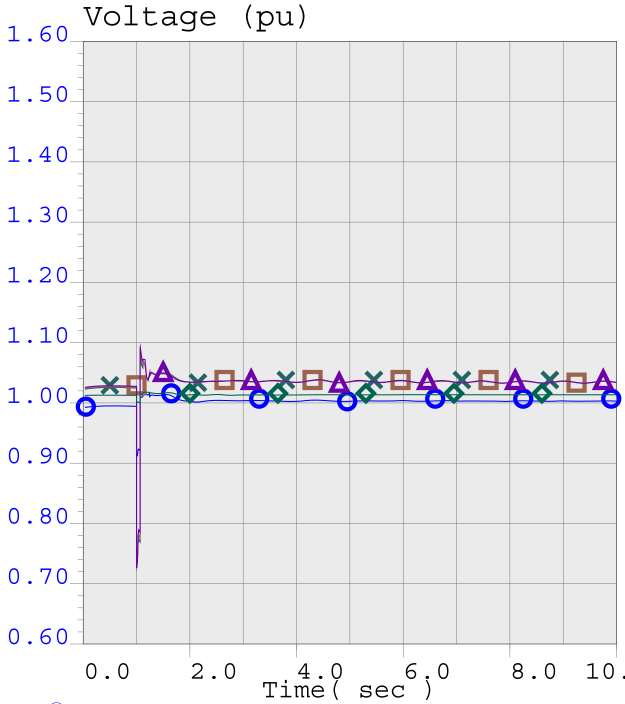

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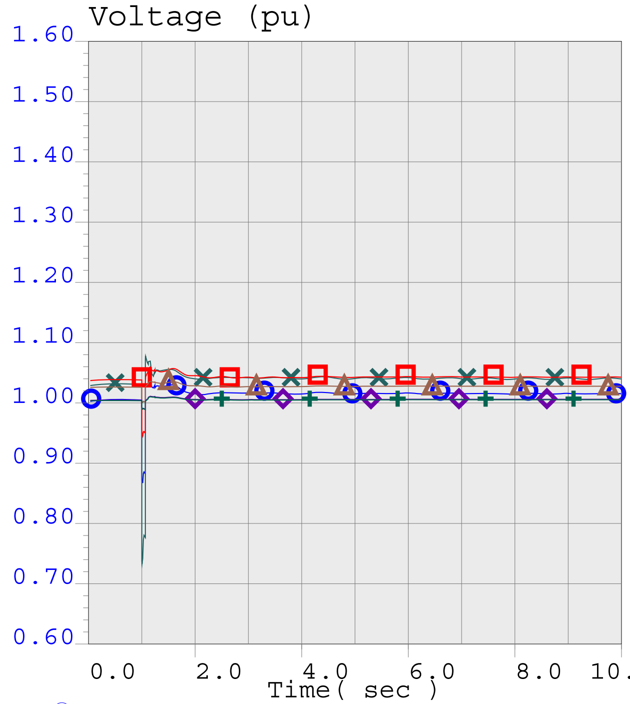

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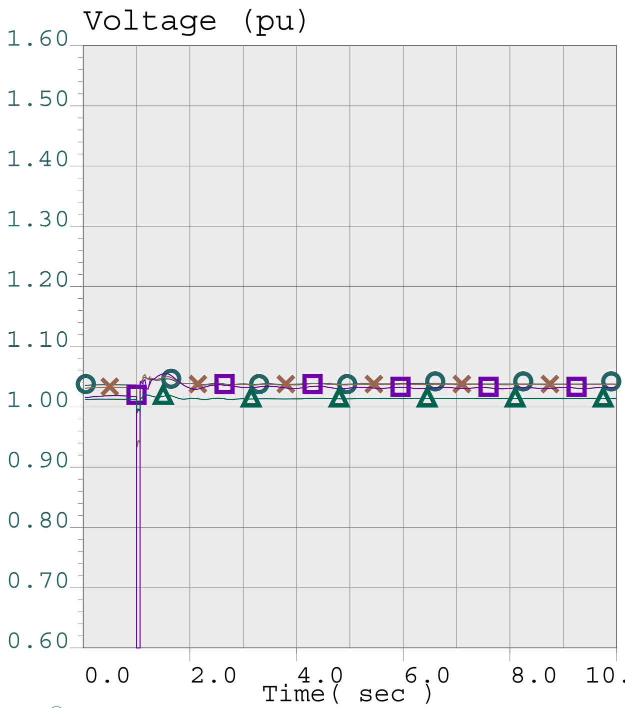

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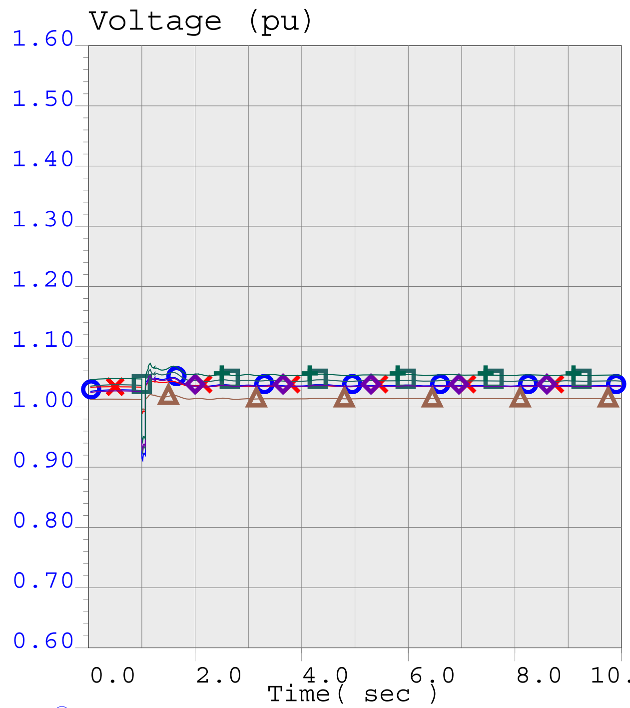

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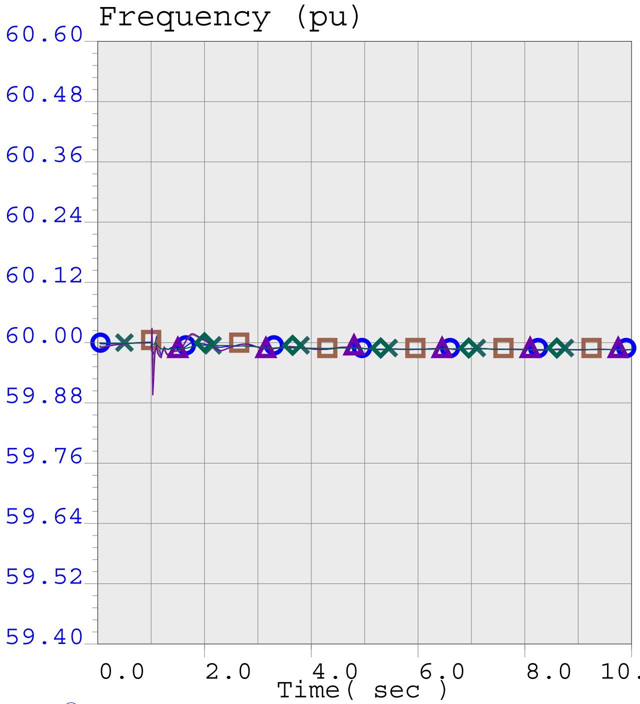

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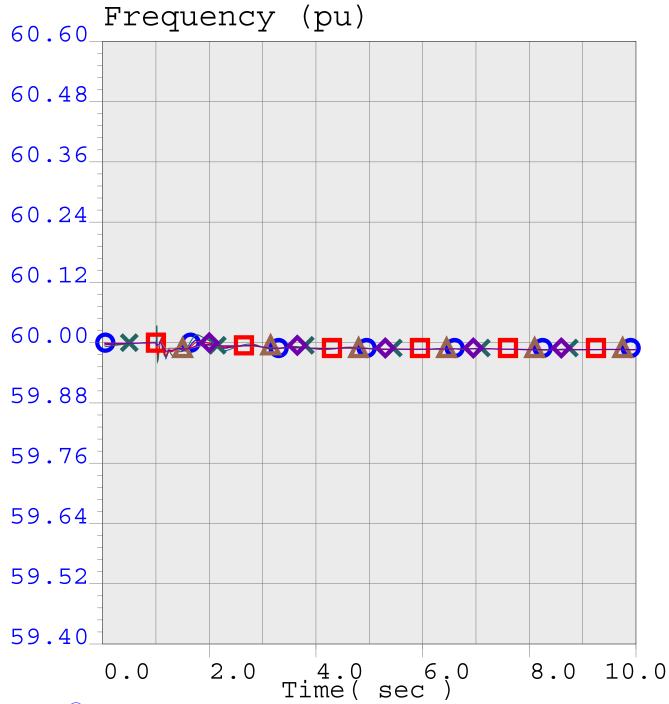

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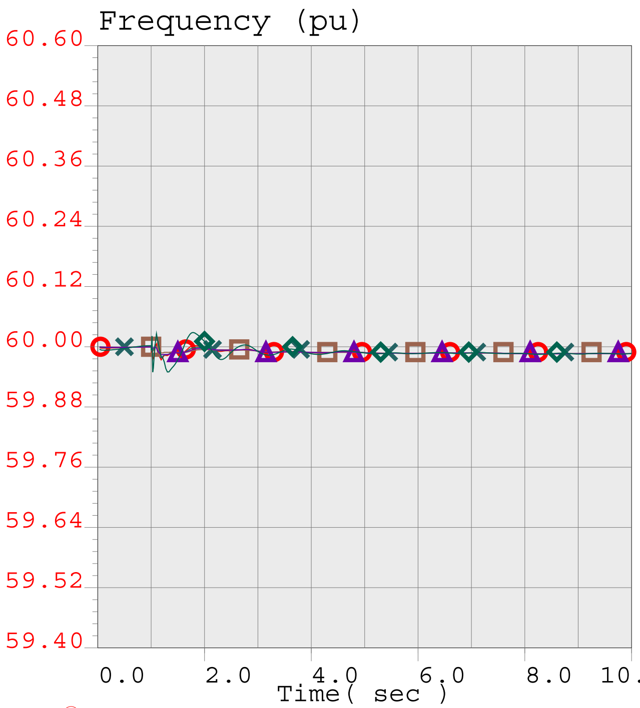

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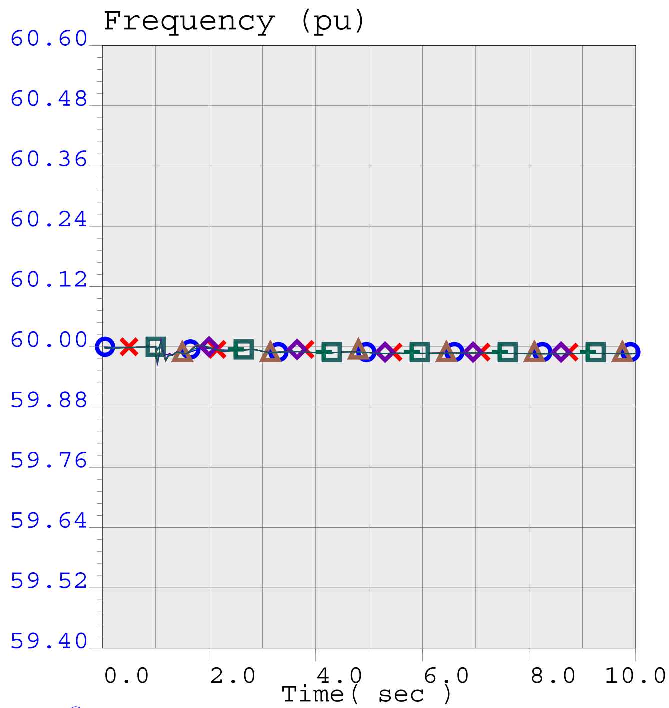

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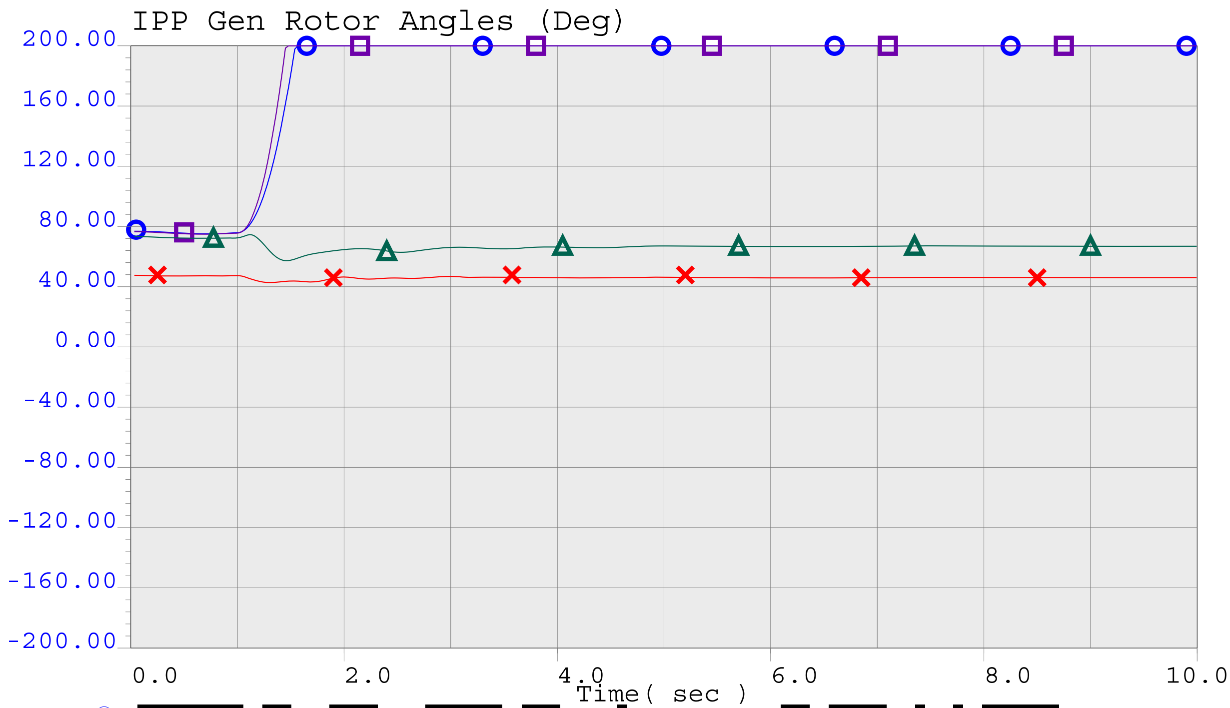
SYSTEM IMPACT STUDY (Rotor Angles)



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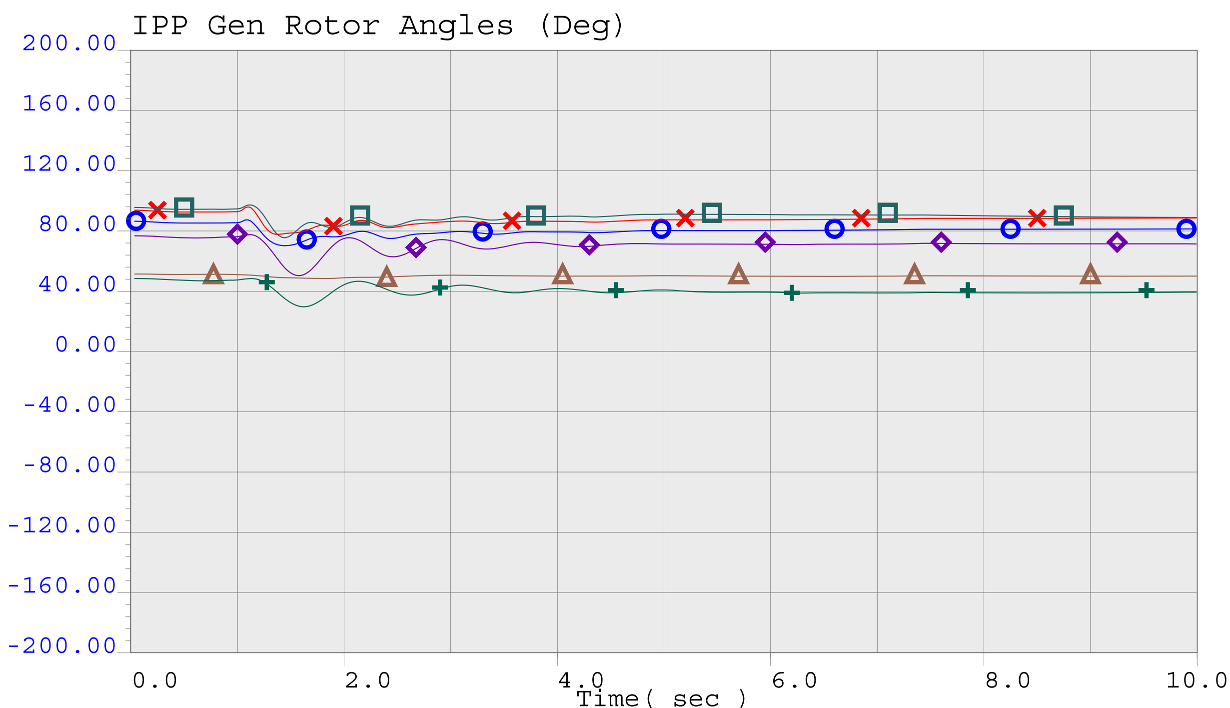

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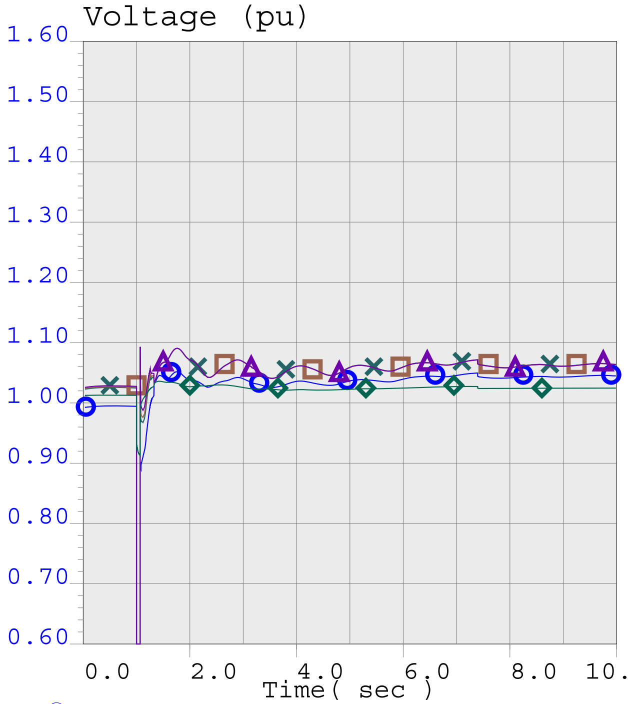

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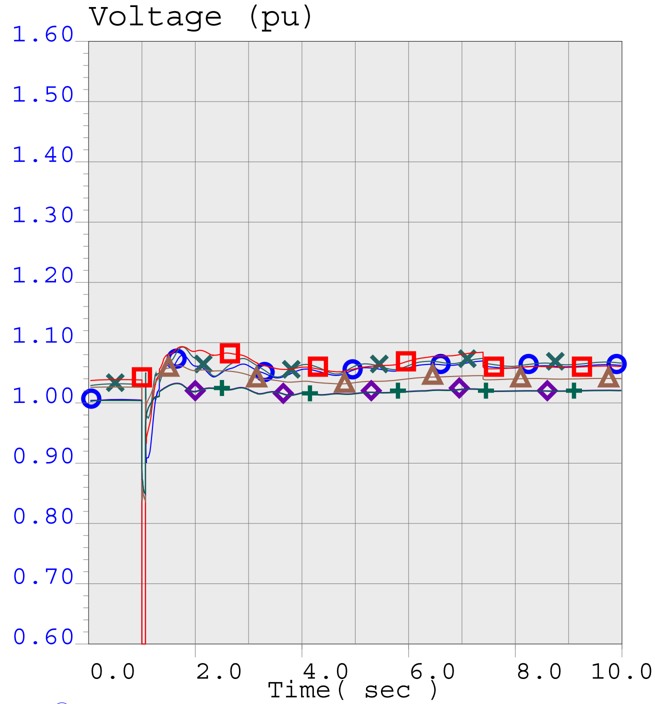

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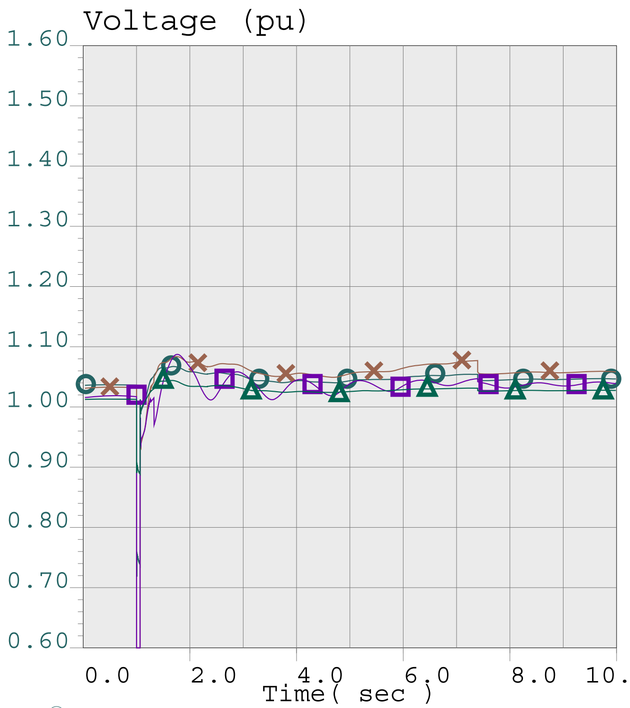

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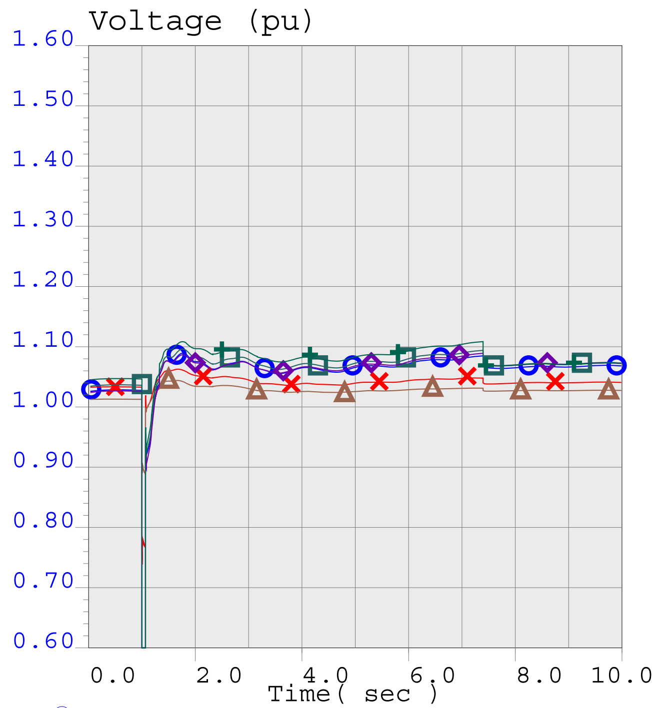

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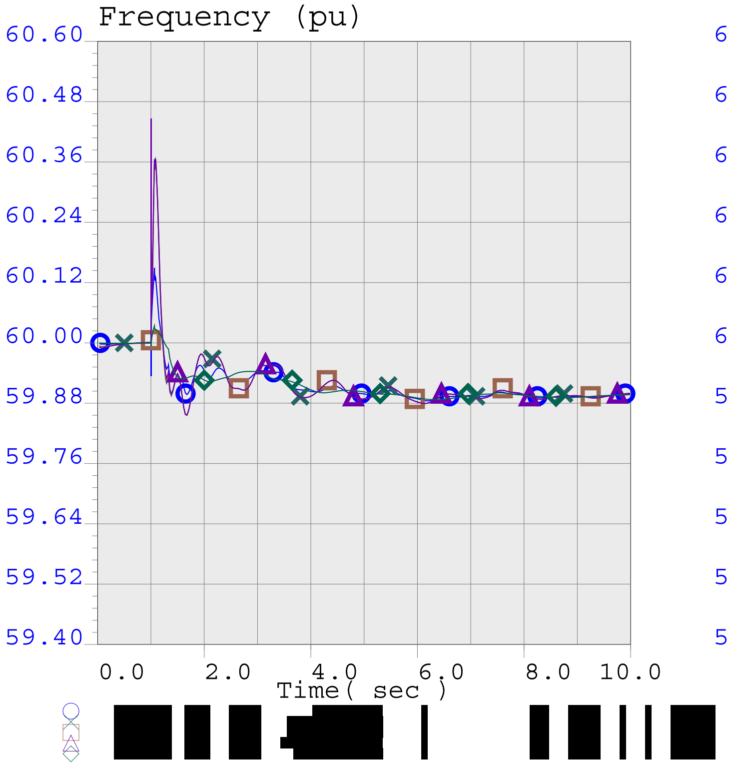

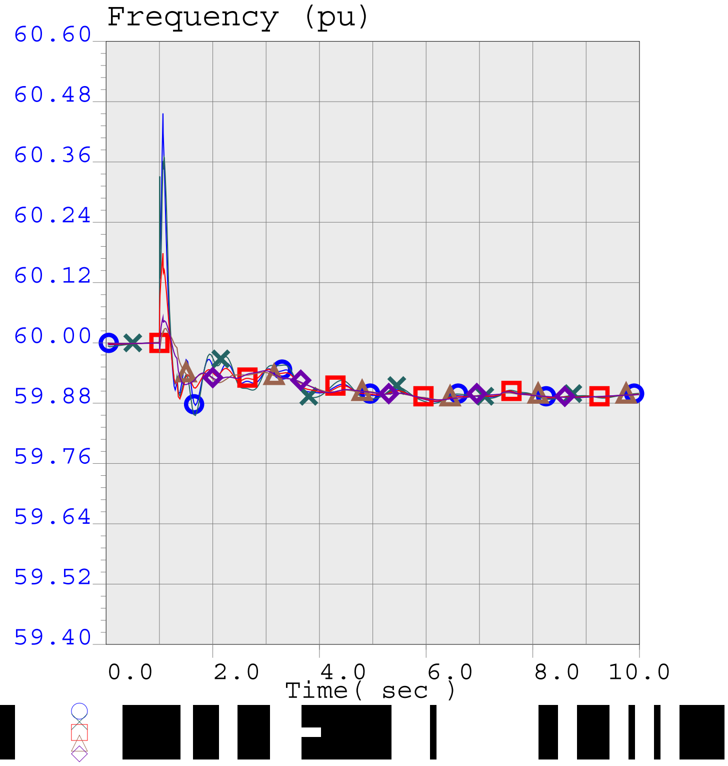

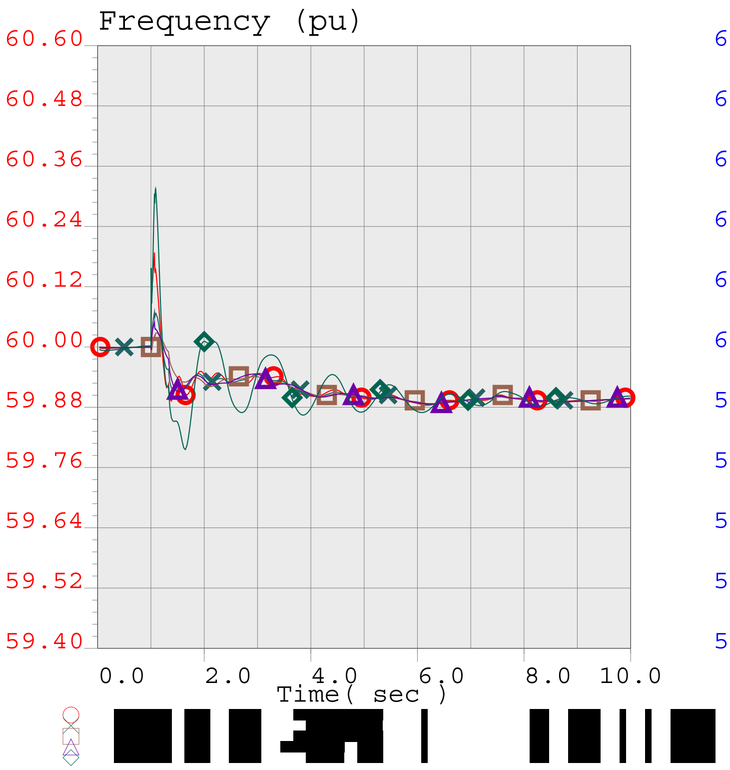

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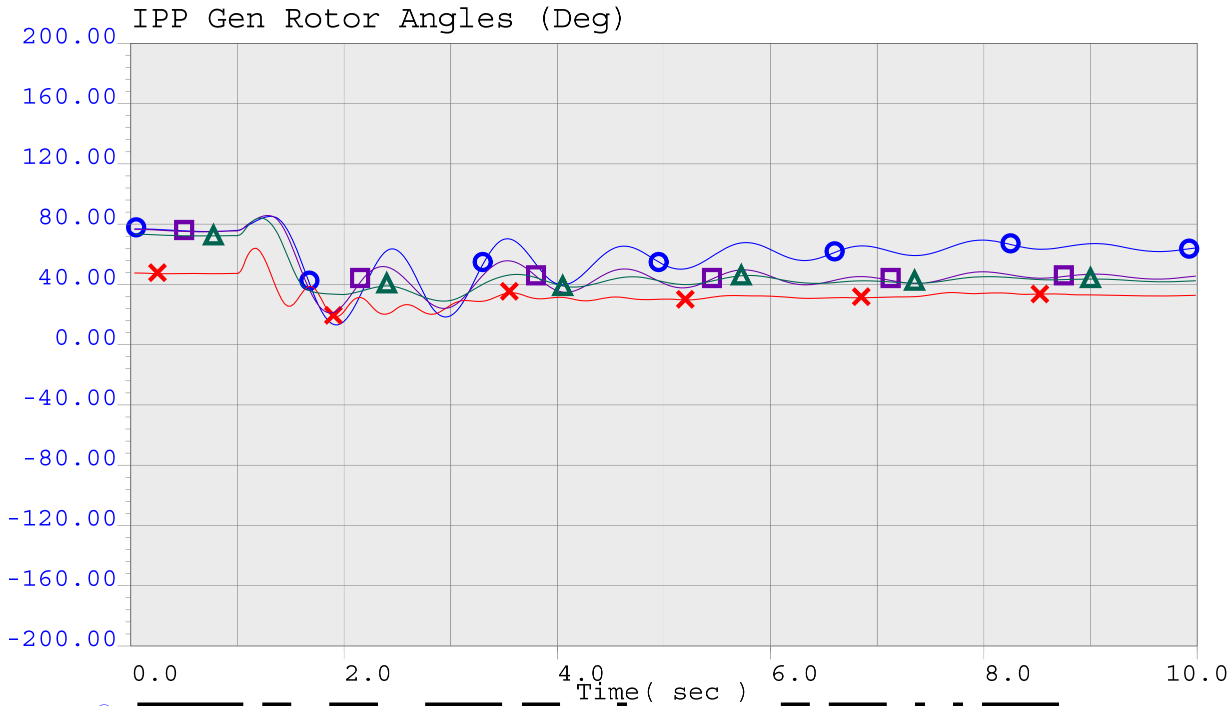
SYSTEM IMPACT STUDY (Rotor Angles)



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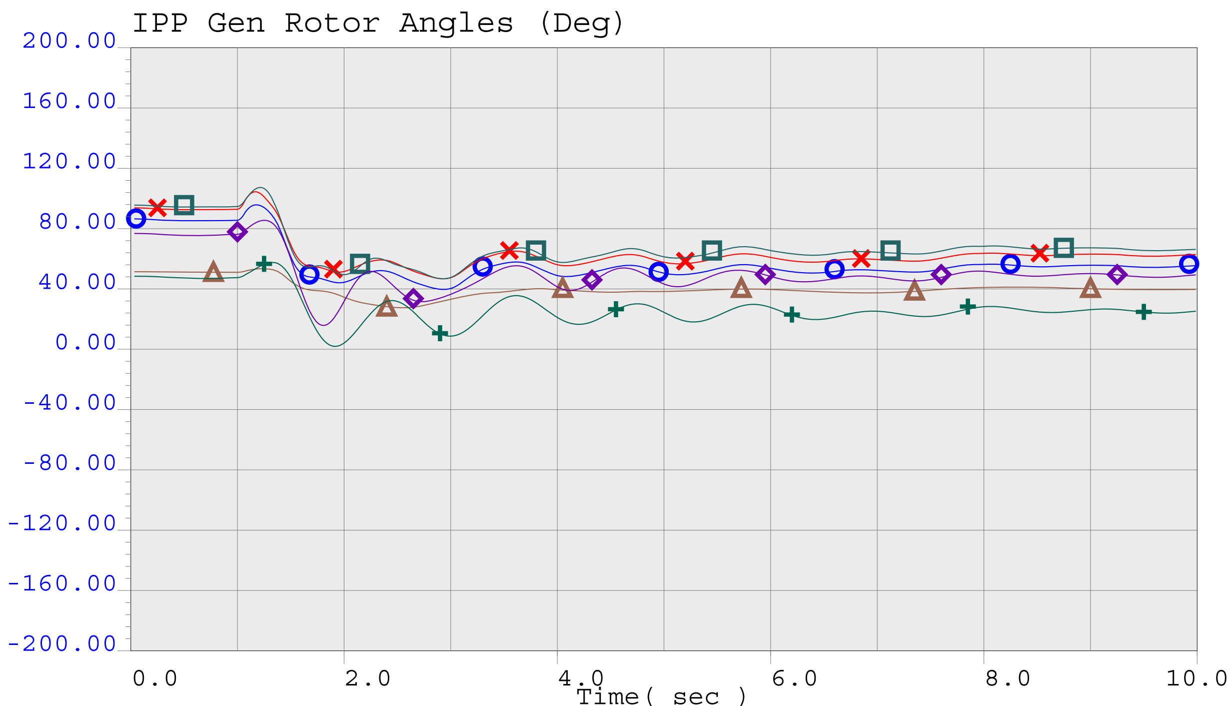

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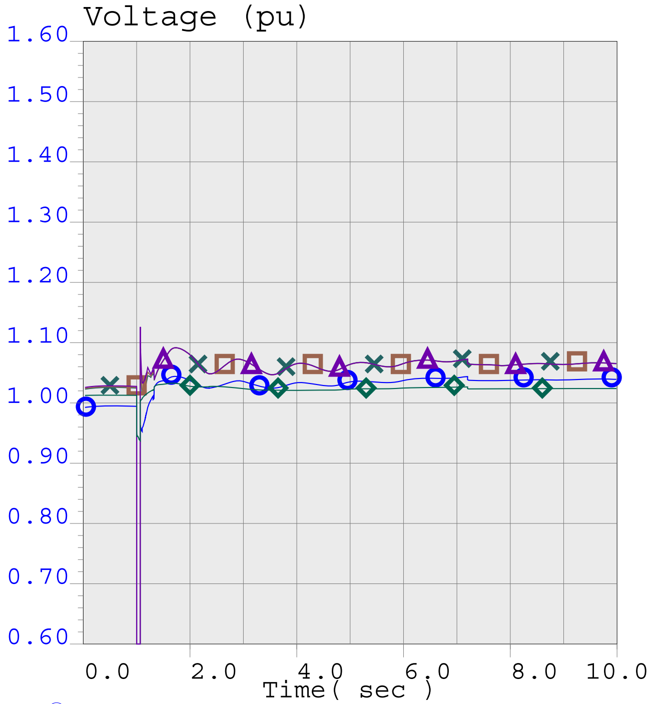
SYSTEM IMPACT STUDY (Voltage)



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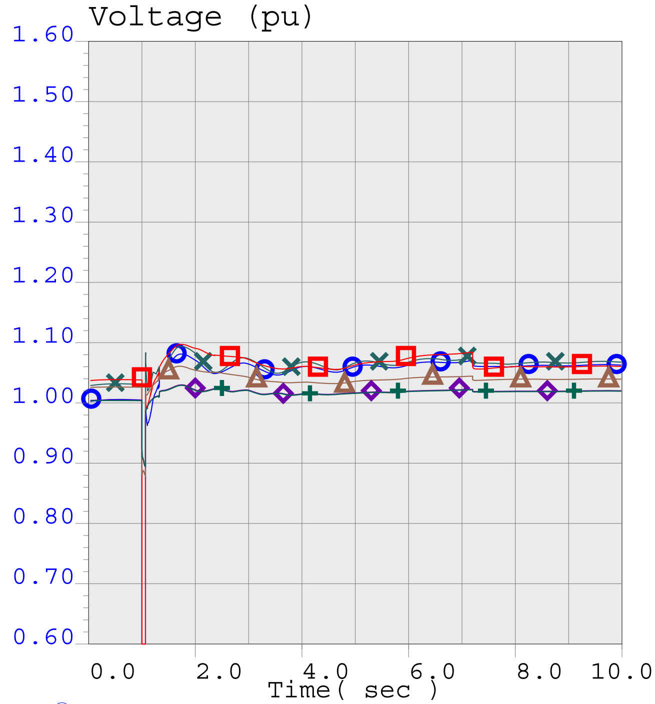

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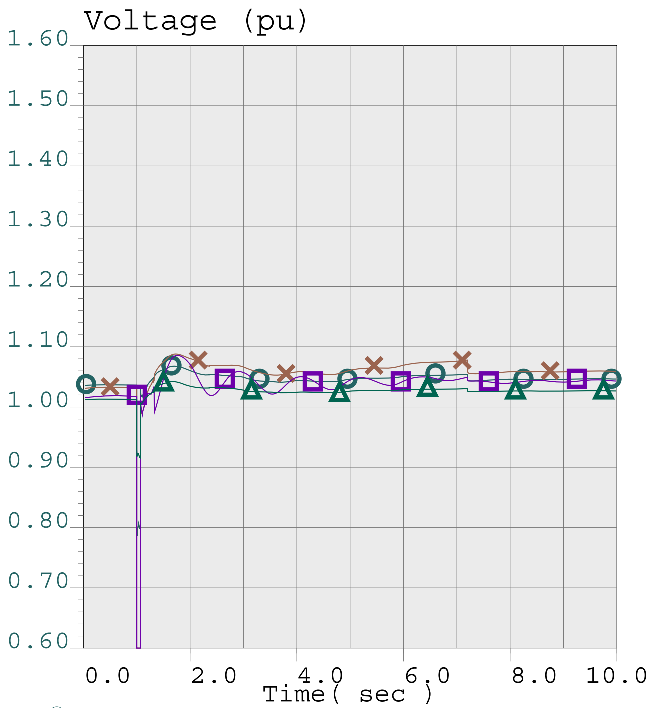

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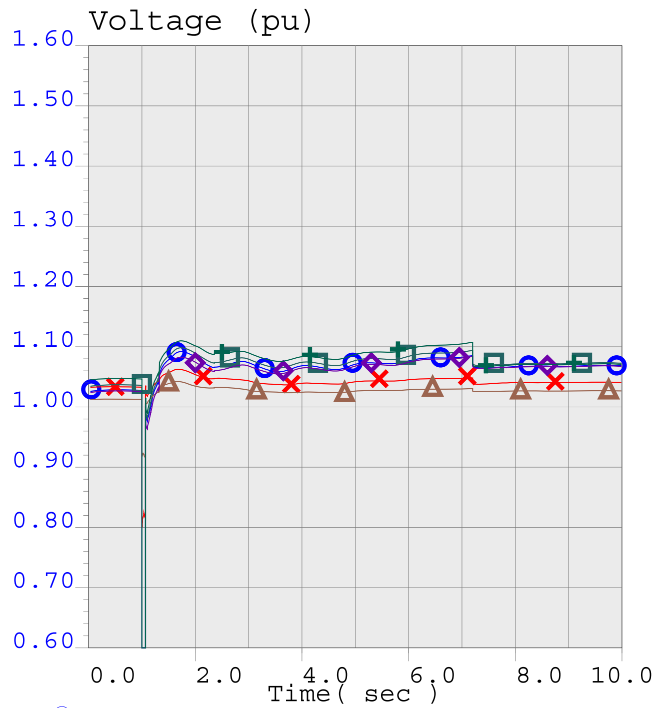

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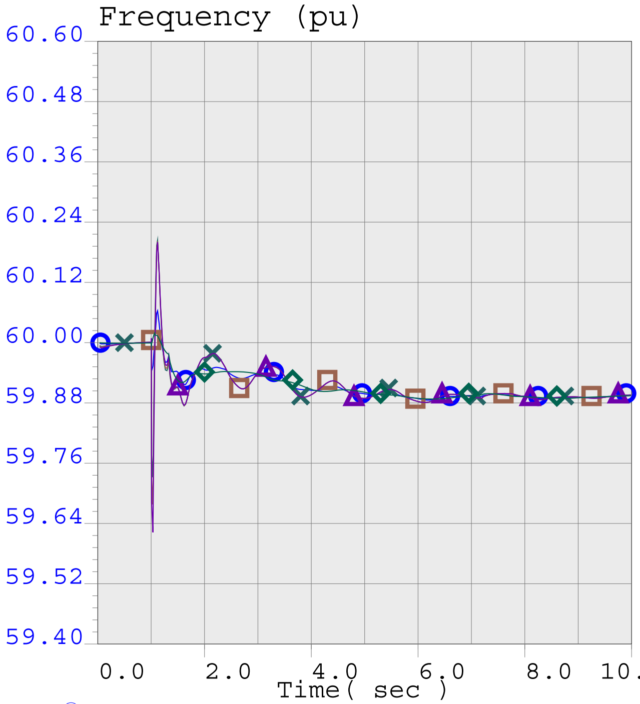

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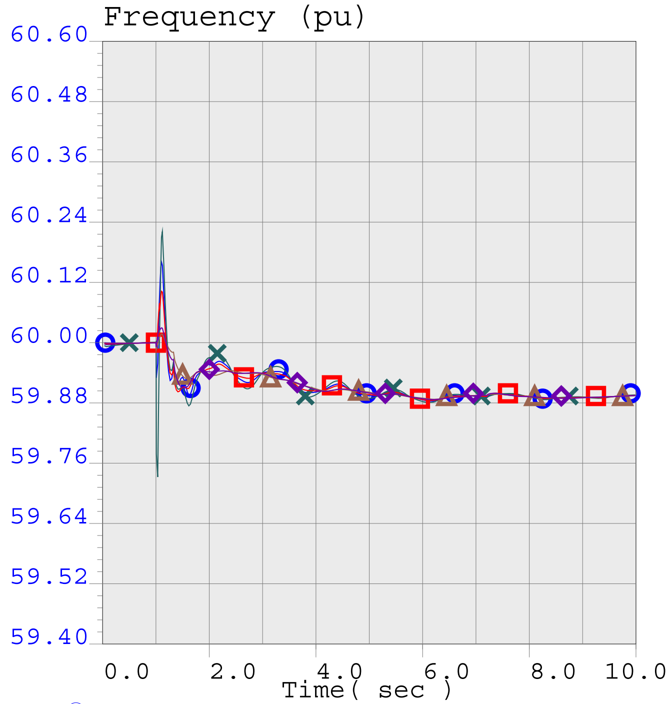

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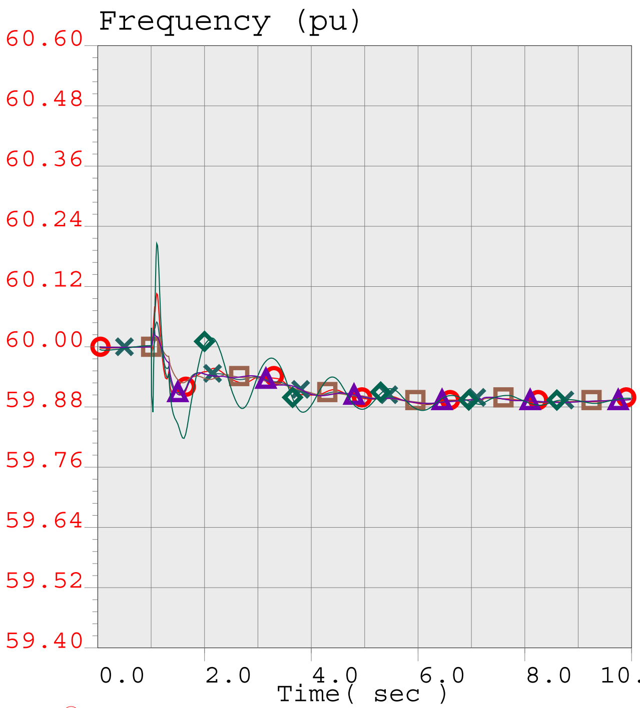

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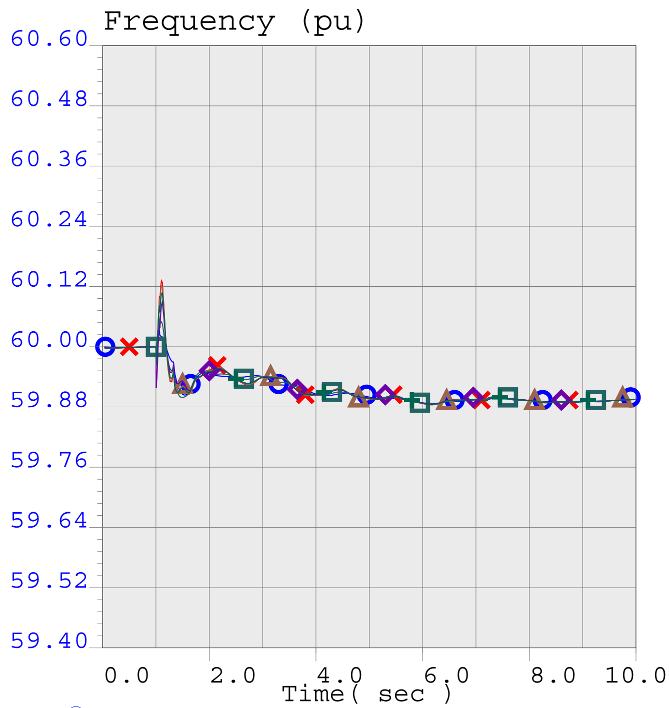

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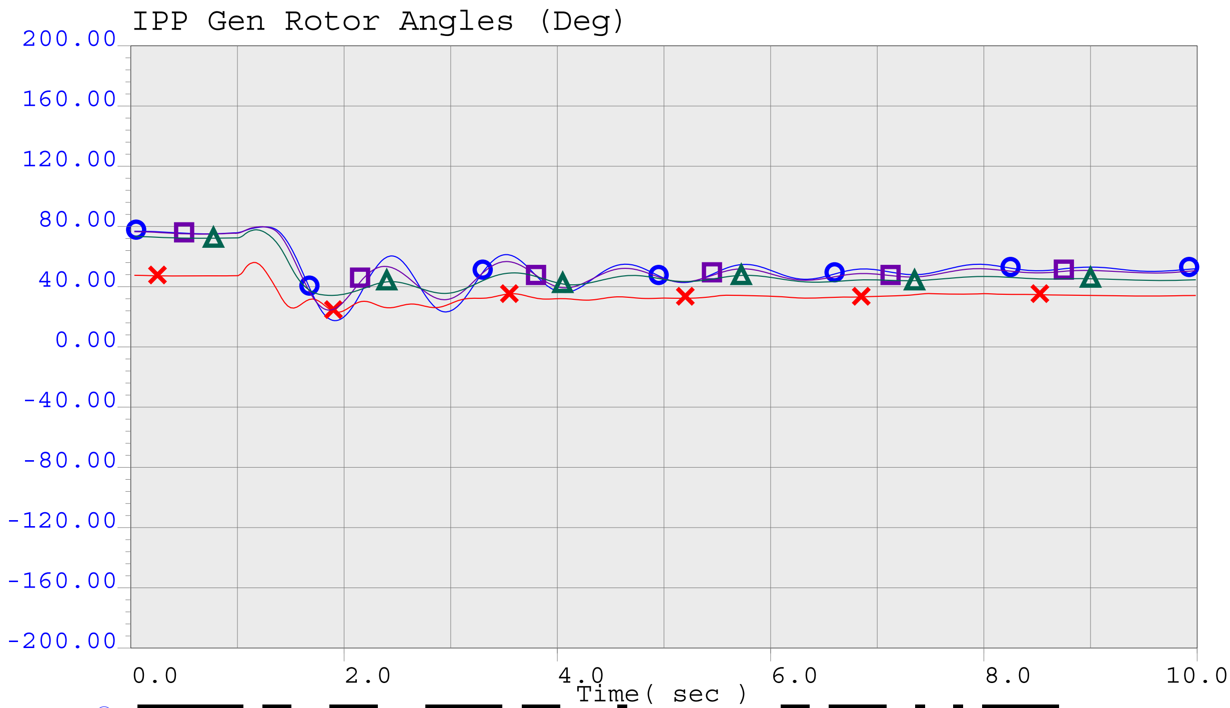
Fri Aug 26 08:38:38 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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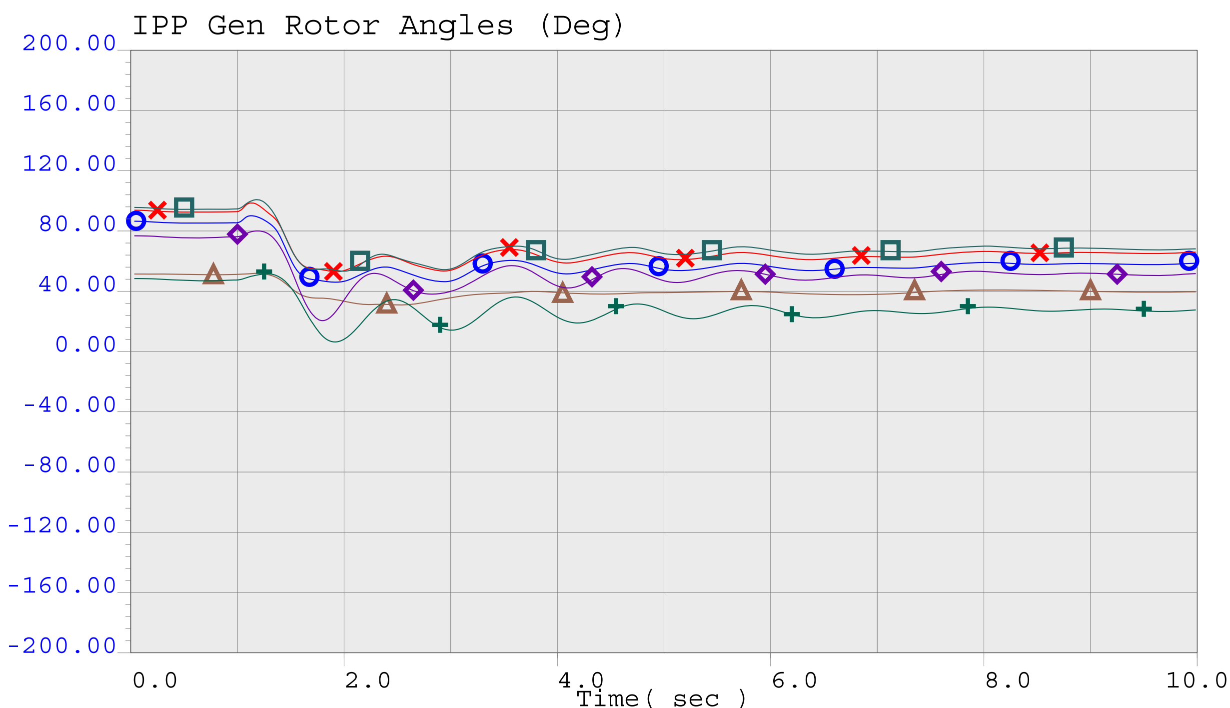

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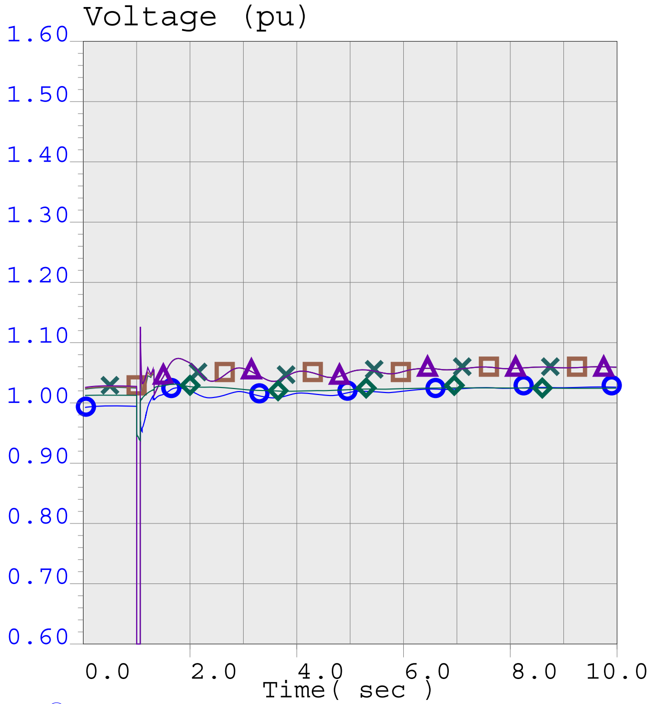
Fri Aug 26 08:38:38 2022

SYSTEM IMPACT STUDY (Voltage)



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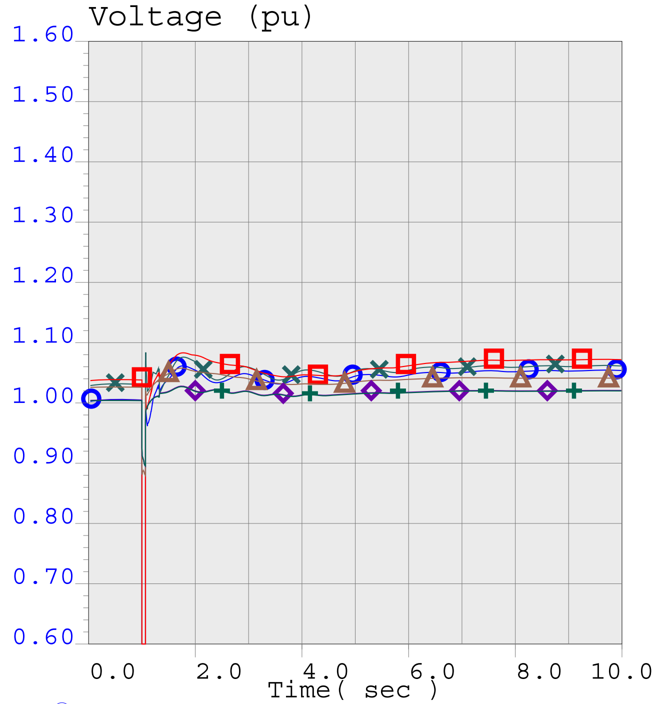

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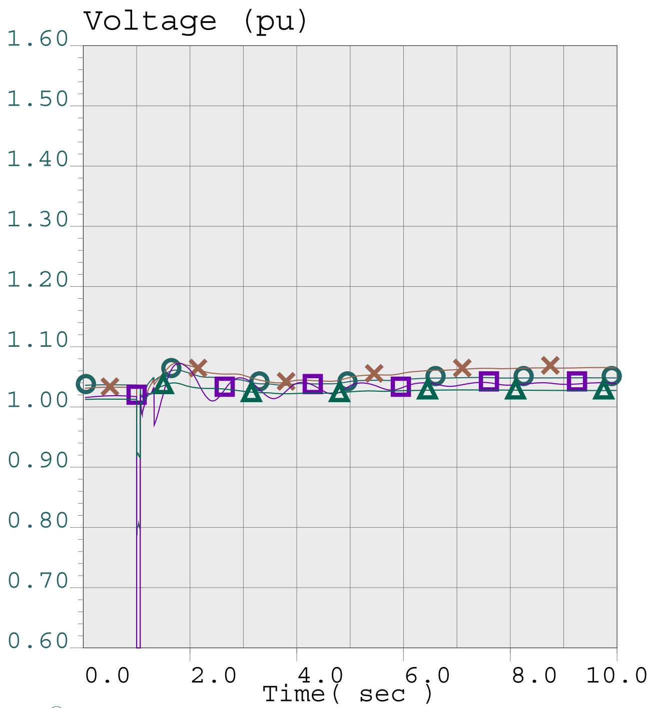

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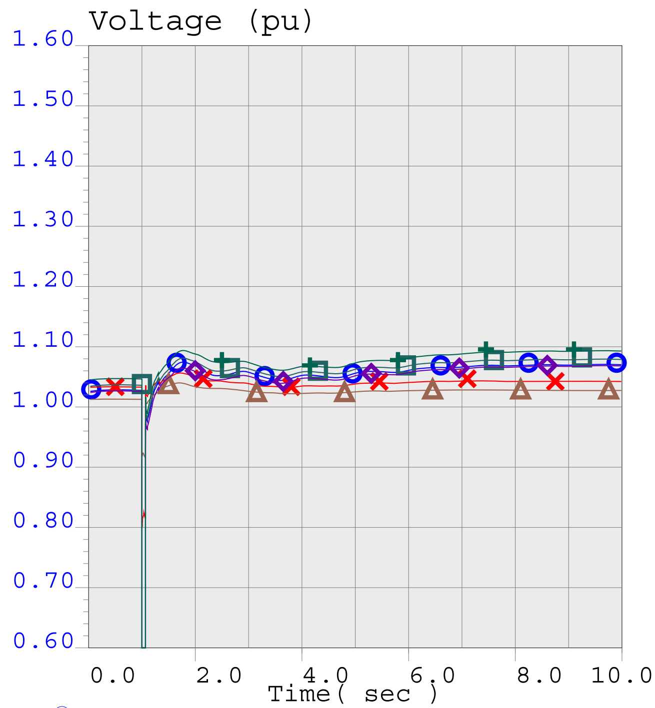

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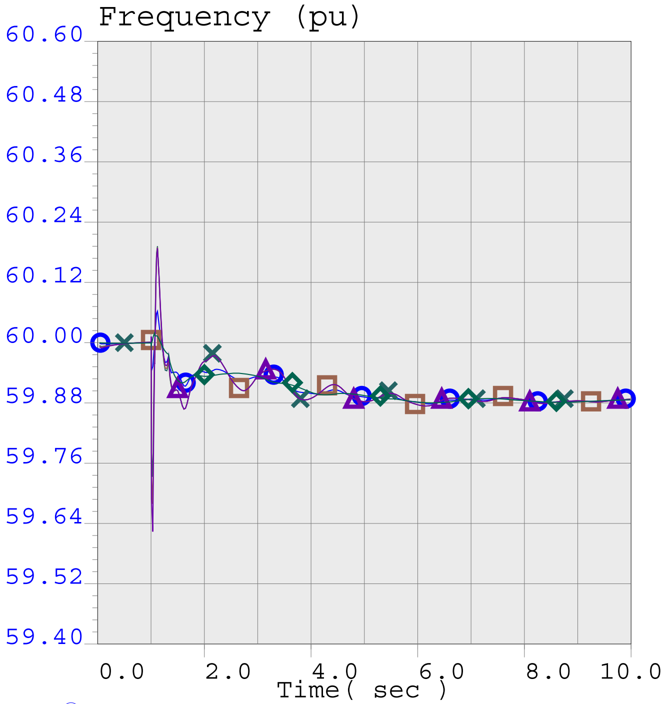
SYSTEM IMPACT STUDY (Frequency)



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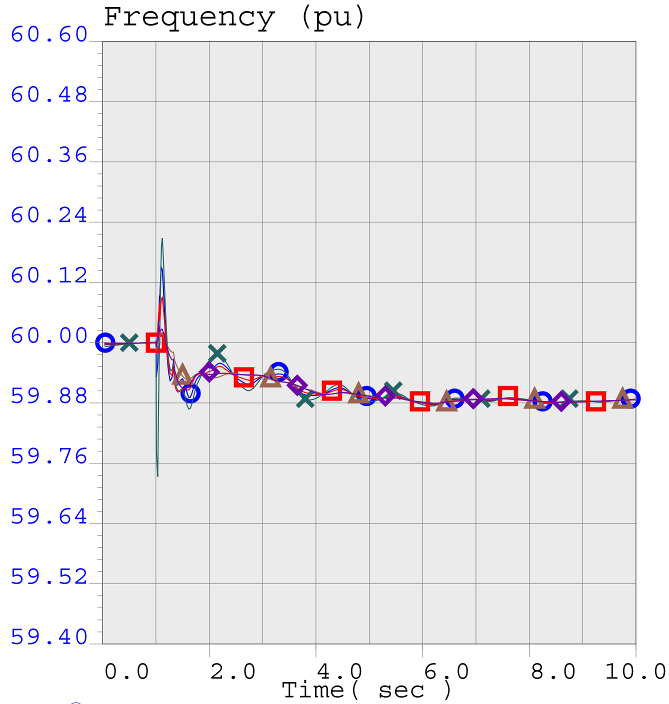

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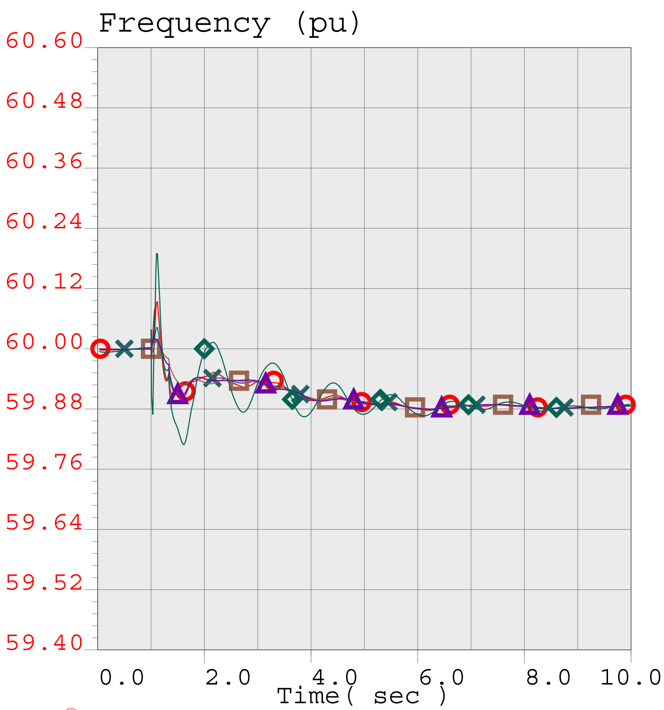

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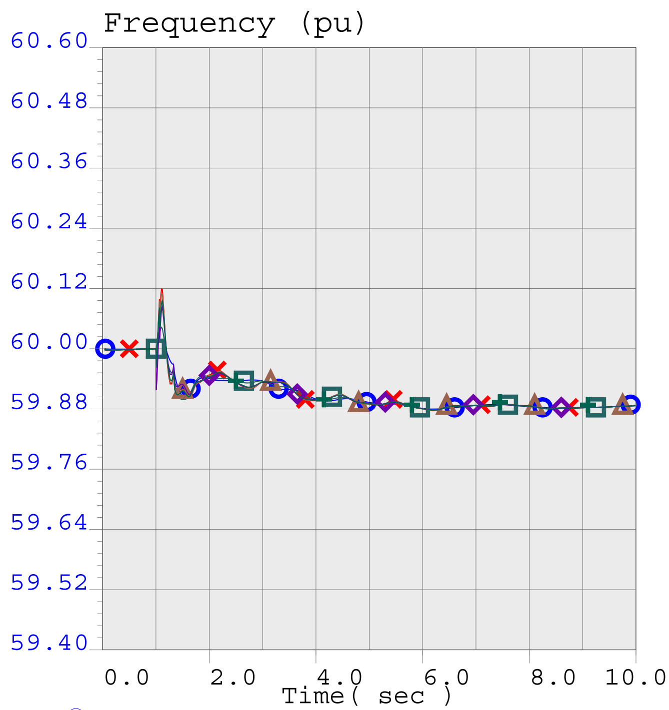

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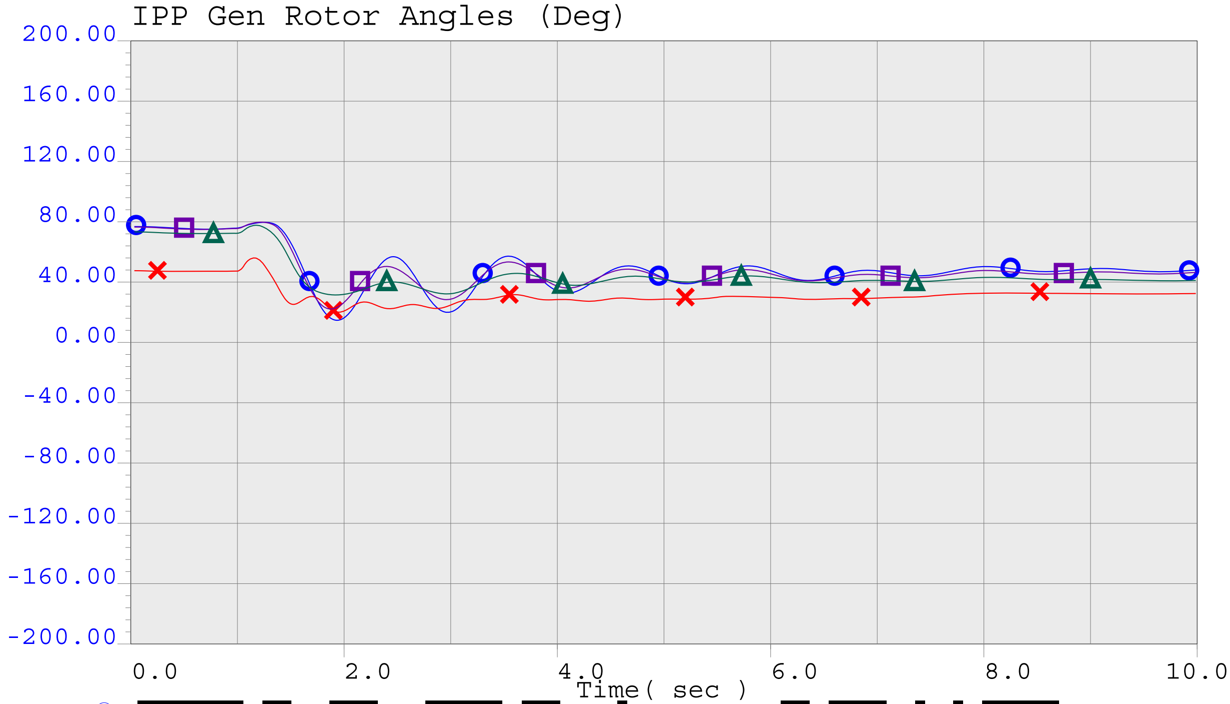
Fri Aug 26 08:38:40 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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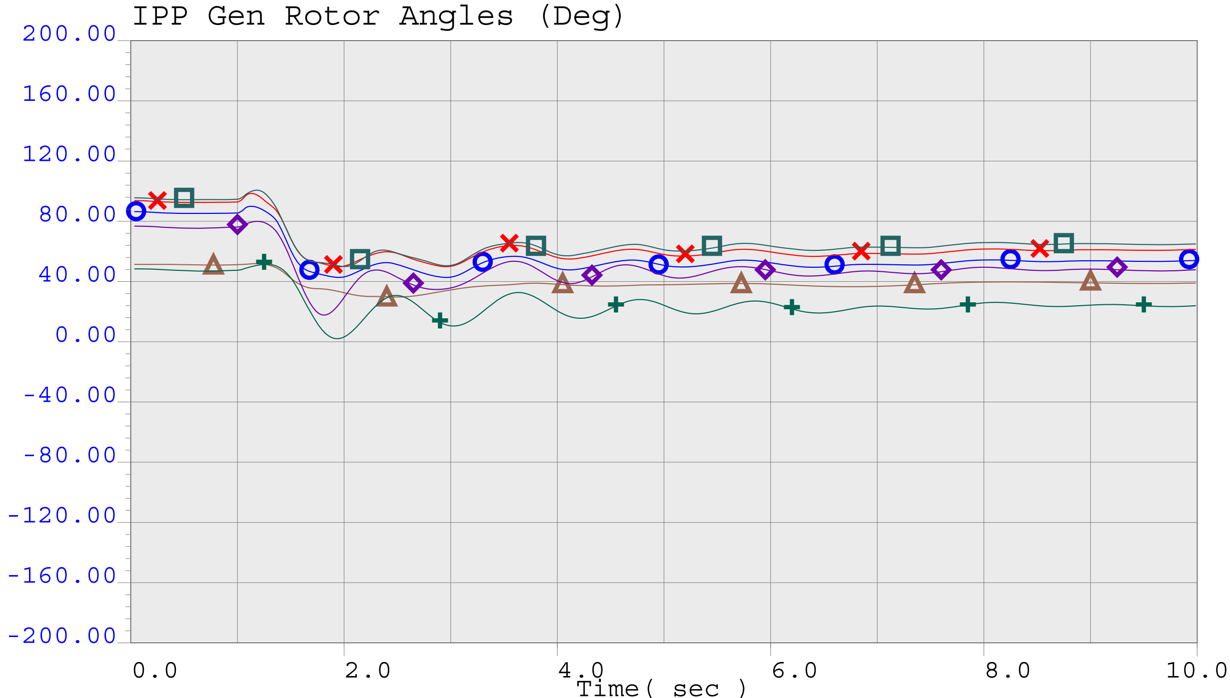
IPP Gen Rotor Angles (Deg)



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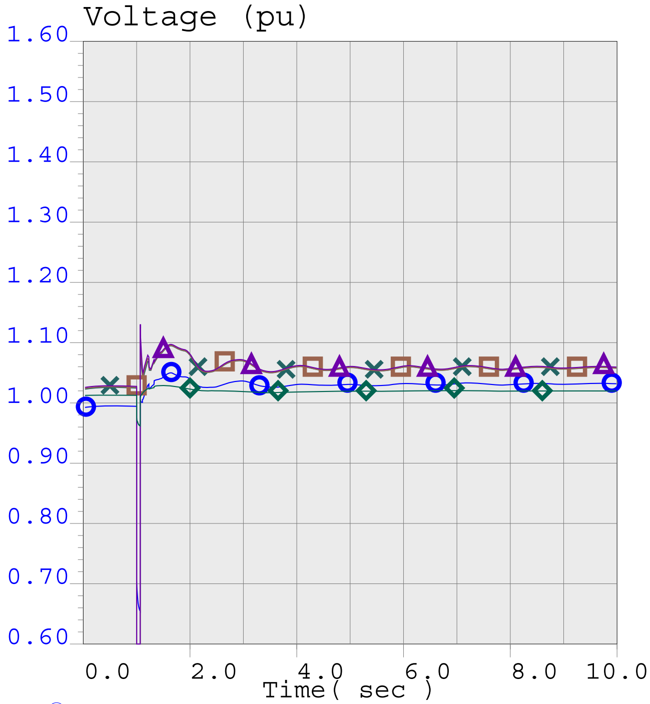
SYSTEM IMPACT STUDY (Voltage)



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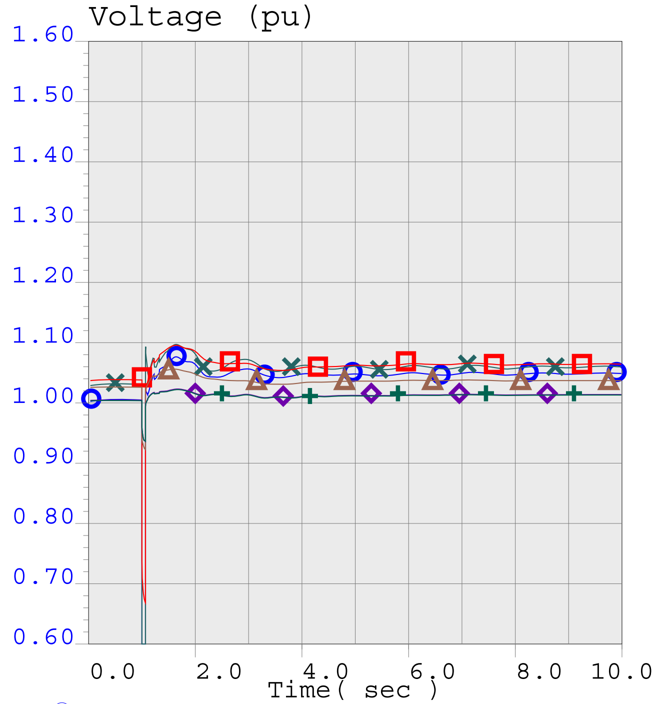

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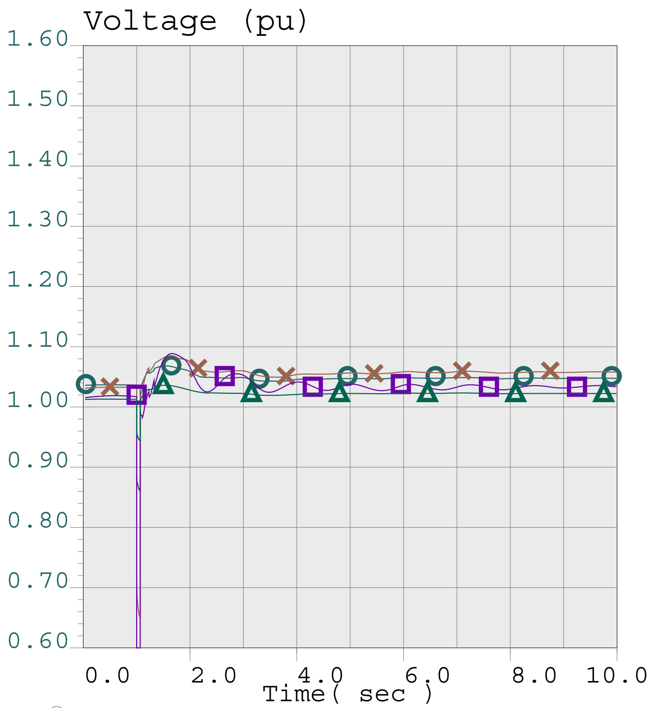

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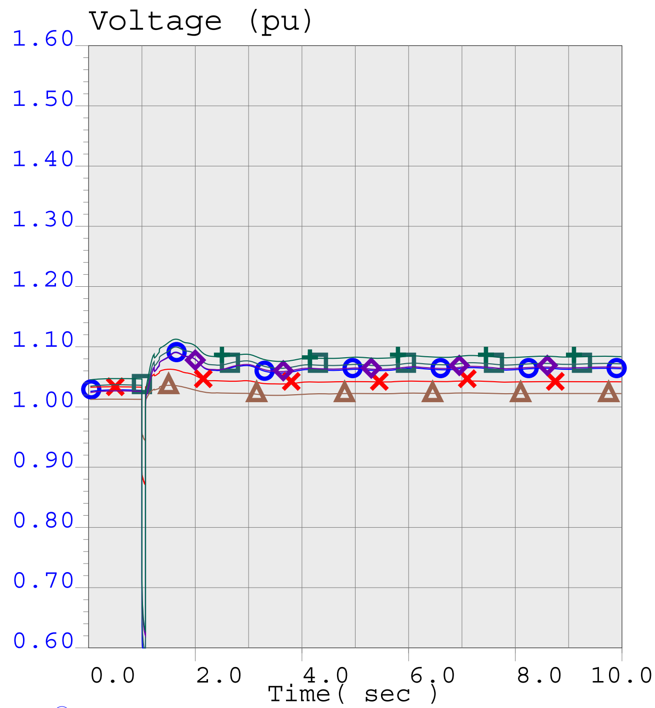

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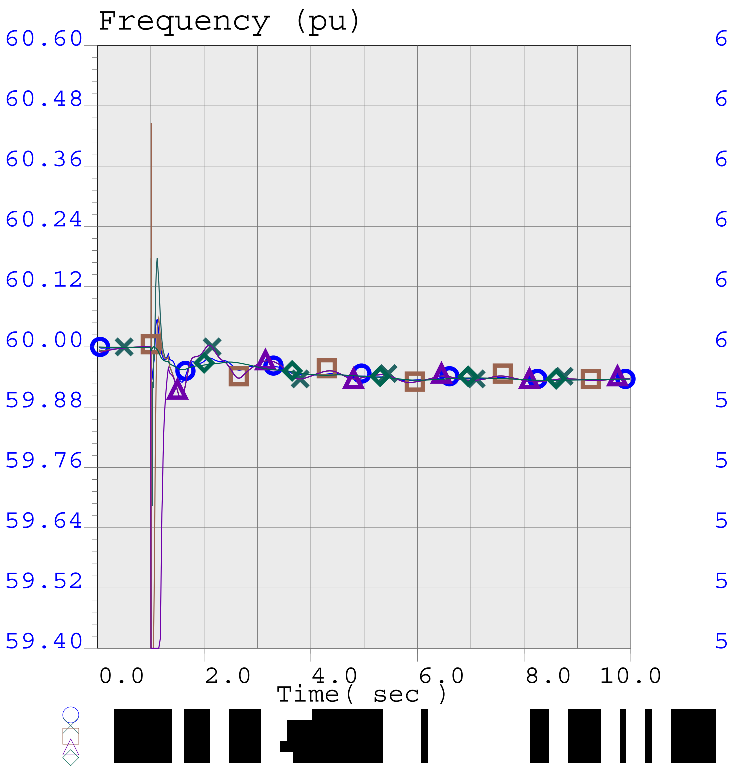
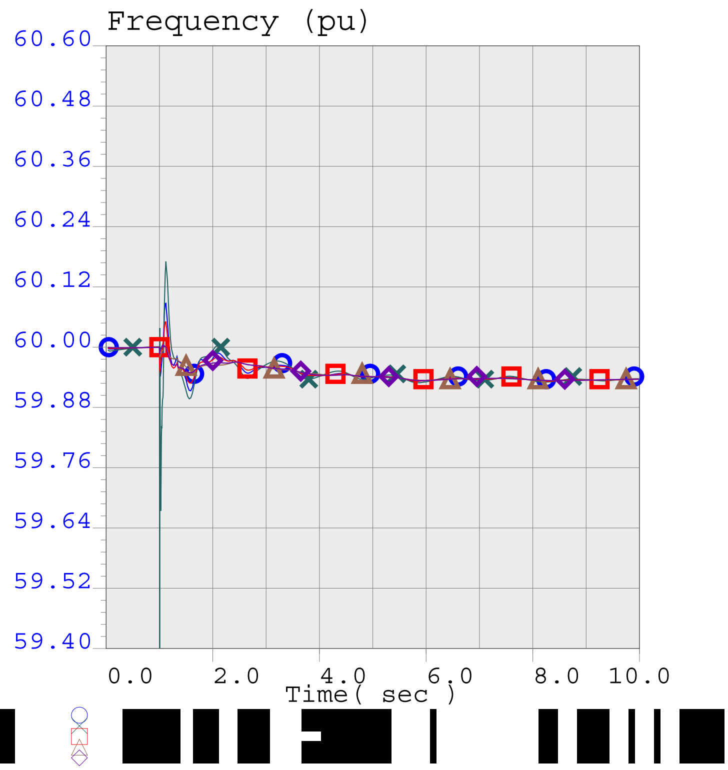
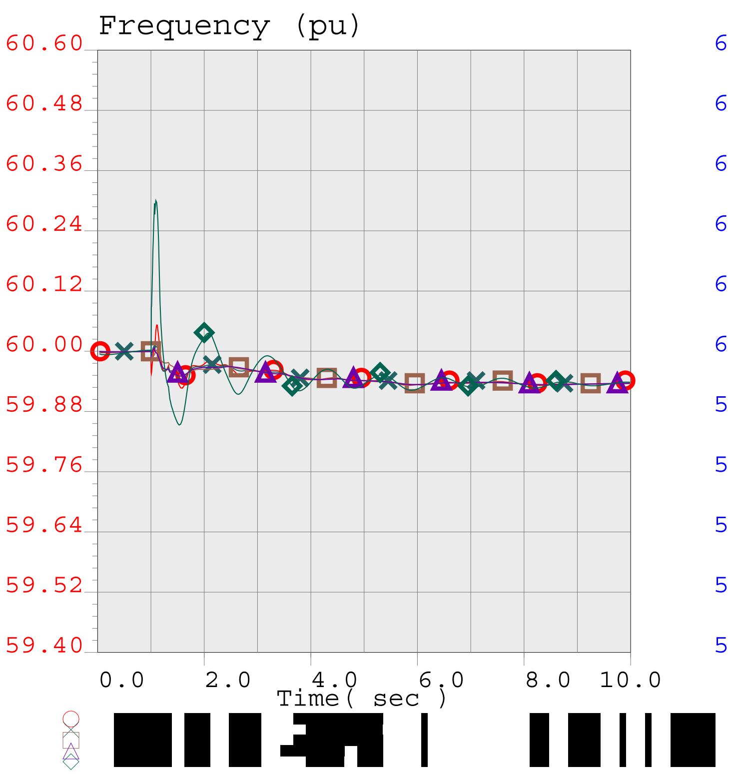
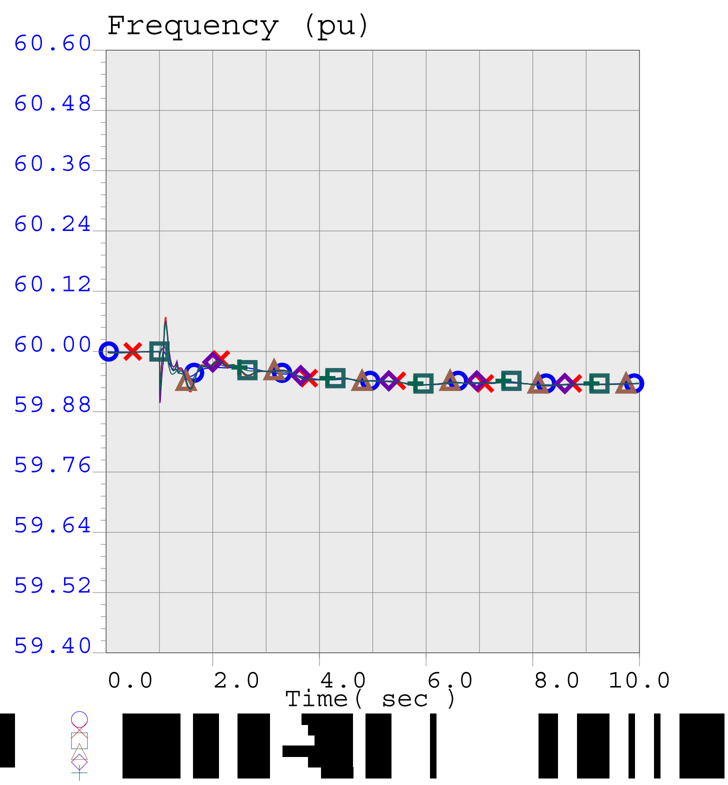
Fri Aug 26 08:38:42 2022

SYSTEM IMPACT STUDY (Frequency)

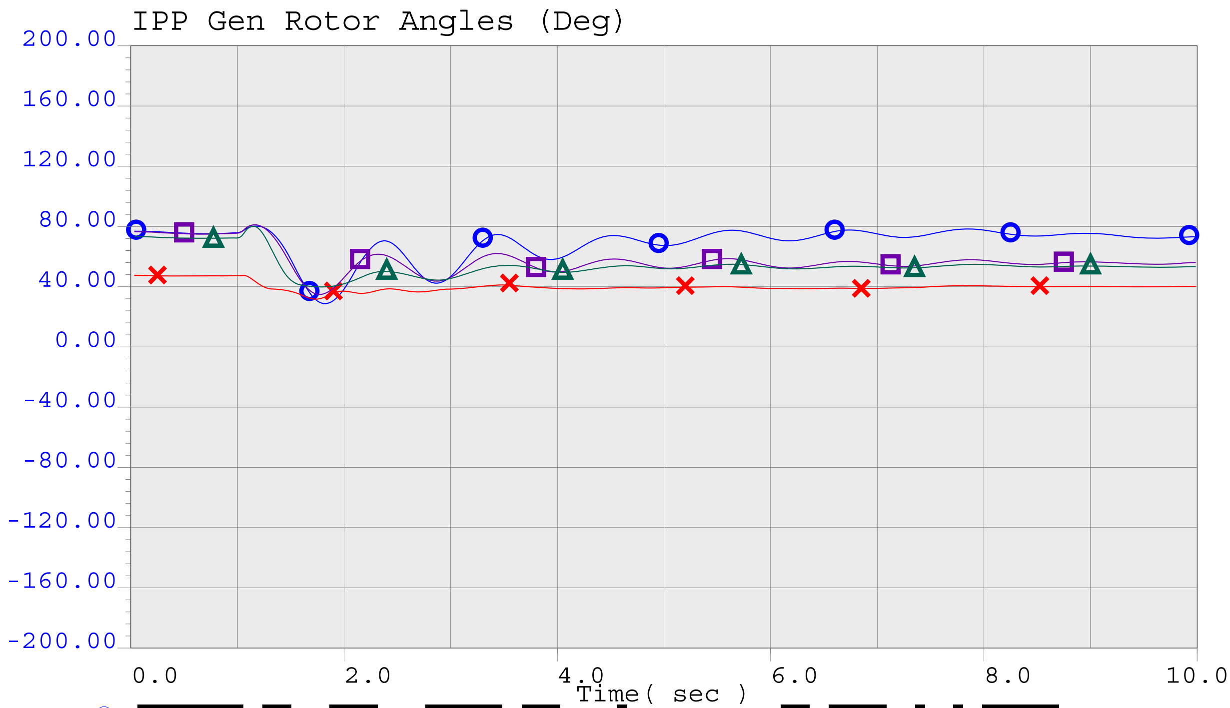








SYSTEM IMPACT STUDY (Rotor Angles)



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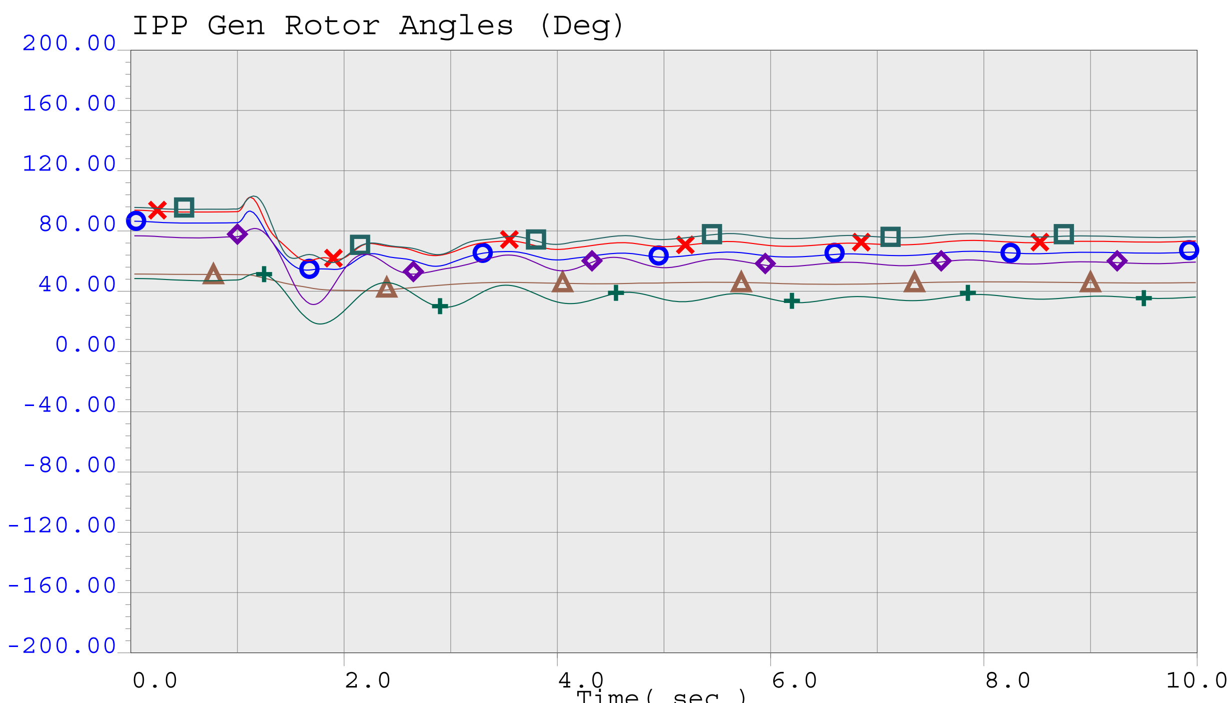

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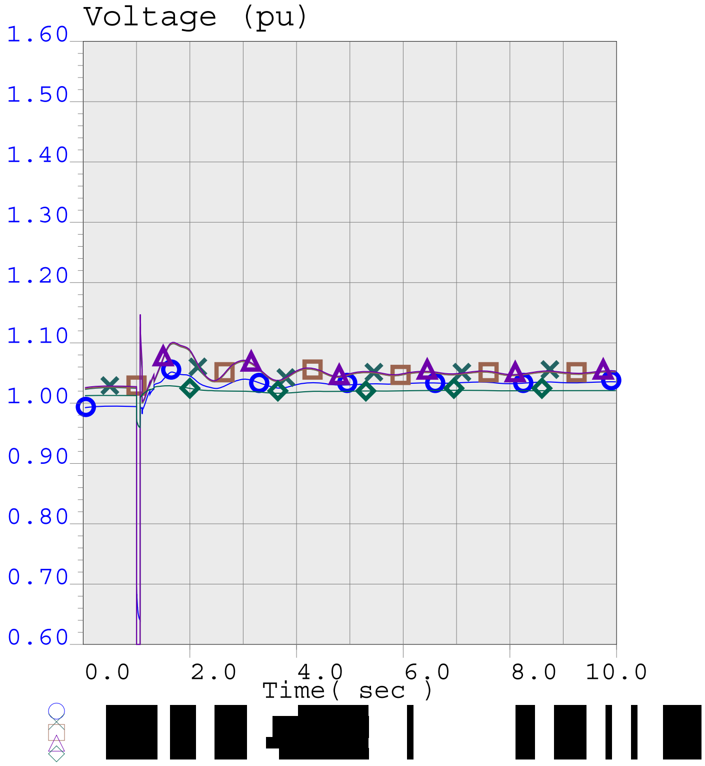
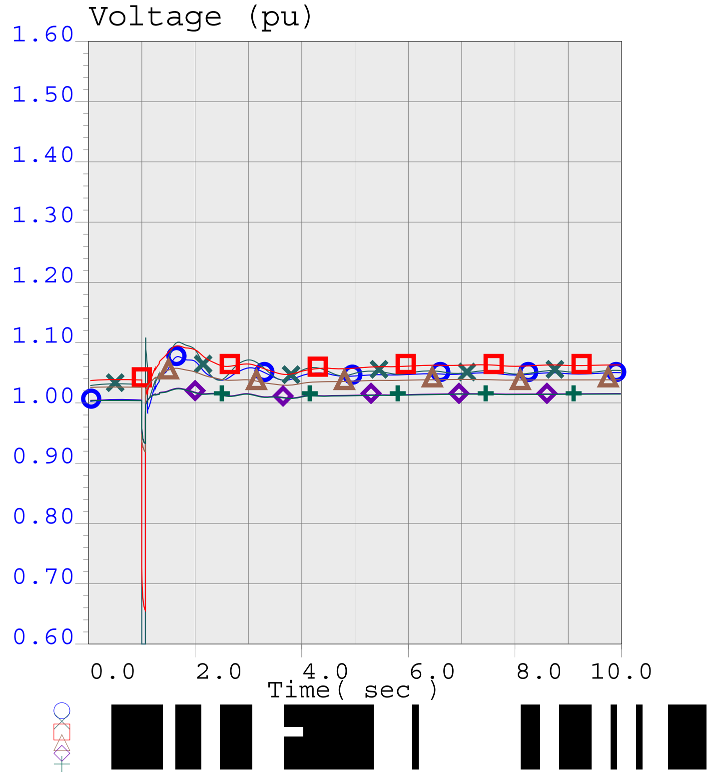
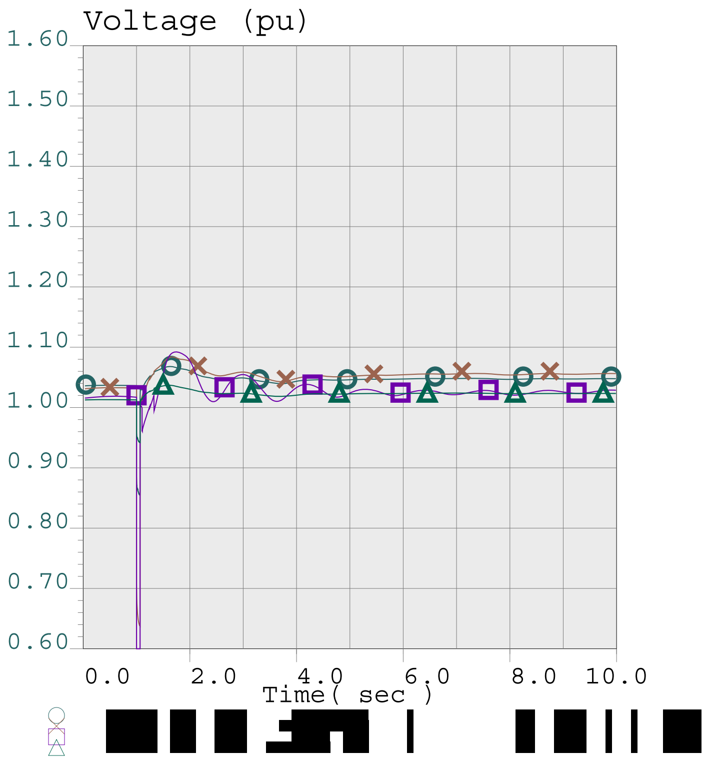
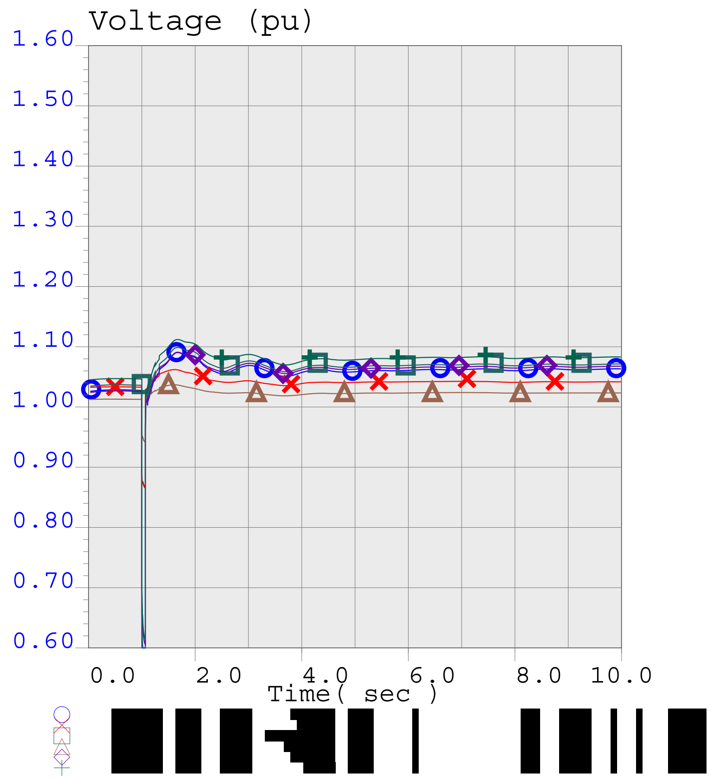
Fri Aug 26 08:38:42 2022

SYSTEM IMPACT STUDY (Voltage)









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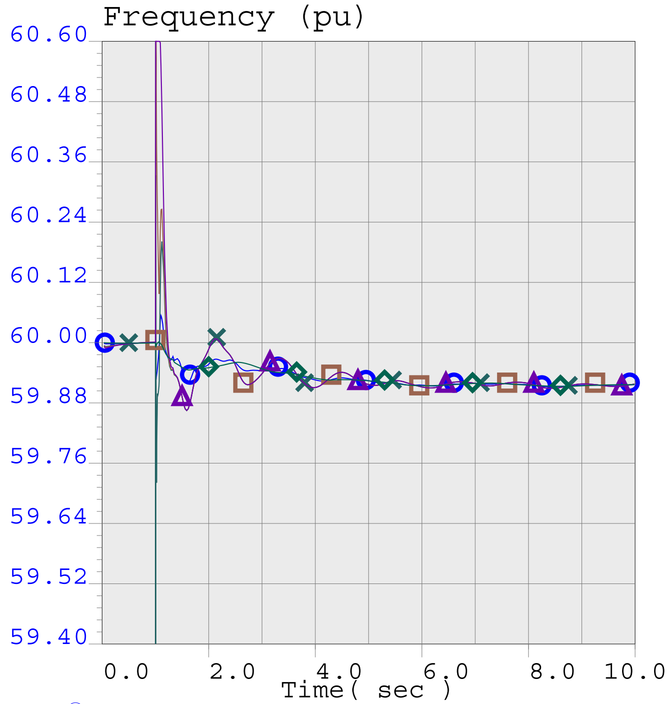
Fri Aug 26 08:38:44 2022

SYSTEM IMPACT STUDY (Frequency)



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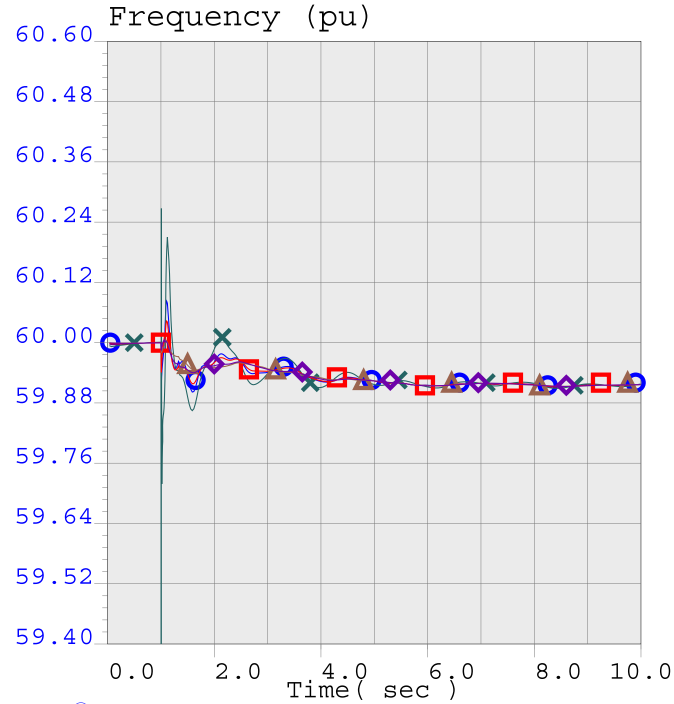

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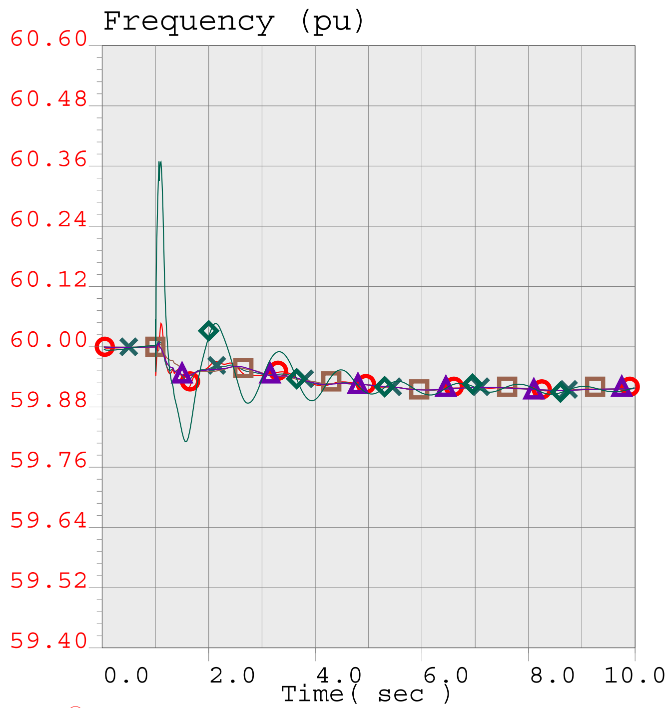

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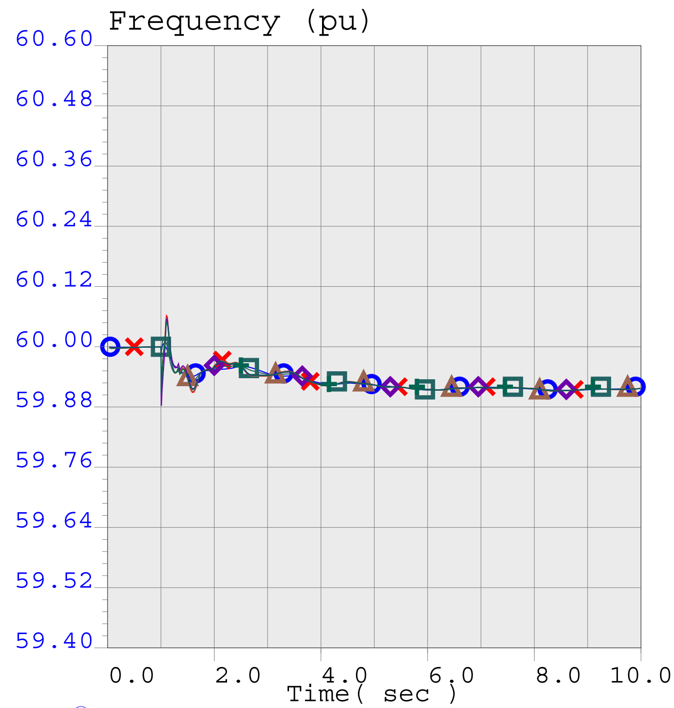

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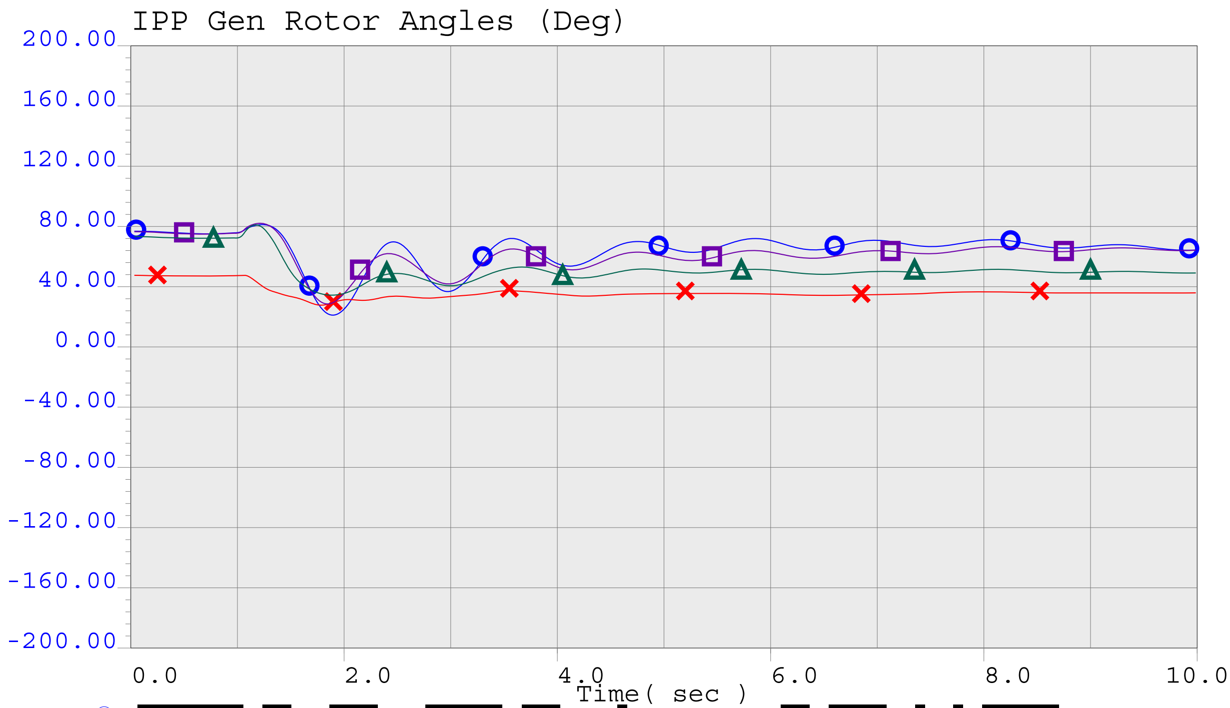
Fri Aug 26 08:38:44 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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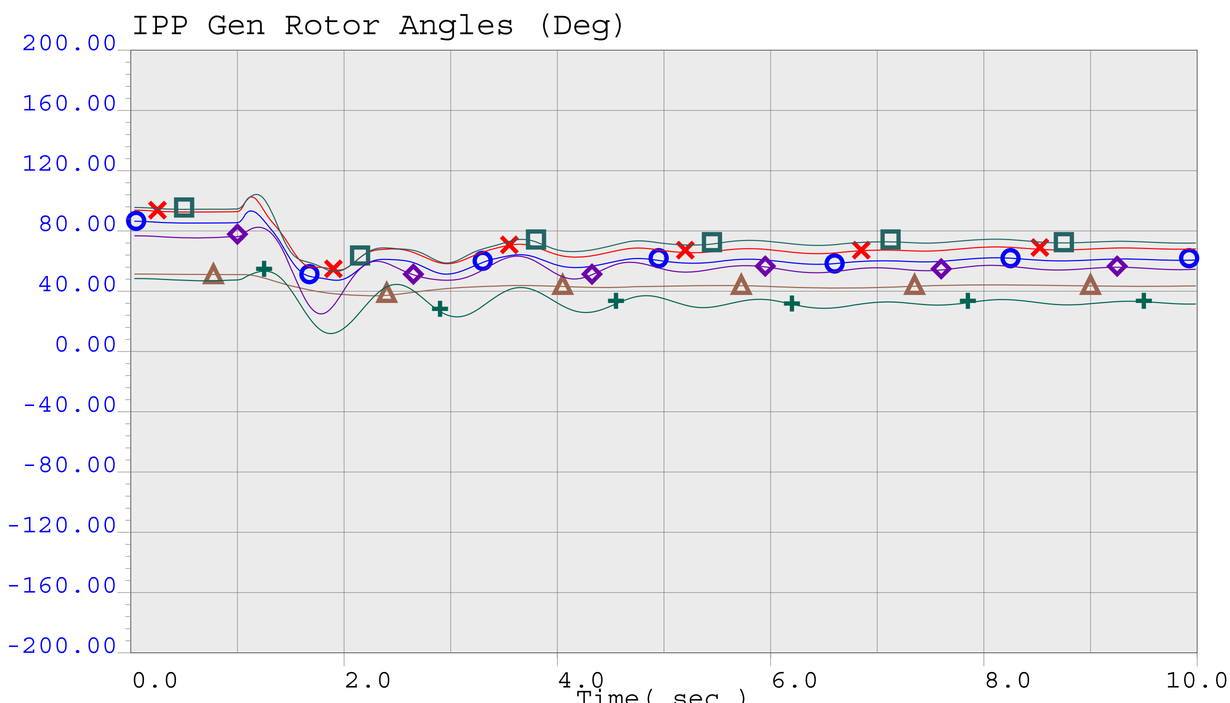

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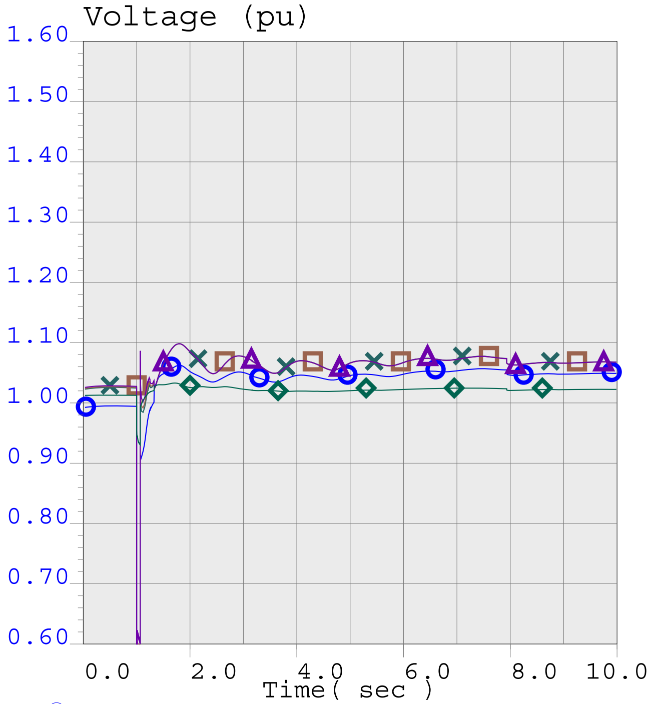
Fri Aug 26 08:38:44 2022

SYSTEM IMPACT STUDY (Voltage)



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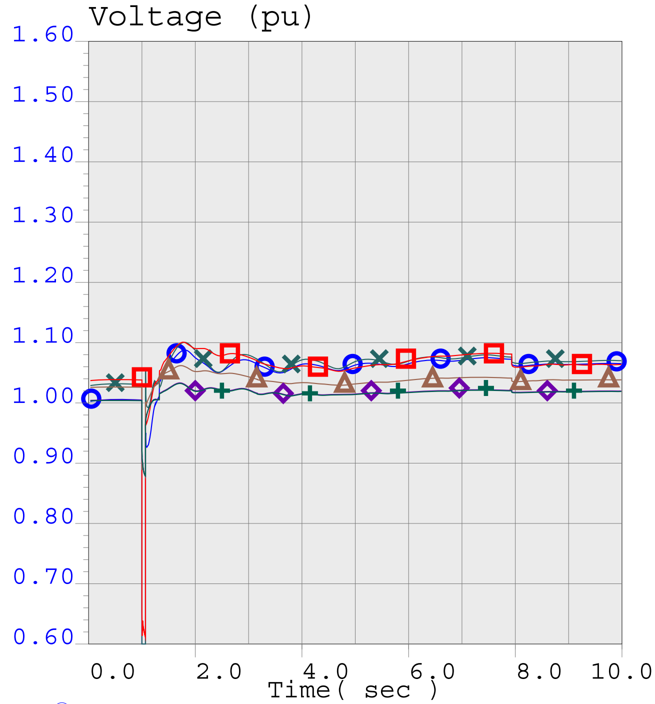

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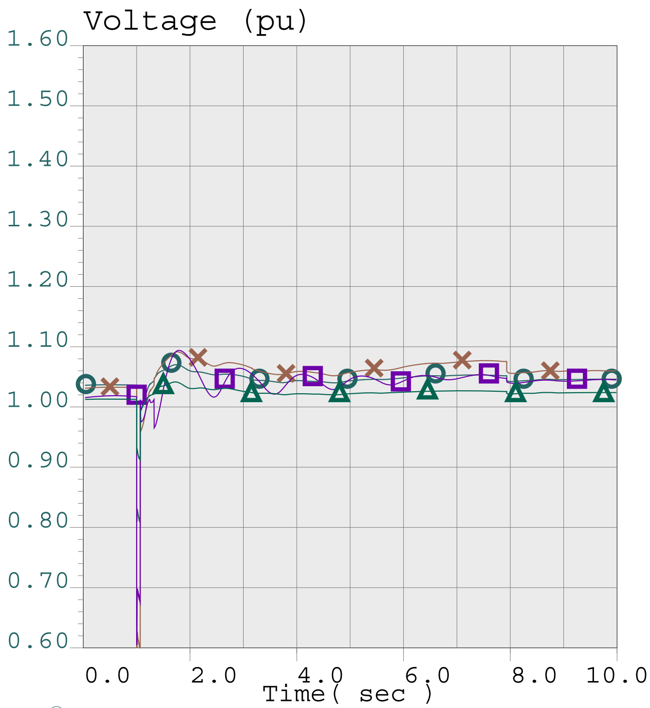

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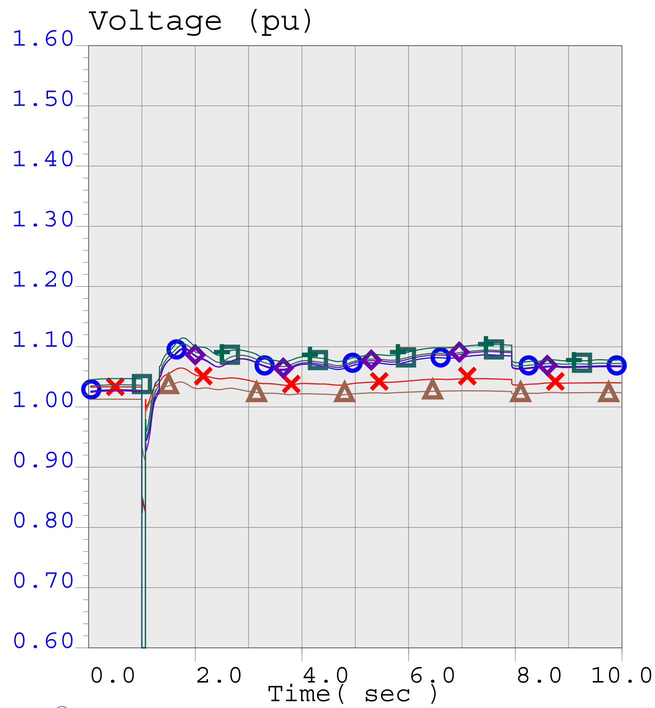

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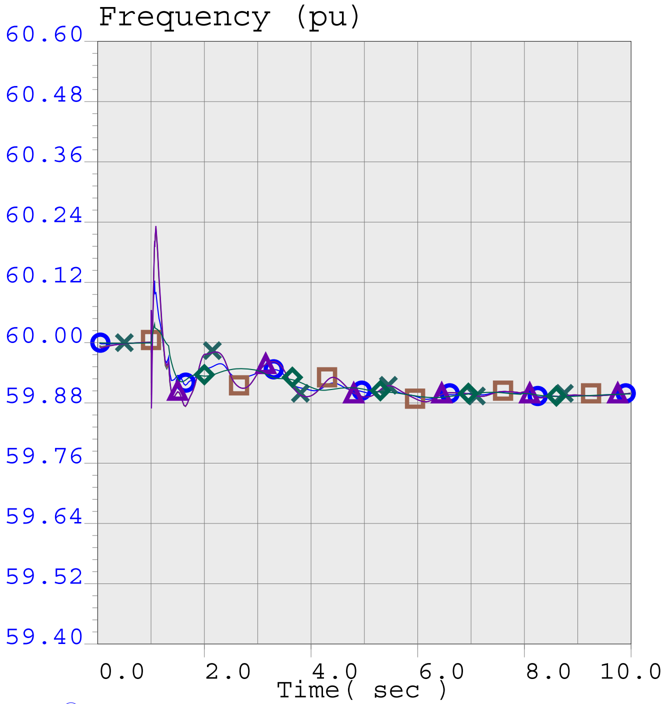
Fri Aug 26 08:38:47 2022

SYSTEM IMPACT STUDY (Frequency)



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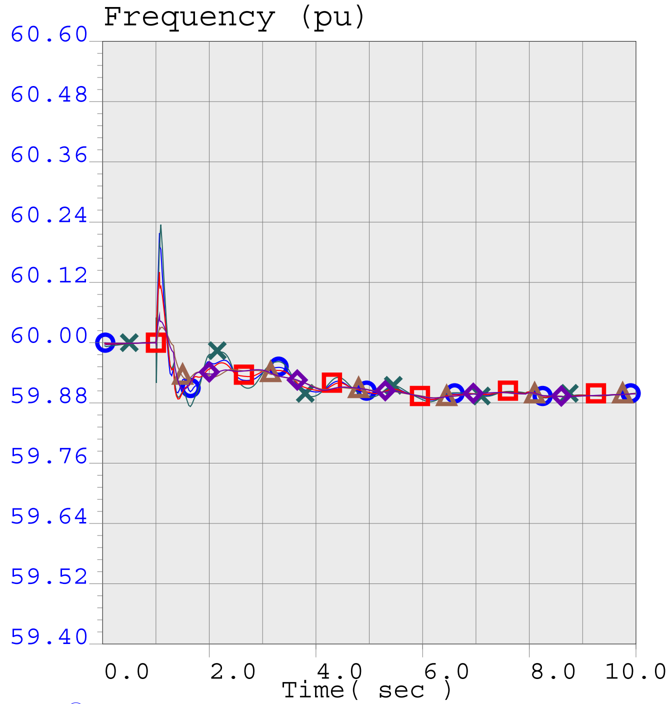

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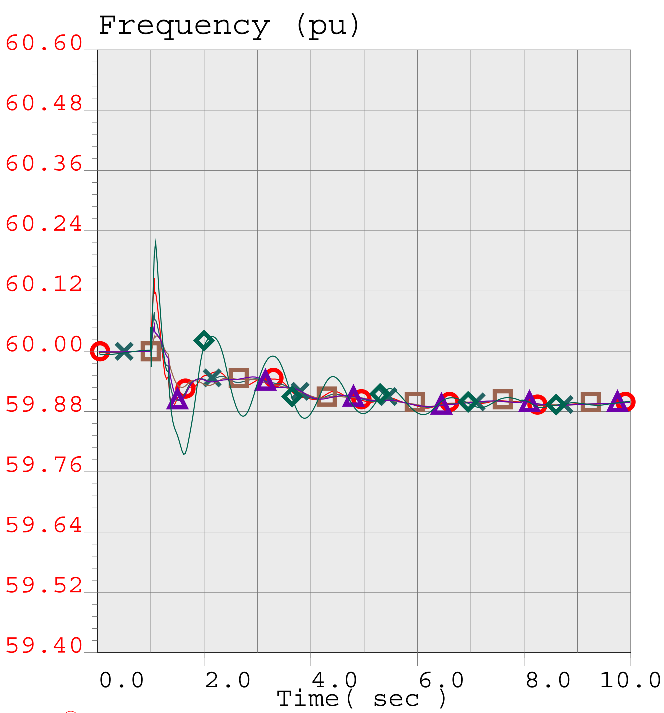

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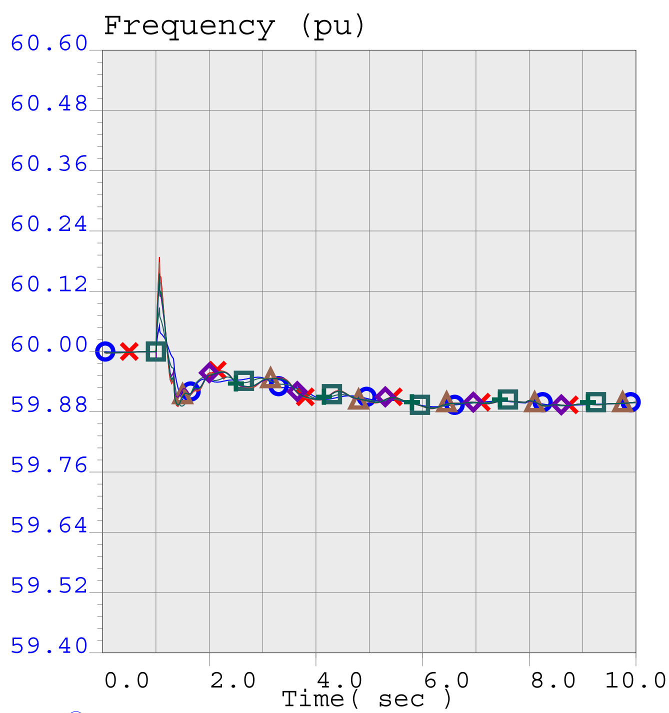

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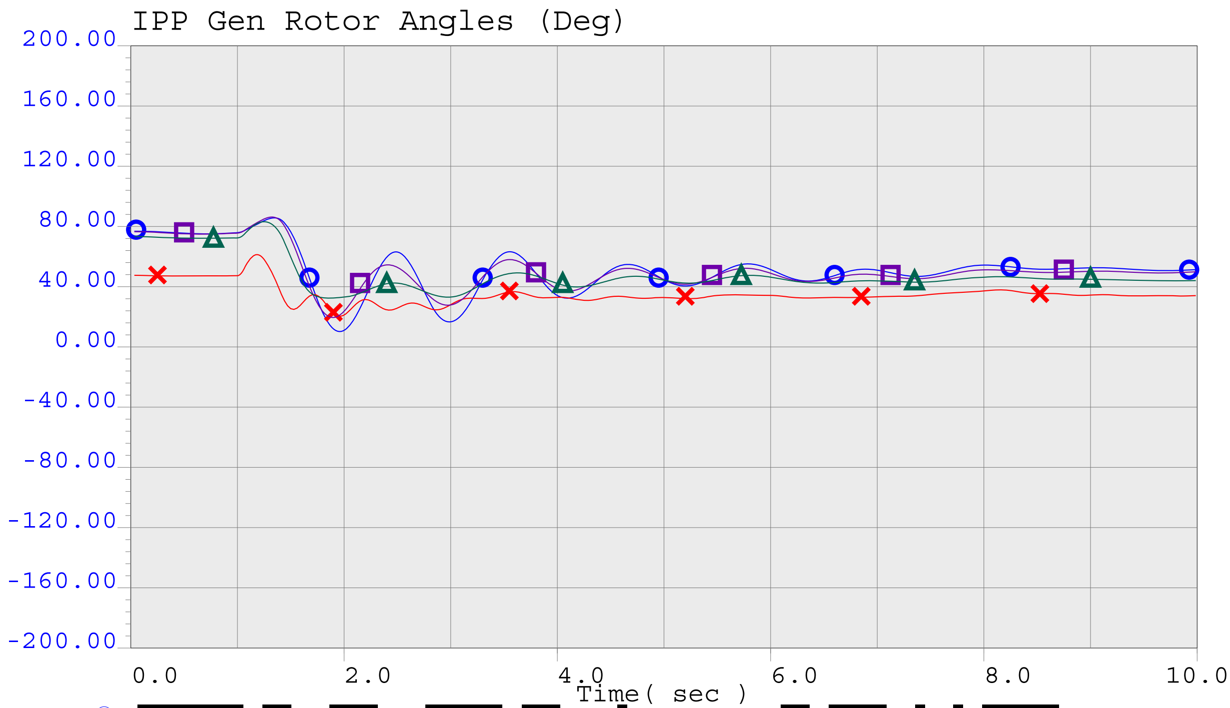
SYSTEM IMPACT STUDY (Rotor Angles)



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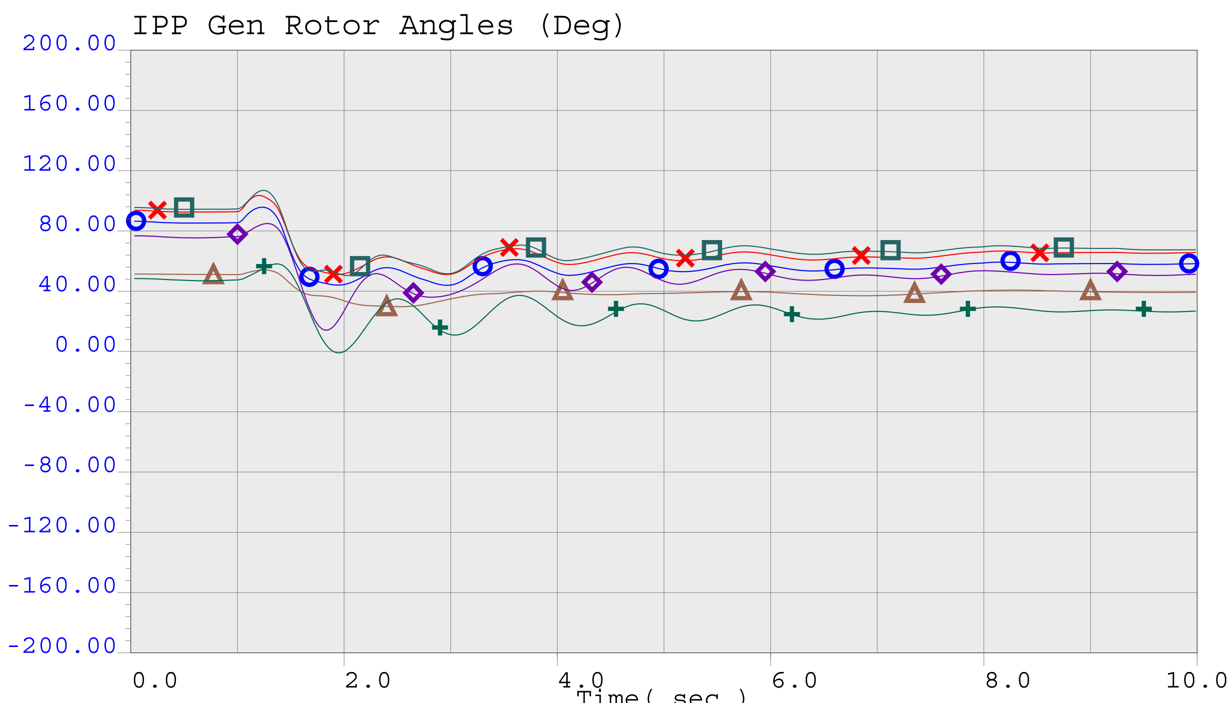

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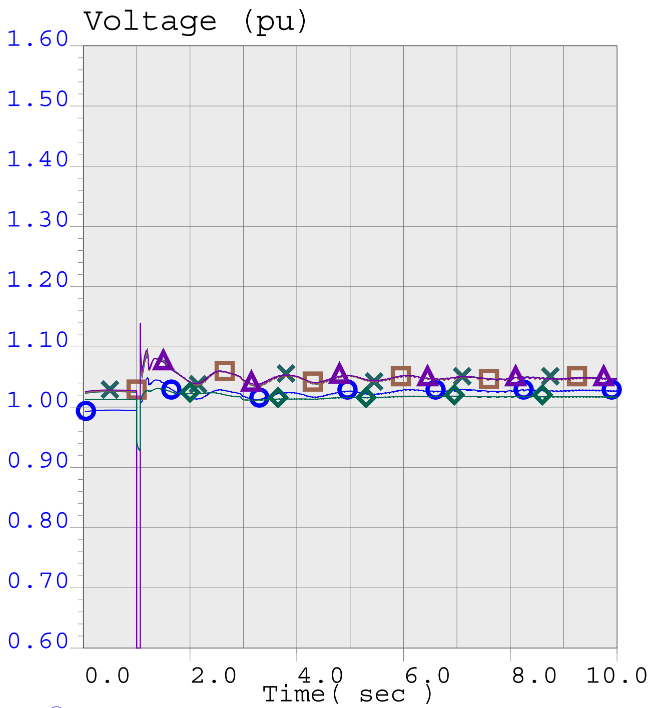

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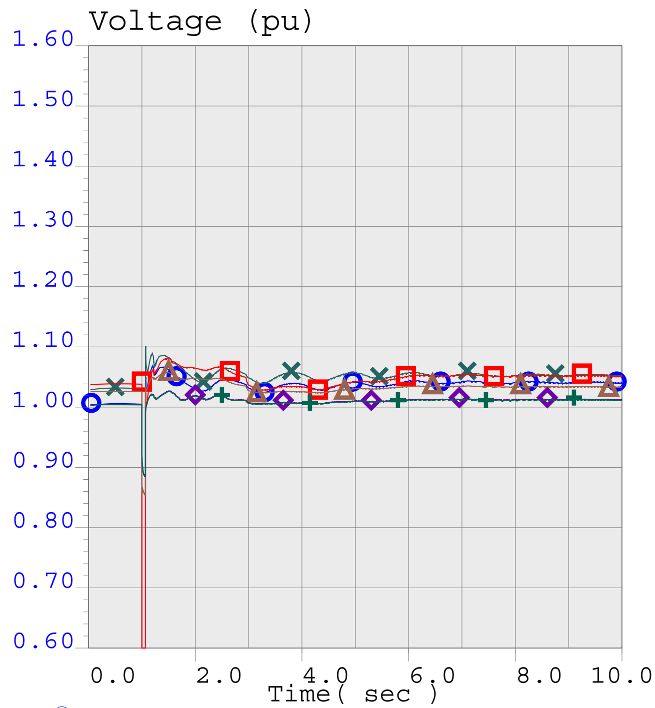

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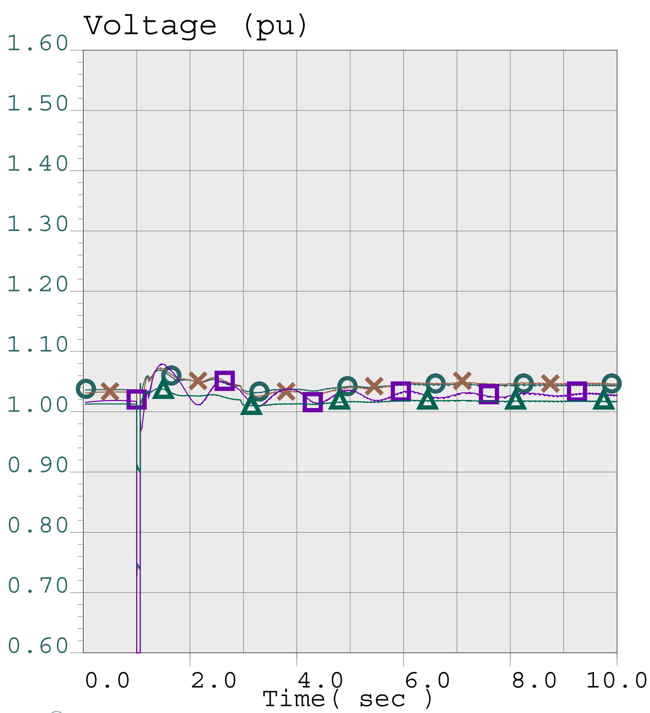

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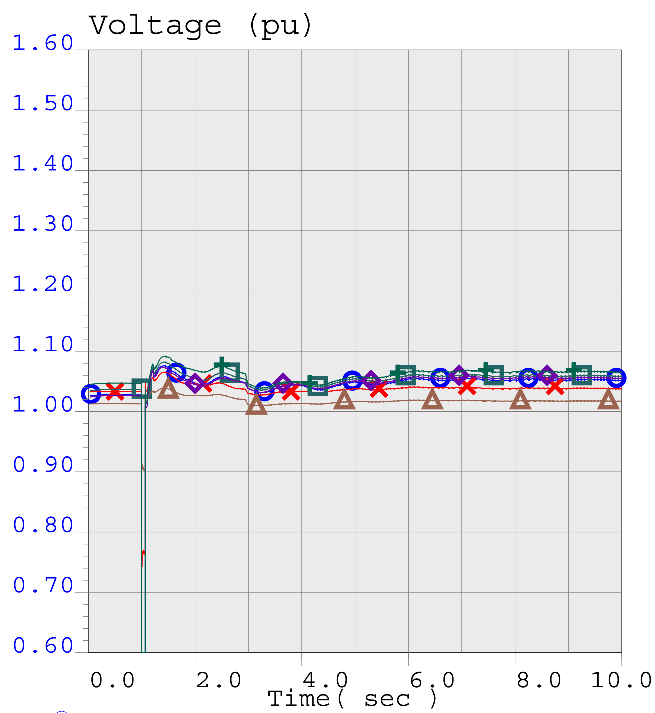

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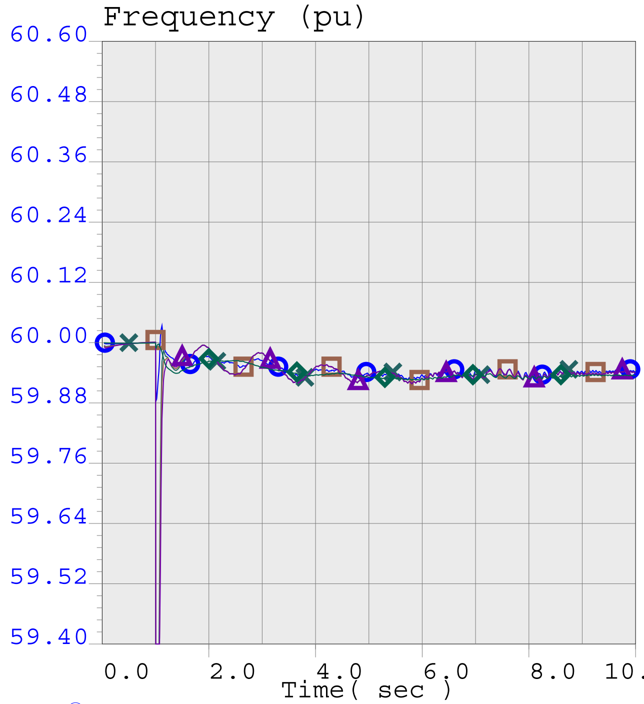

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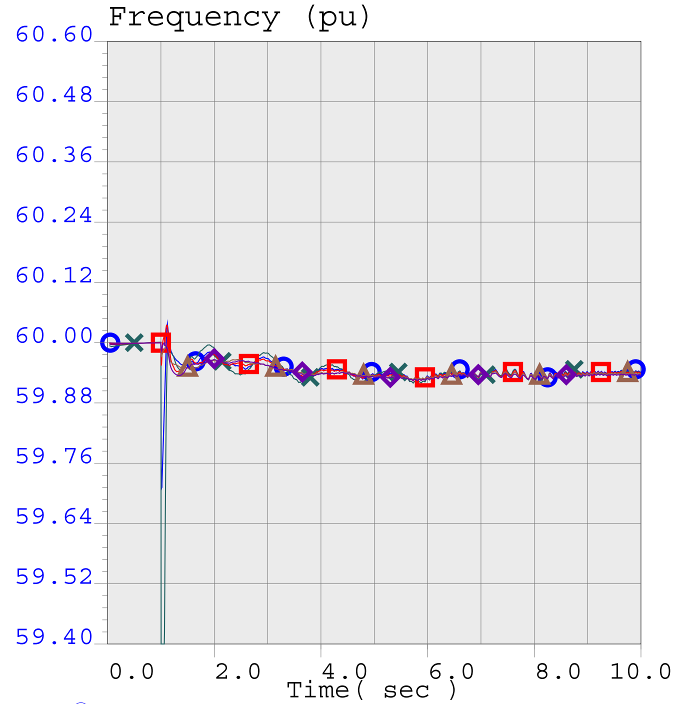

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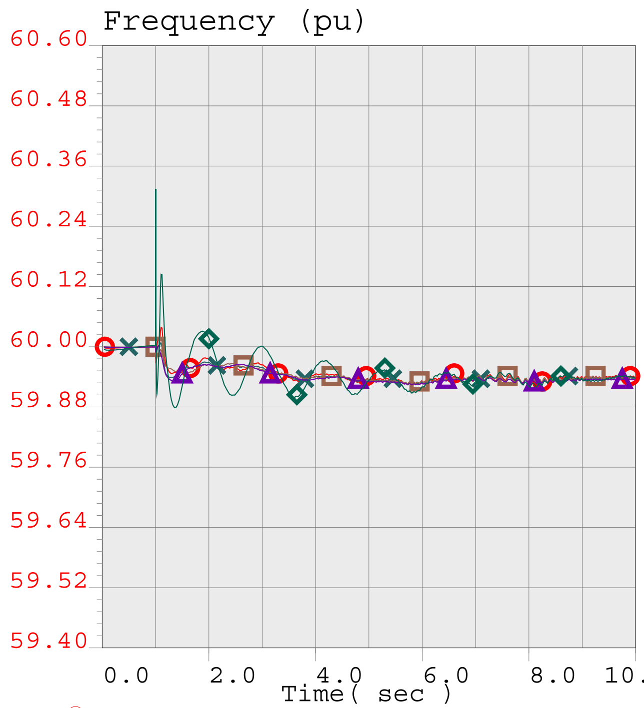

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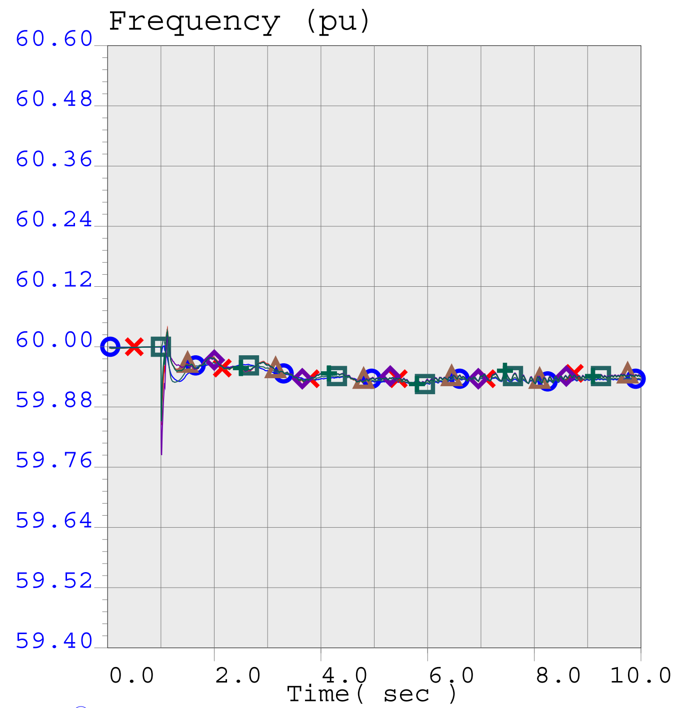

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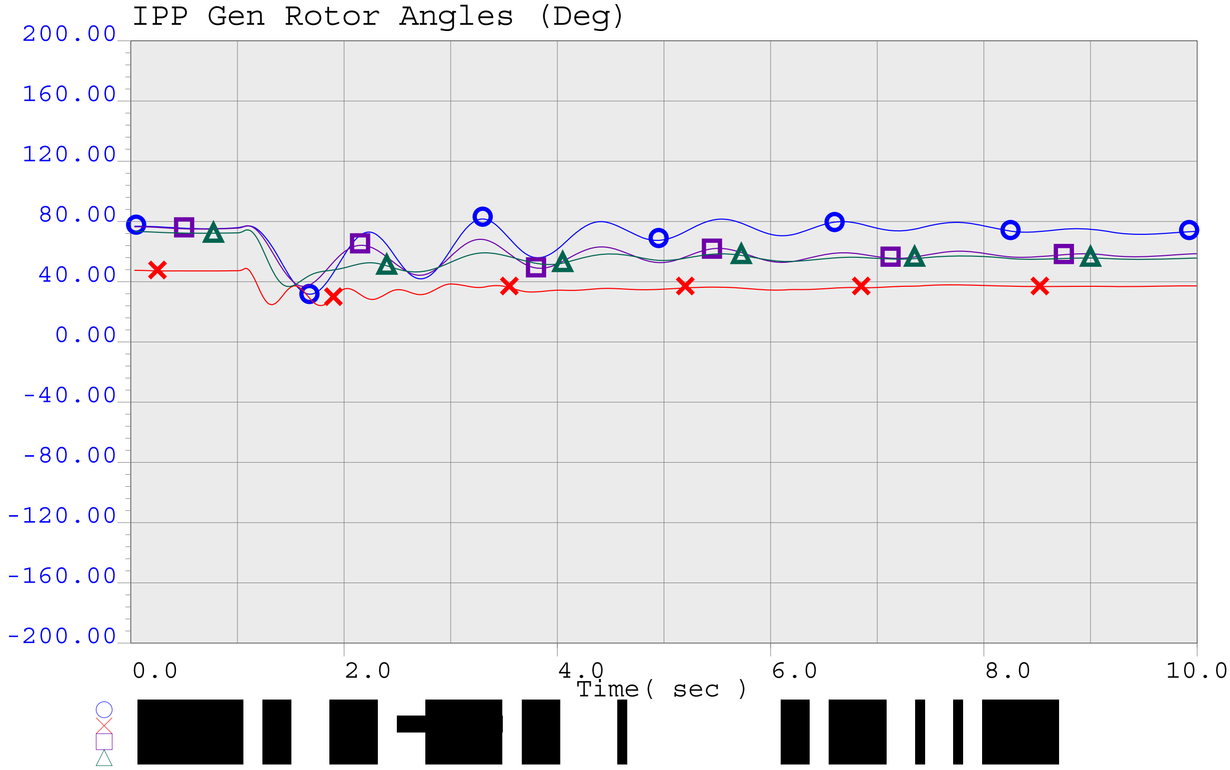
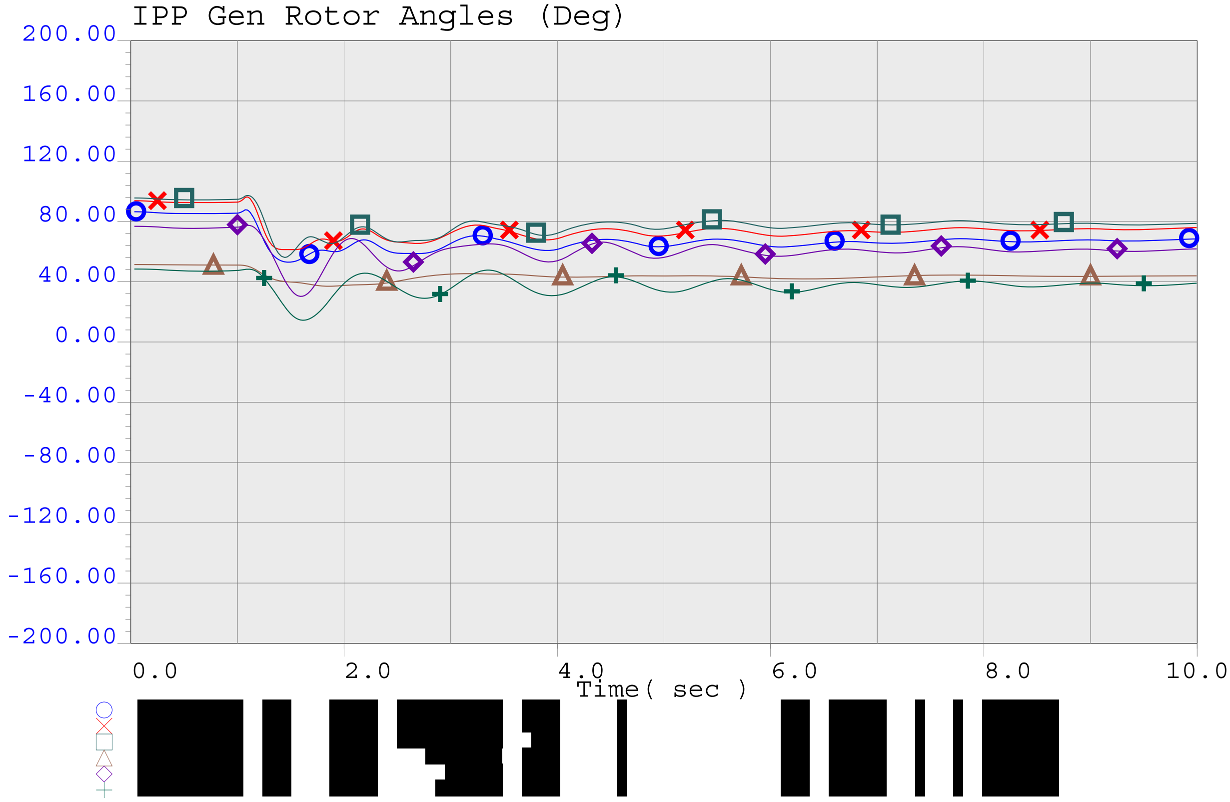
SYSTEM IMPACT STUDY (Rotor Angles)

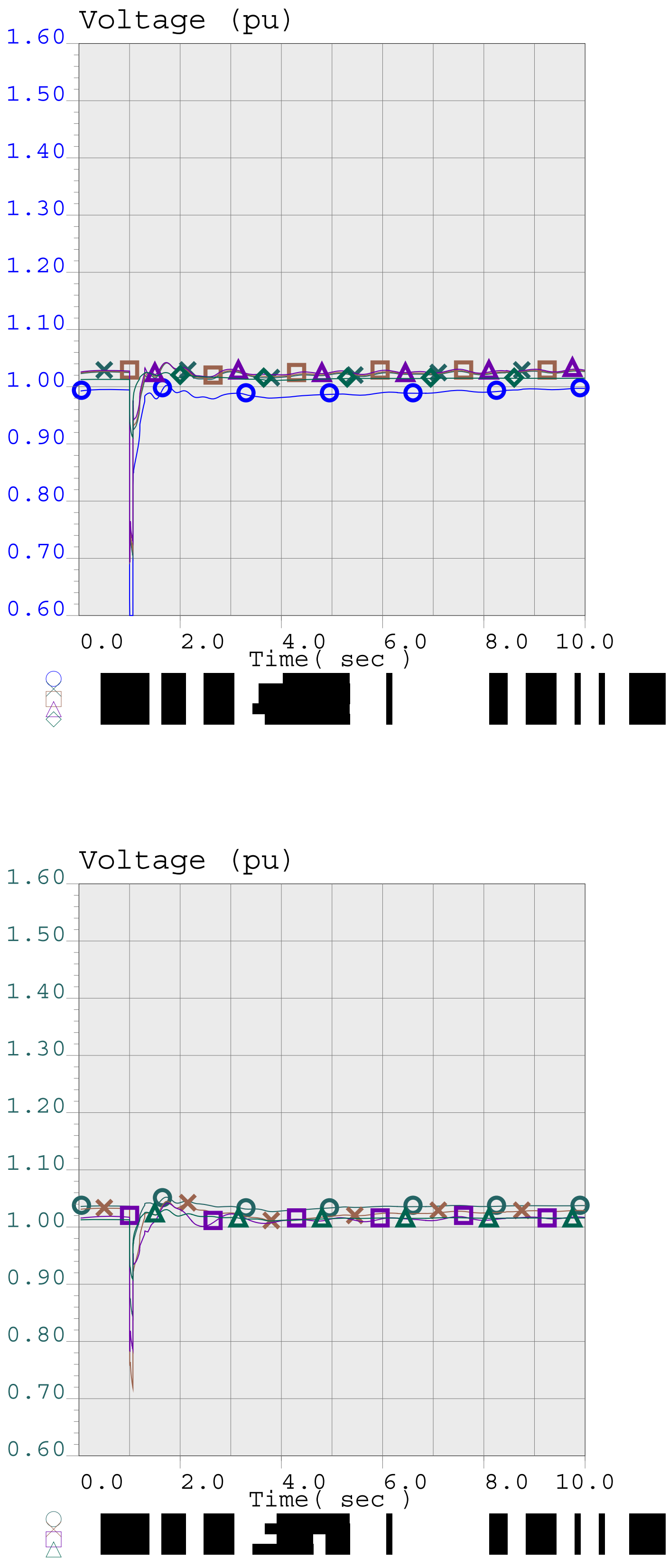
IPP Gen Rotor Angles (Deg)



IPP Gen Rotor Angles (Deg)



SYSTEM IMPACT STUDY (Voltage)



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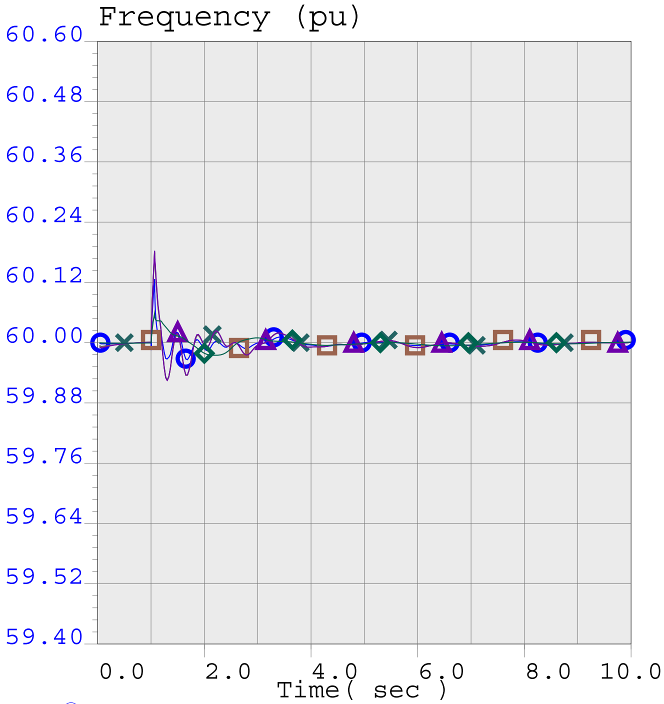
Fri Aug 26 08:38:57 2022

SYSTEM IMPACT STUDY (Frequency)



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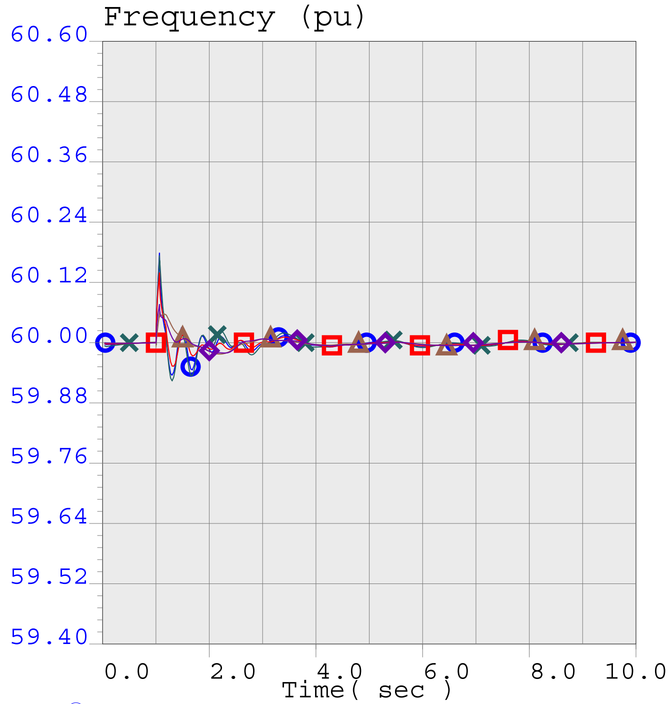

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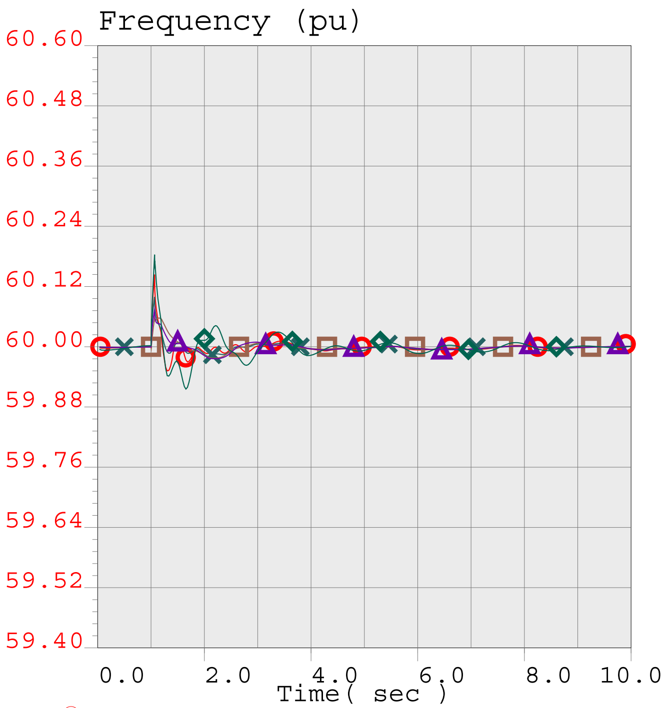

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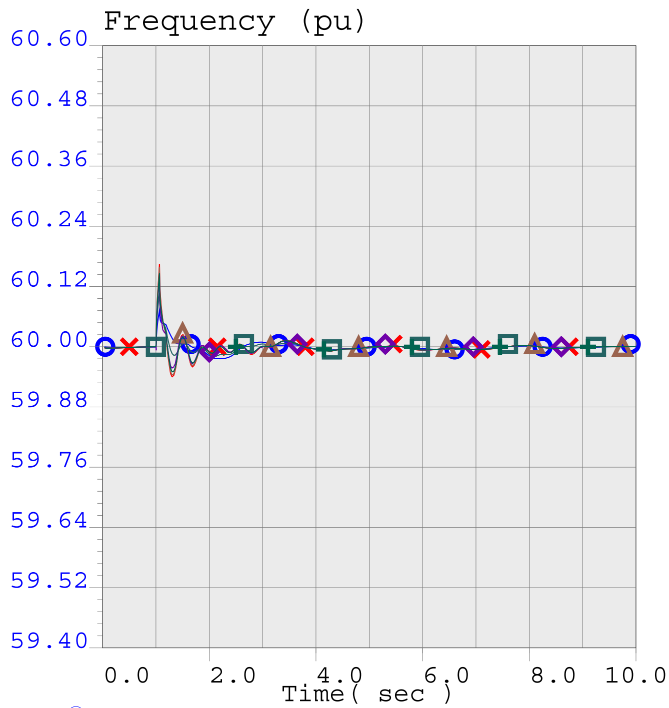

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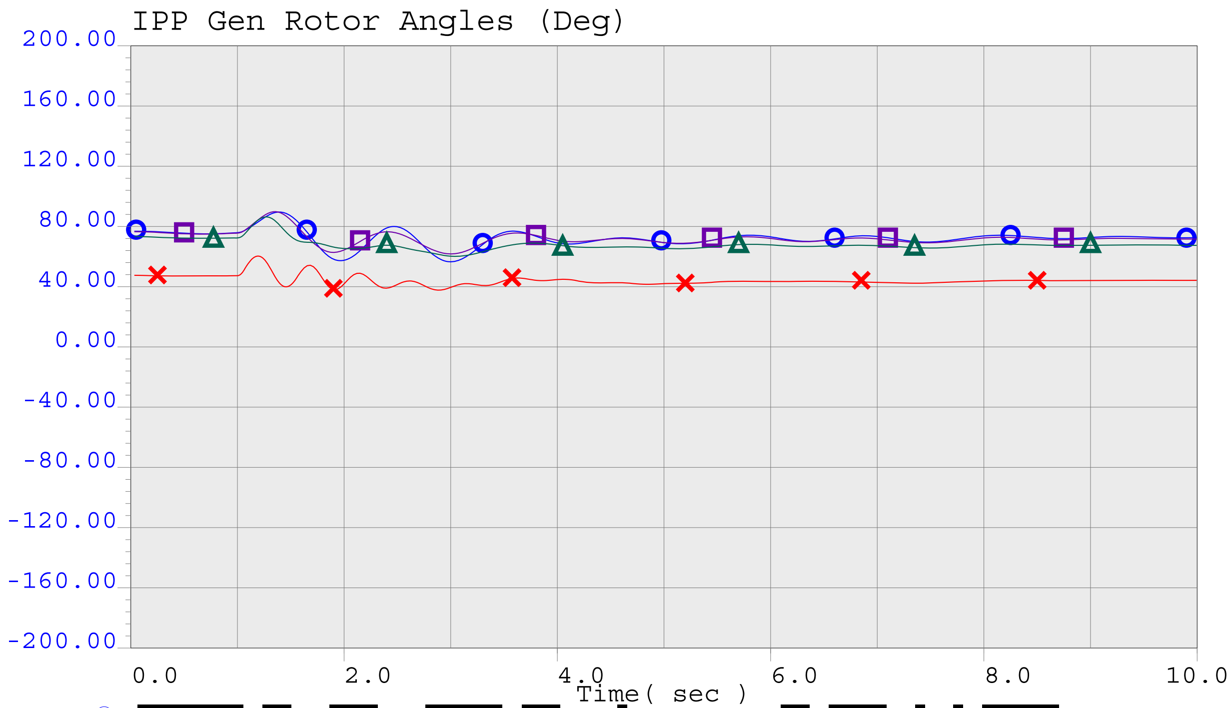
Fri Aug 26 08:38:57 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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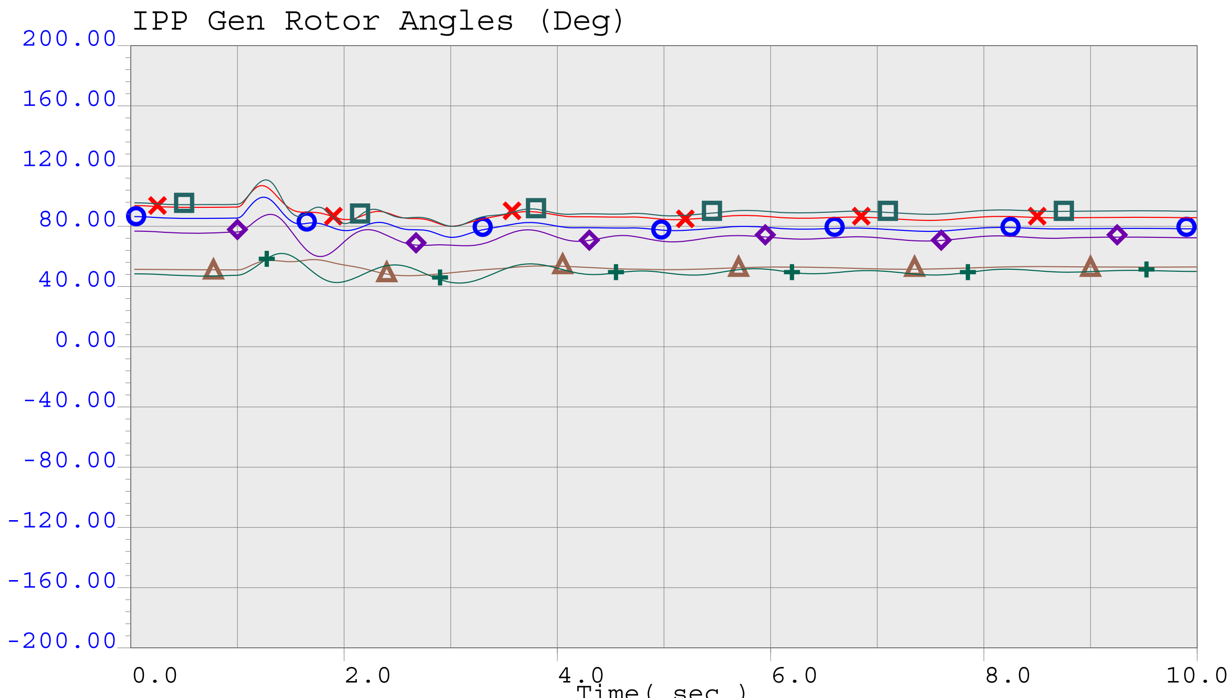

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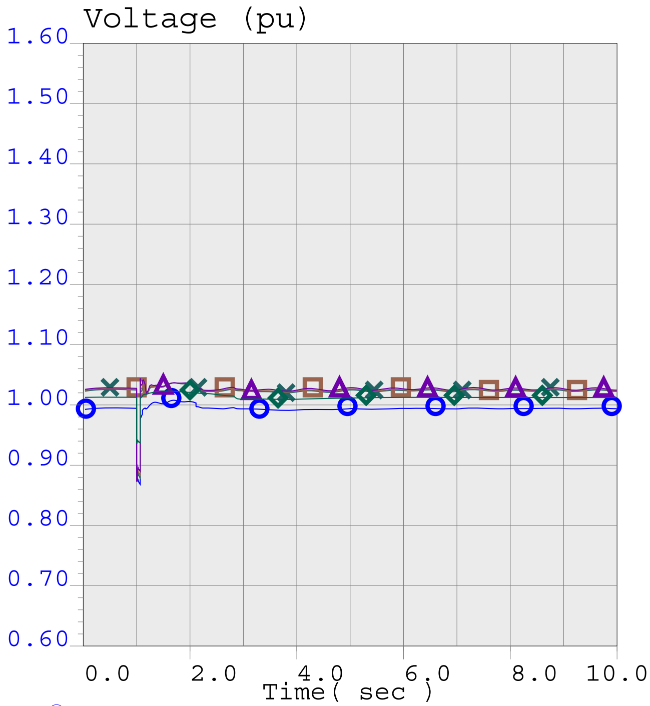
SYSTEM IMPACT STUDY (Voltage)



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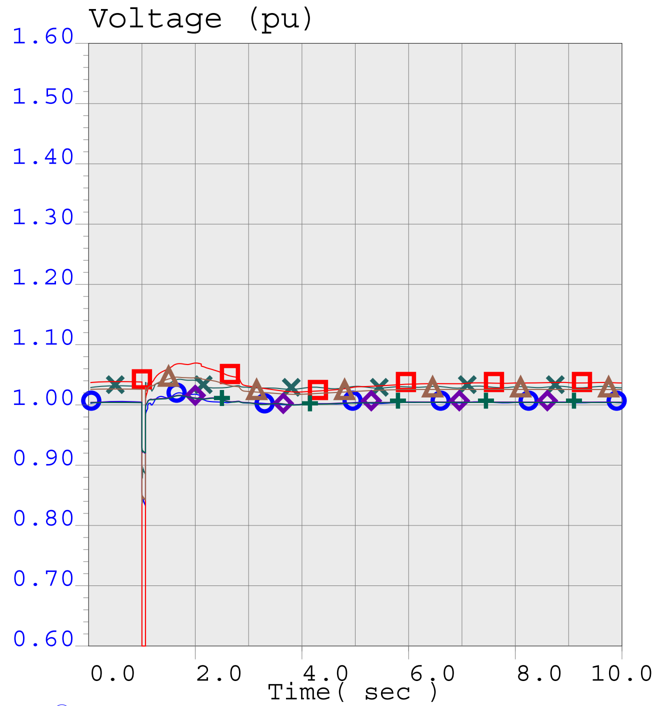

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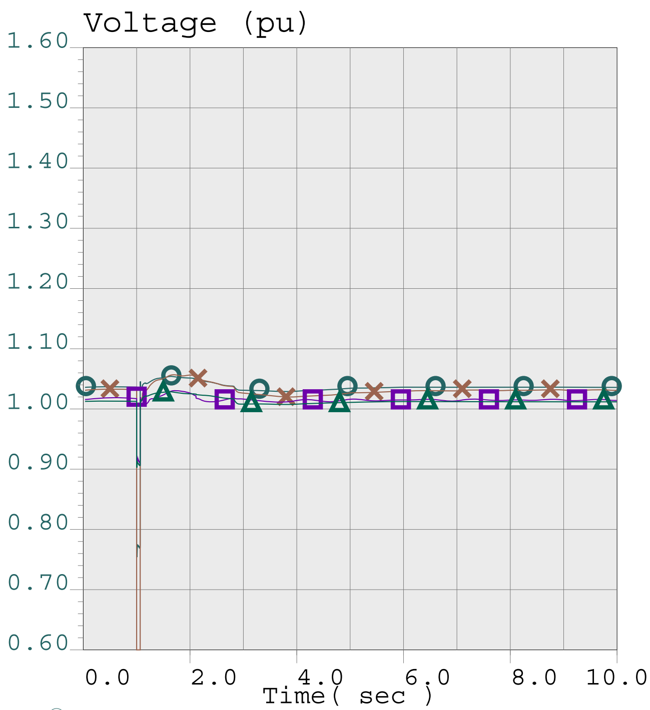

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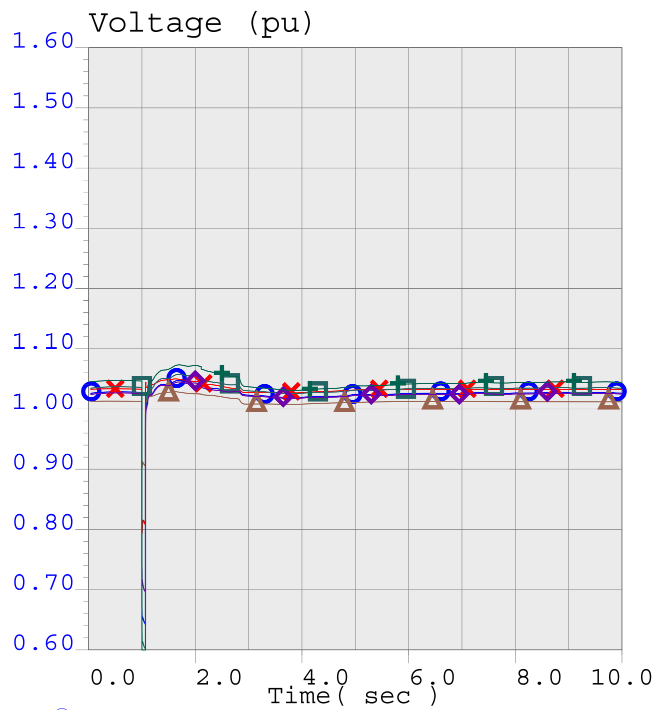

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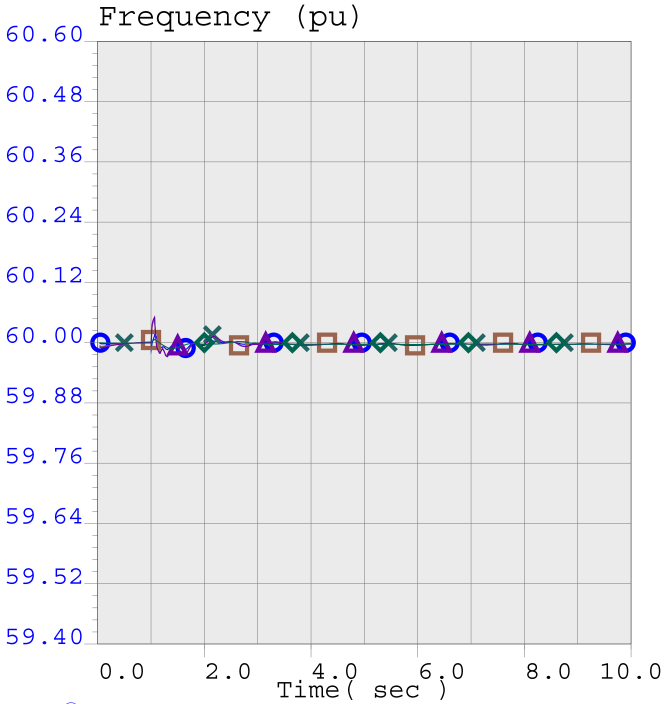
Fri Aug 26 08:38:59 2022

SYSTEM IMPACT STUDY (Frequency)



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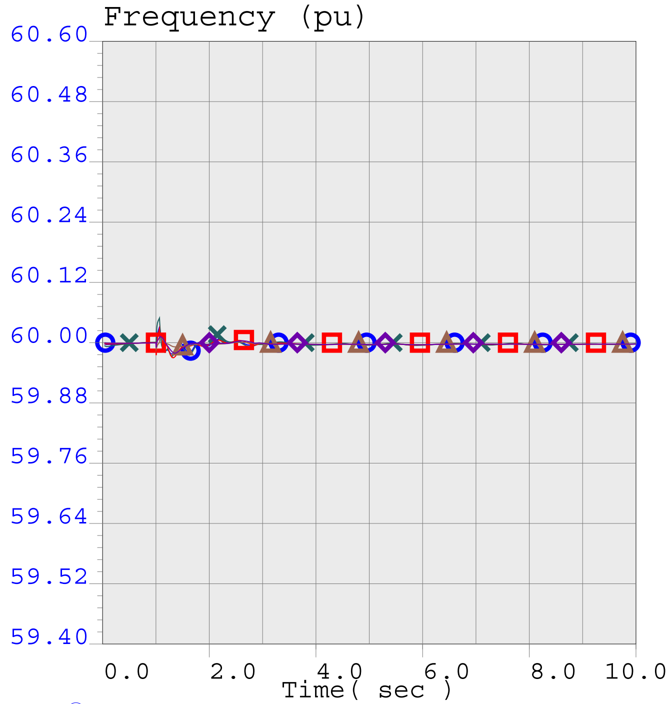

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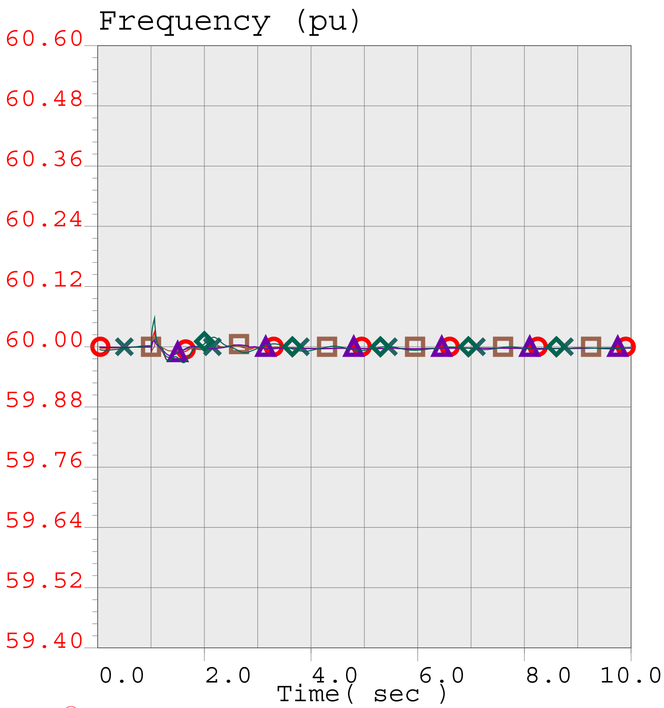

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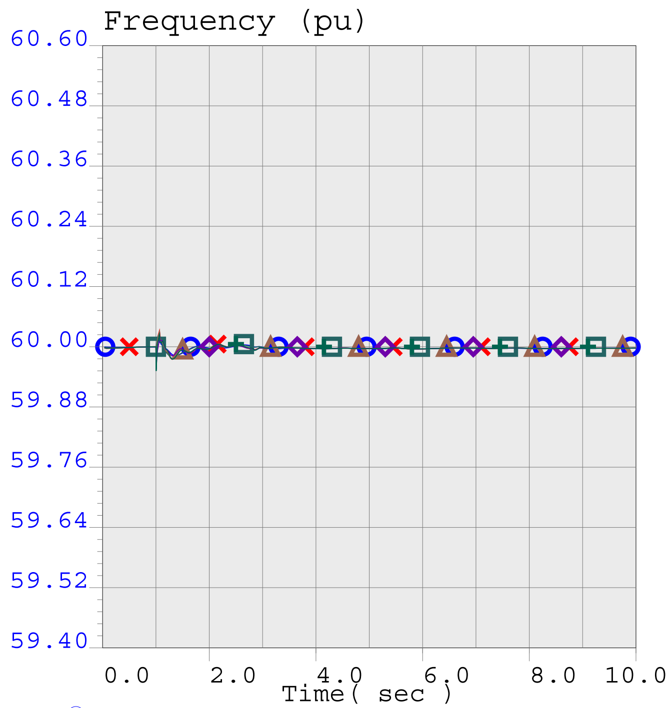

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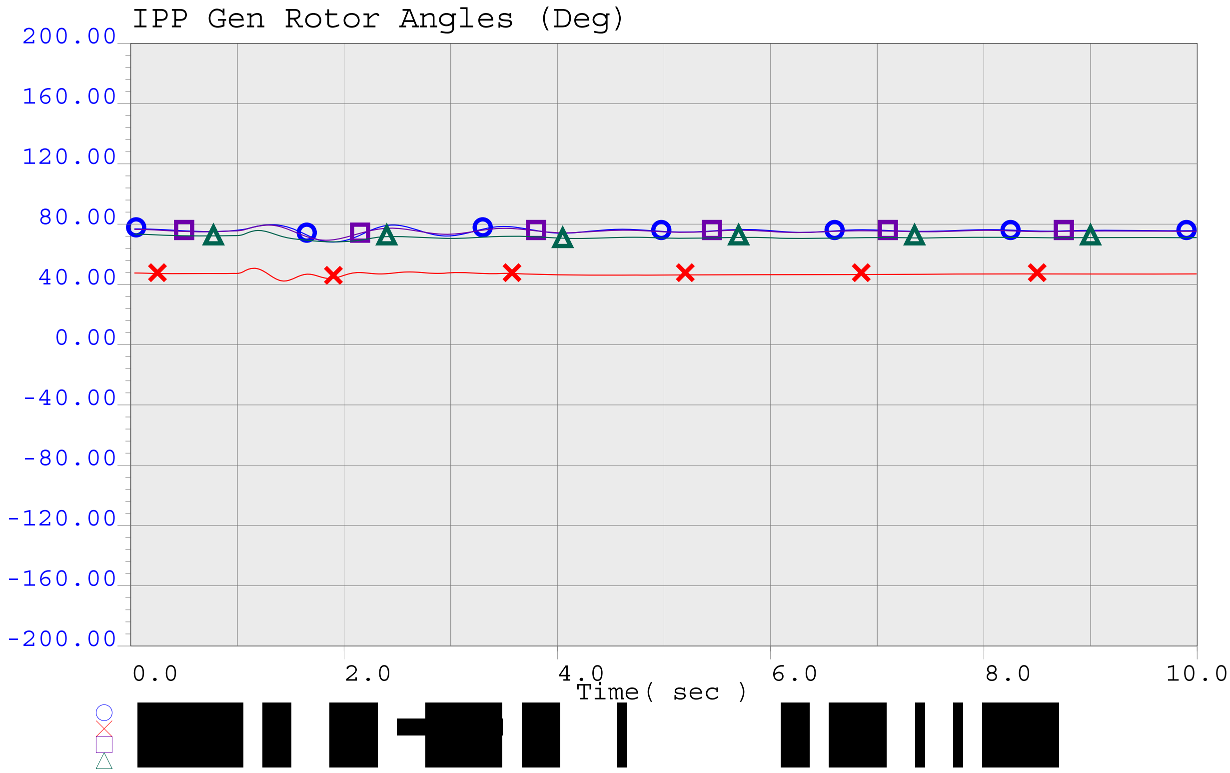
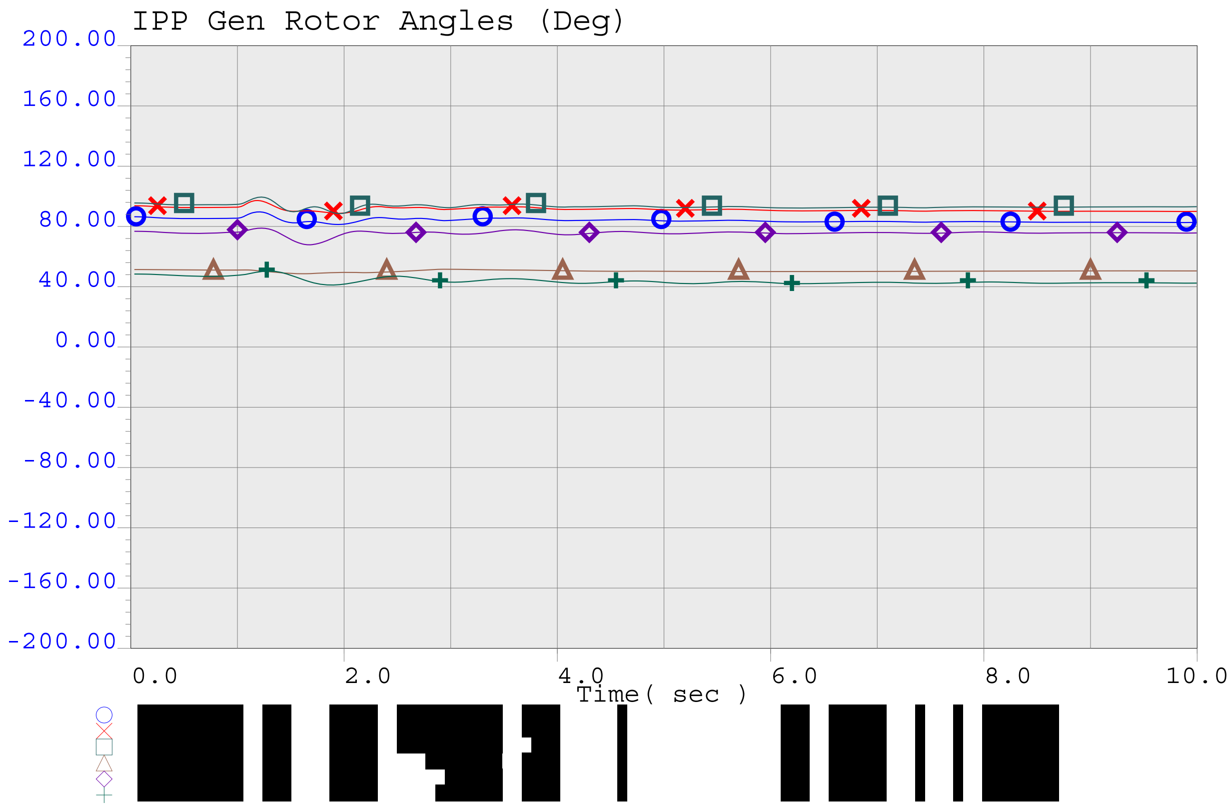
SYSTEM IMPACT STUDY (Rotor Angles)





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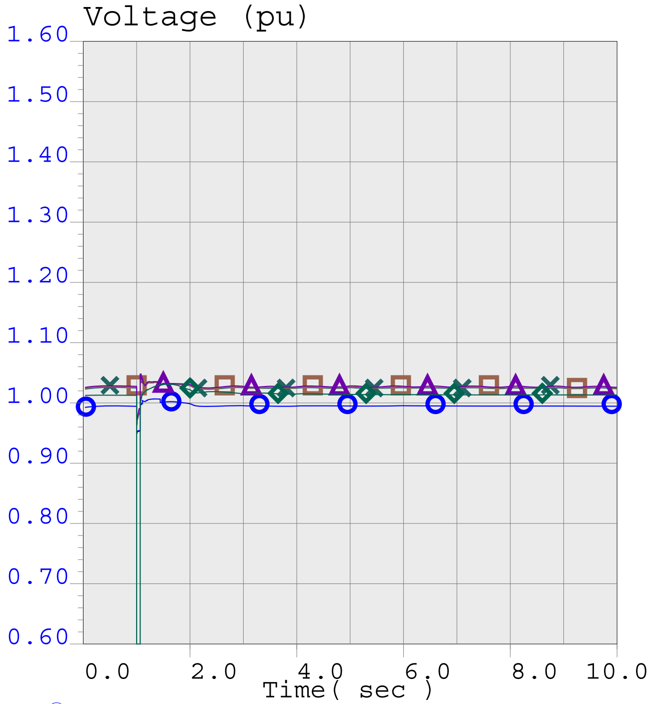
Fri Aug 26 08:38:59 2022

SYSTEM IMPACT STUDY (Voltage)



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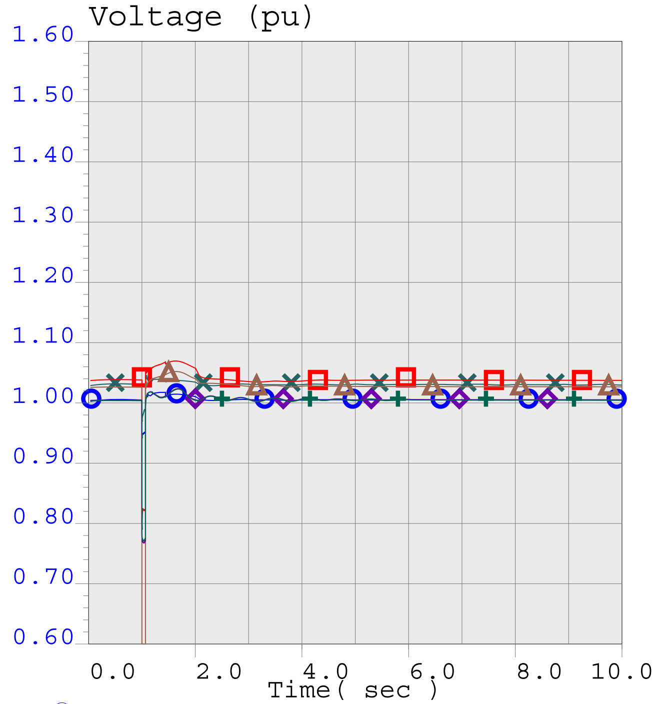

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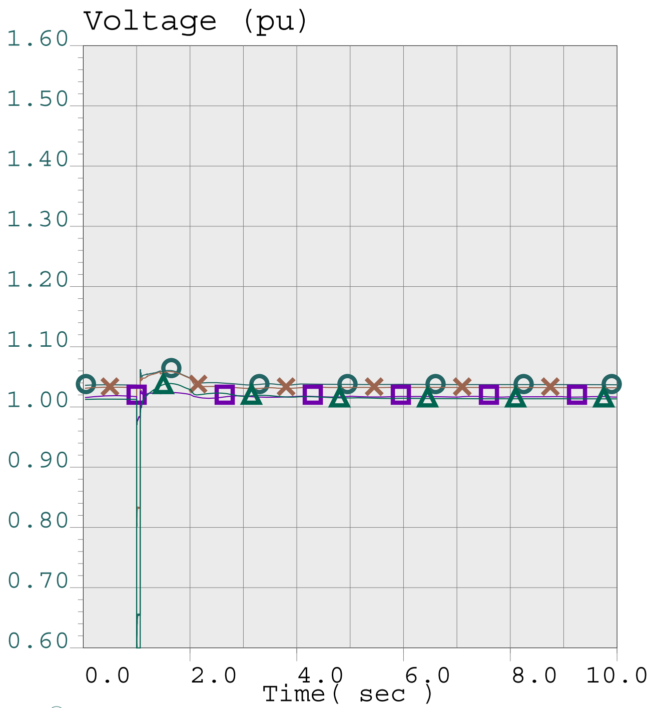

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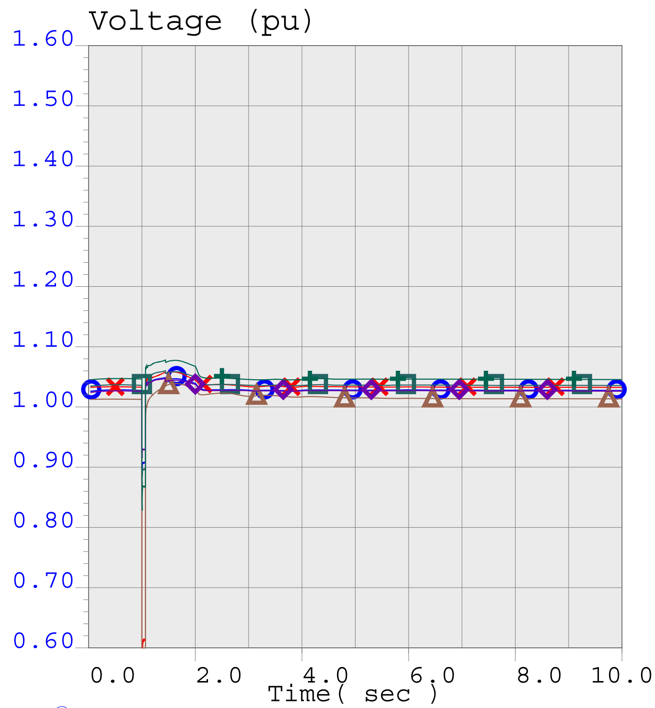

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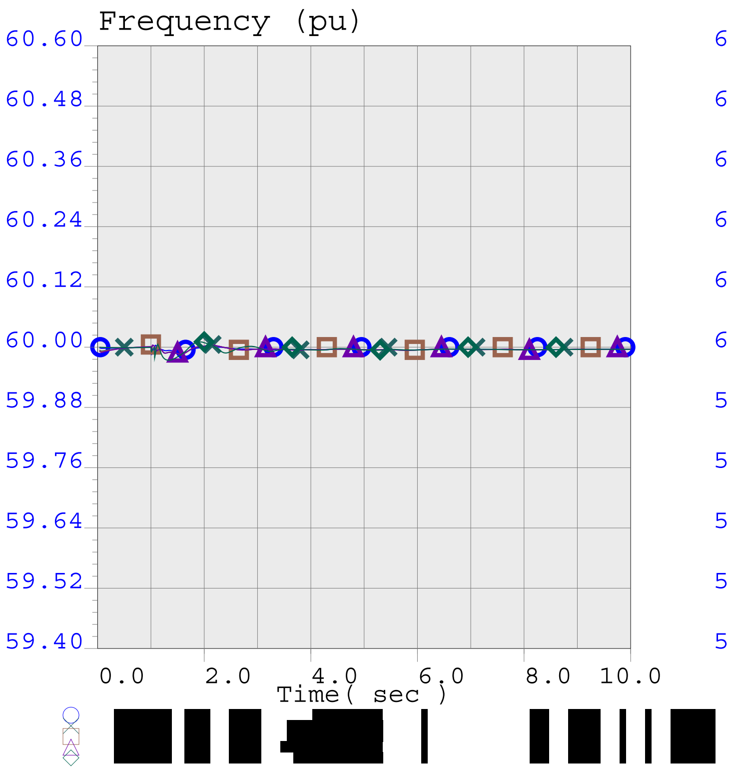
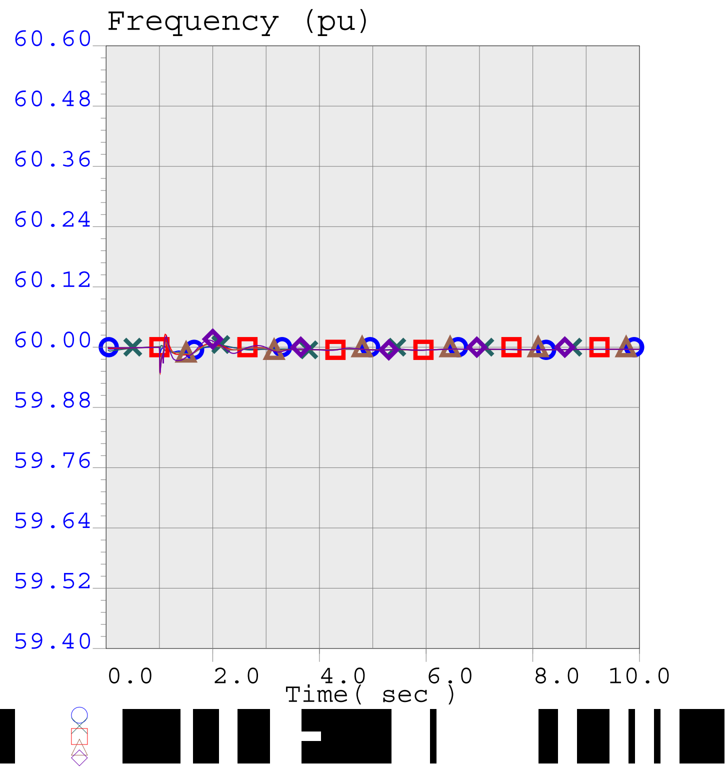
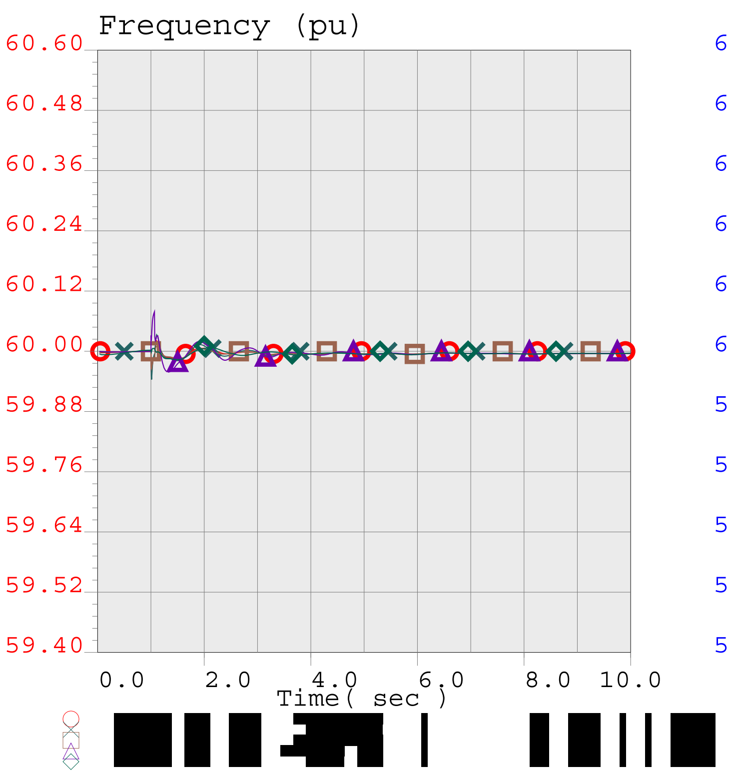
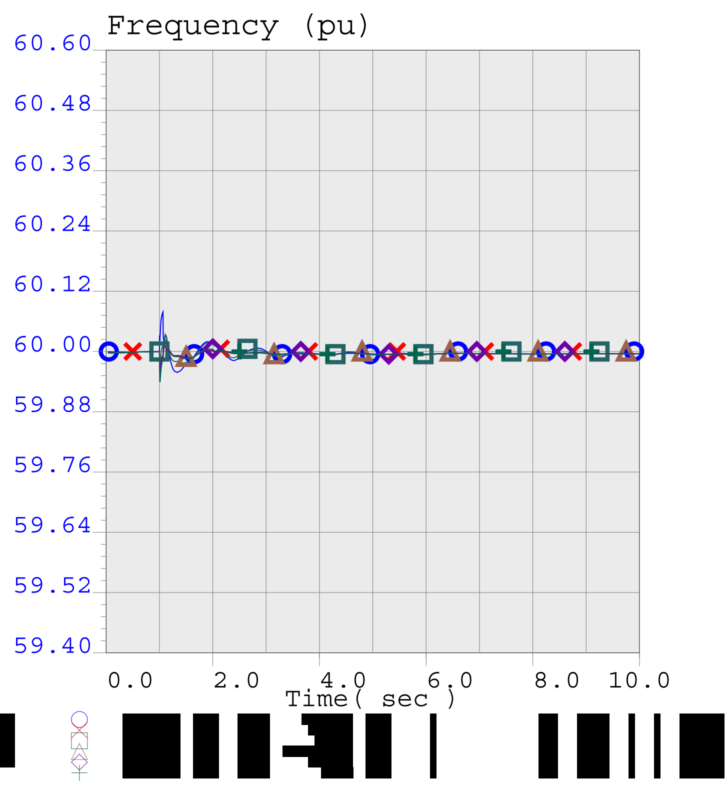
Fri Aug 26 08:39:01 2022

SYSTEM IMPACT STUDY (Frequency)









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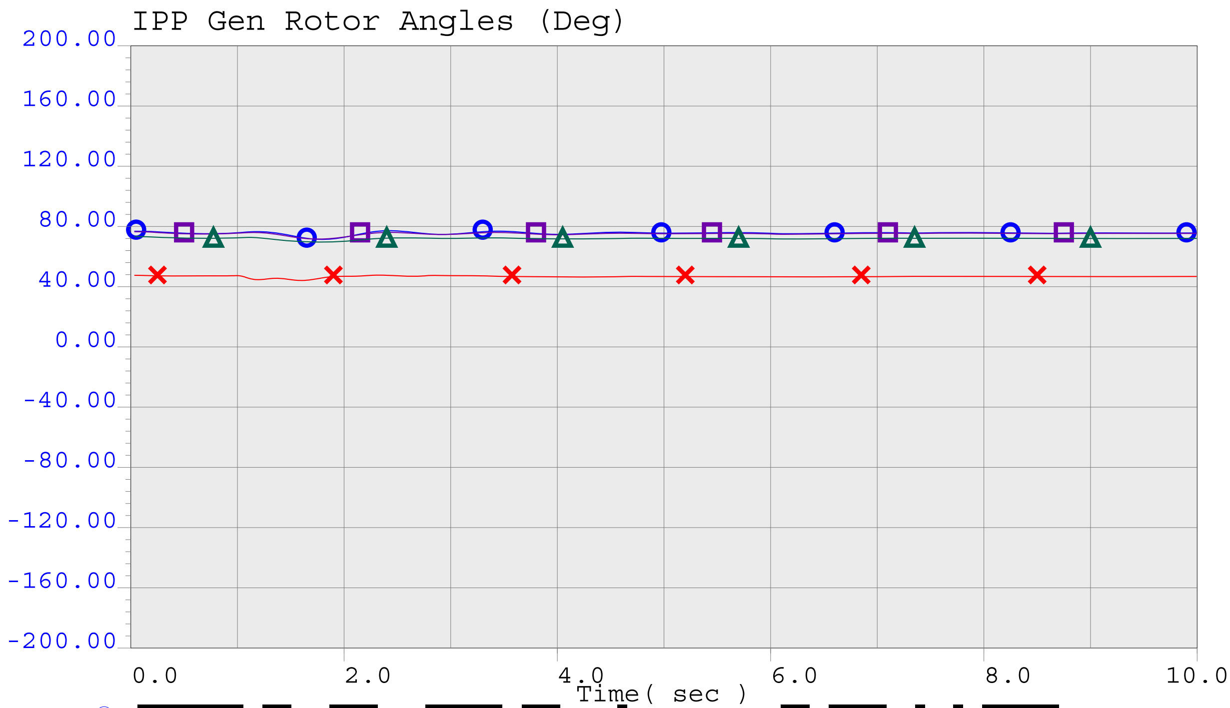
Fri Aug 26 08:39:01 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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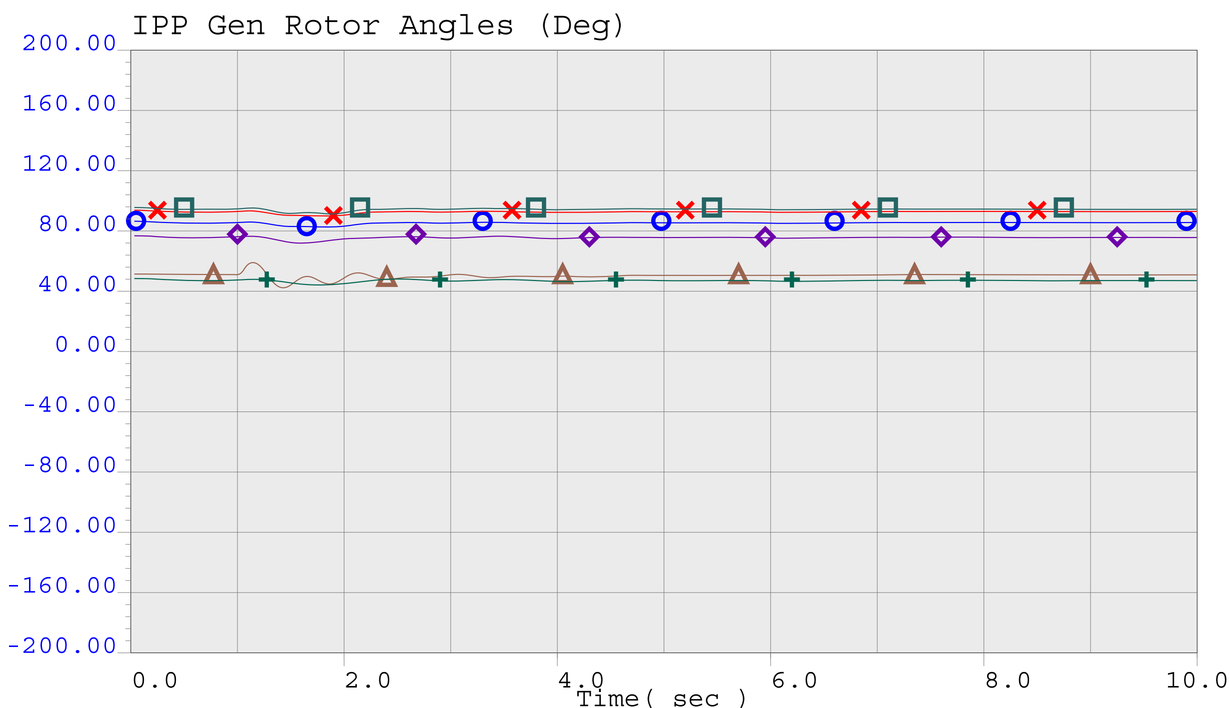

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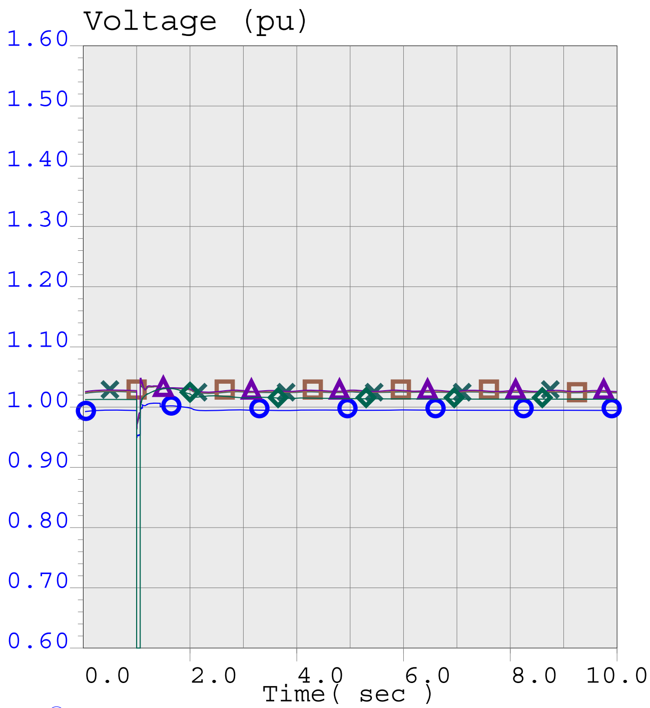
SYSTEM IMPACT STUDY (Voltage)



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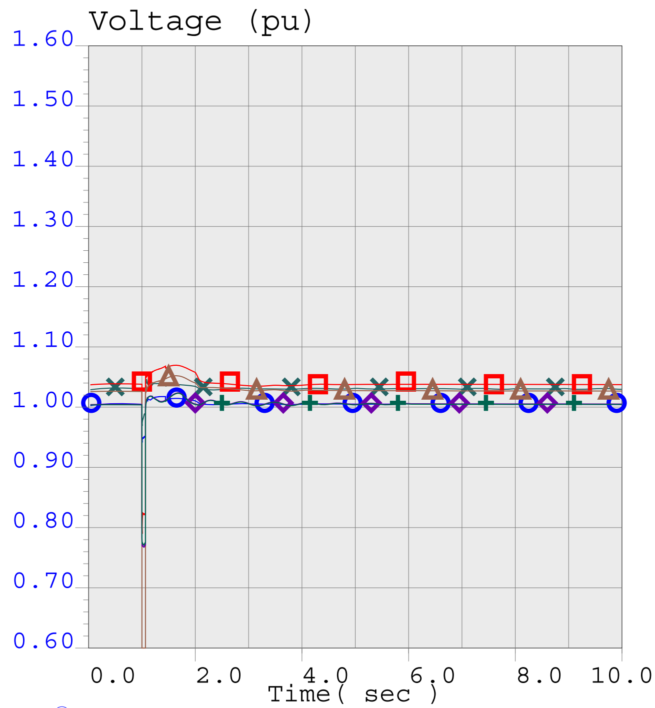

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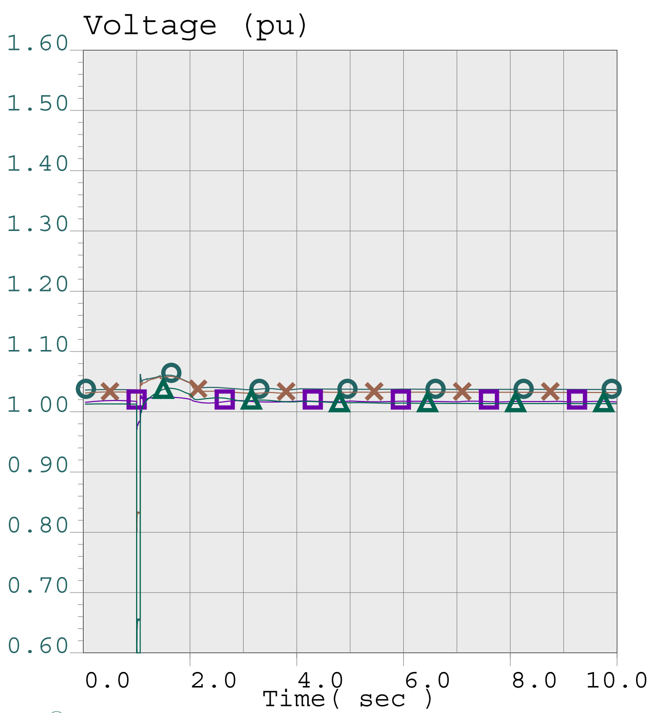

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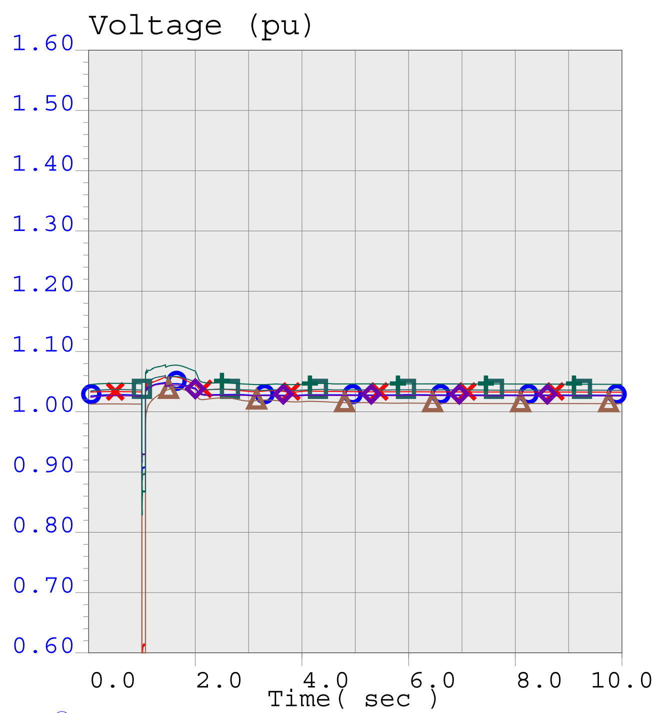

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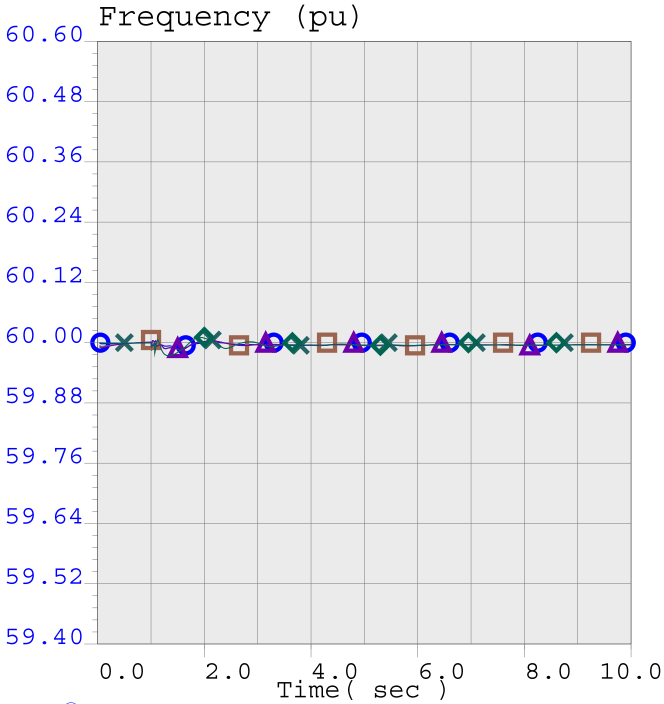
Fri Aug 26 08:39:03 2022

SYSTEM IMPACT STUDY (Frequency)



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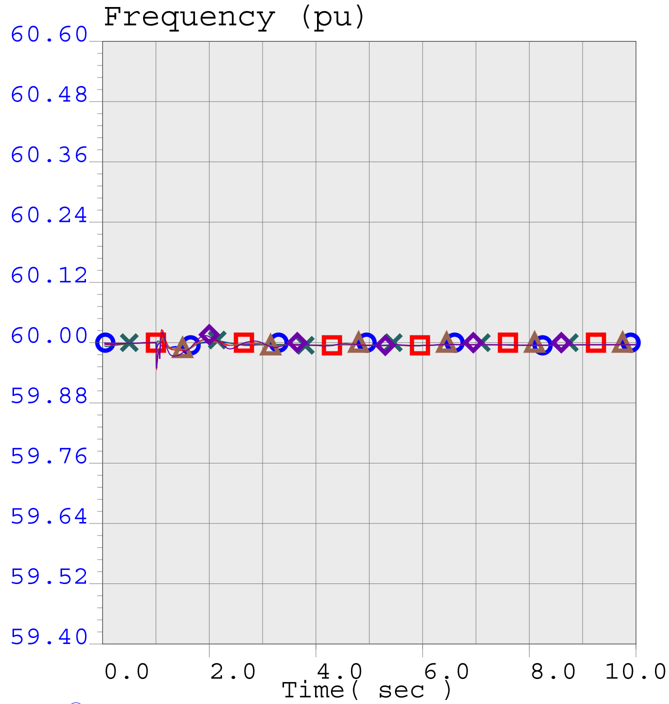

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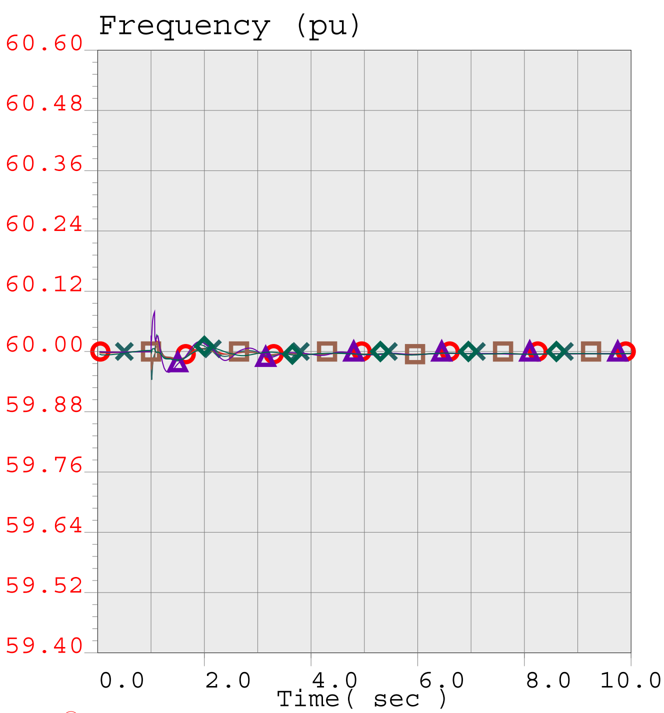

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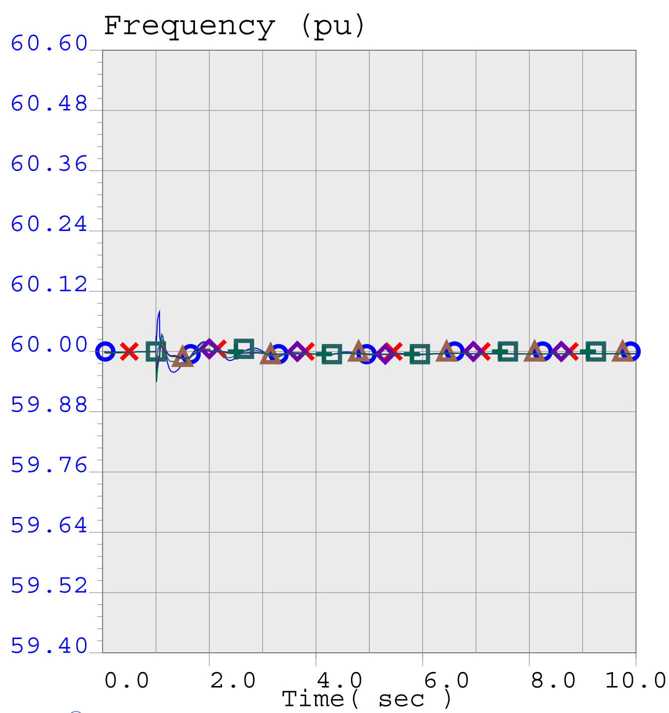

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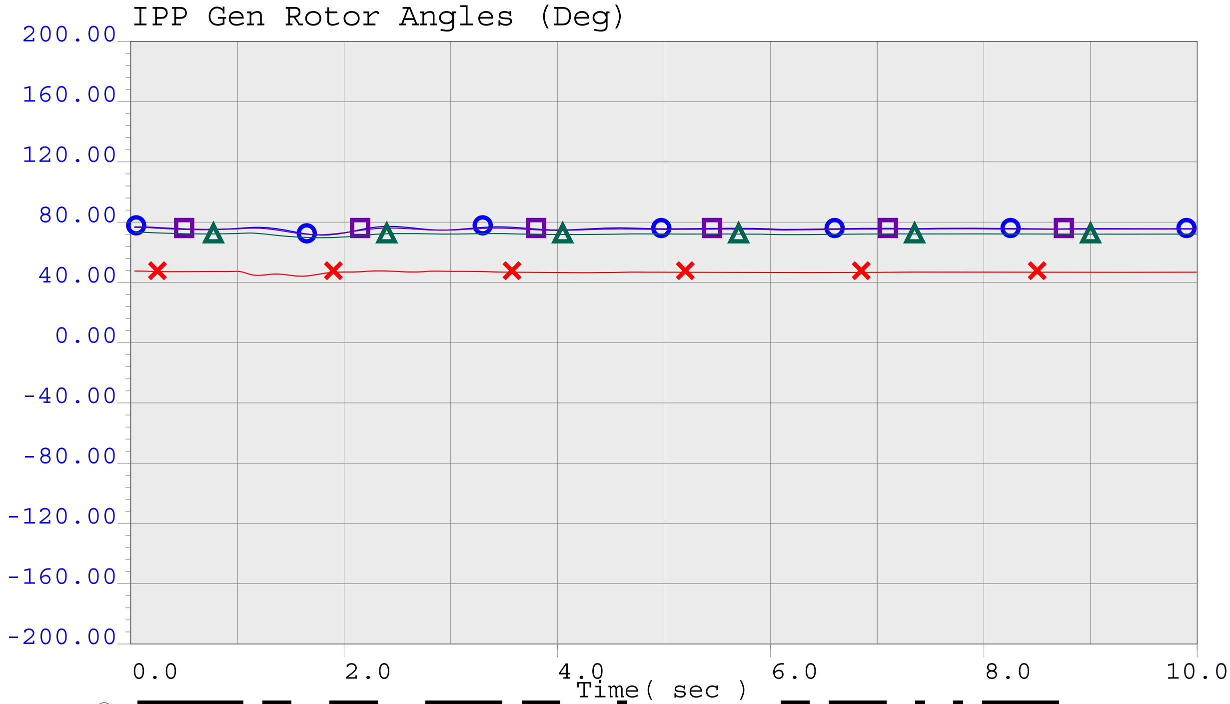
Fri Aug 26 08:39:03 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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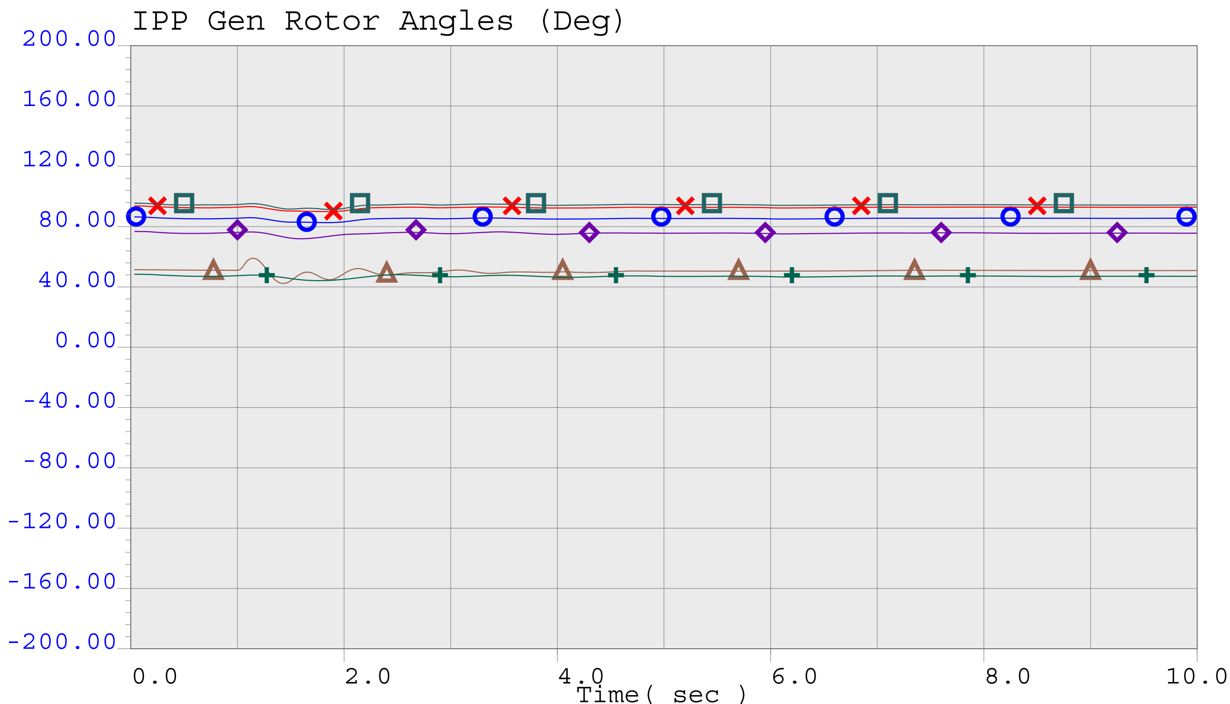

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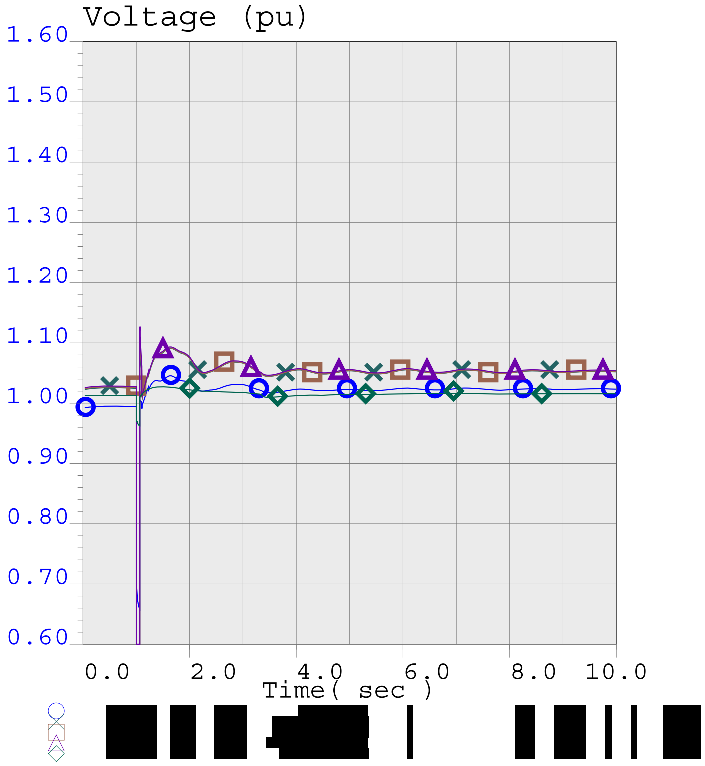
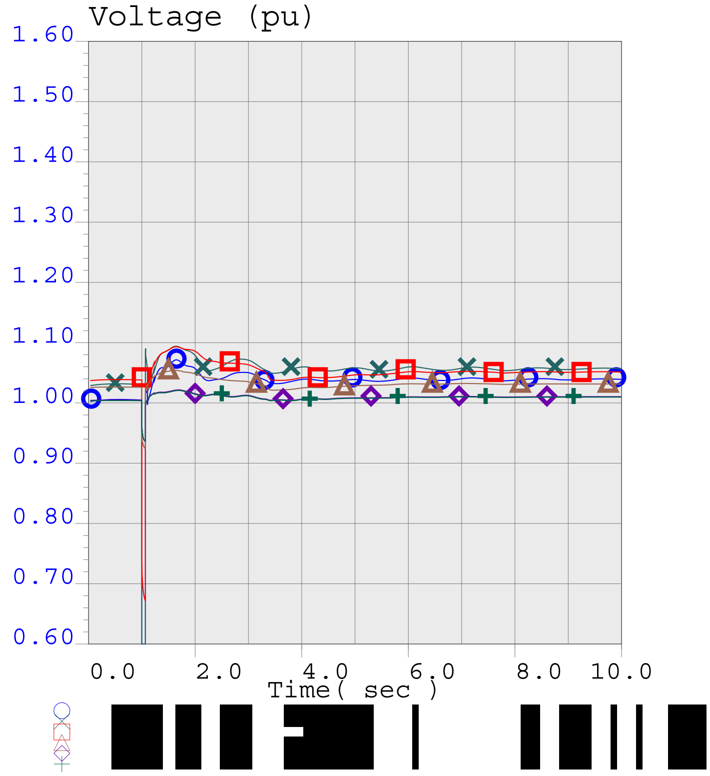
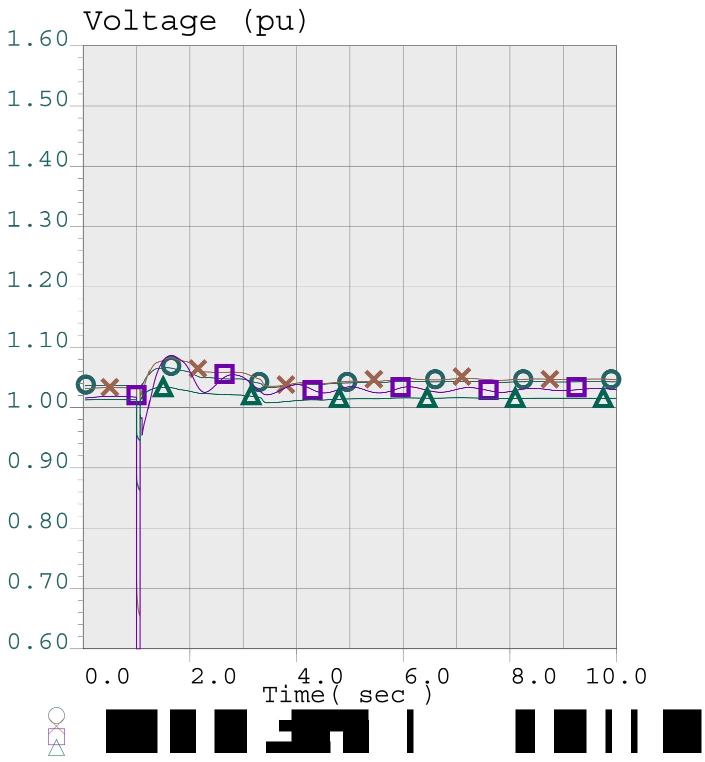
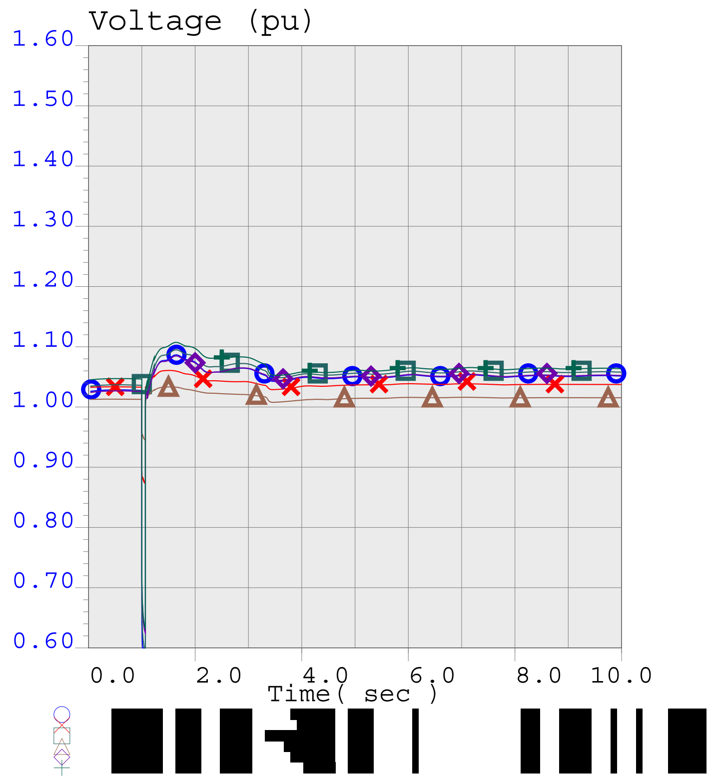
Fri Aug 26 08:39:03 2022

SYSTEM IMPACT STUDY (Voltage)









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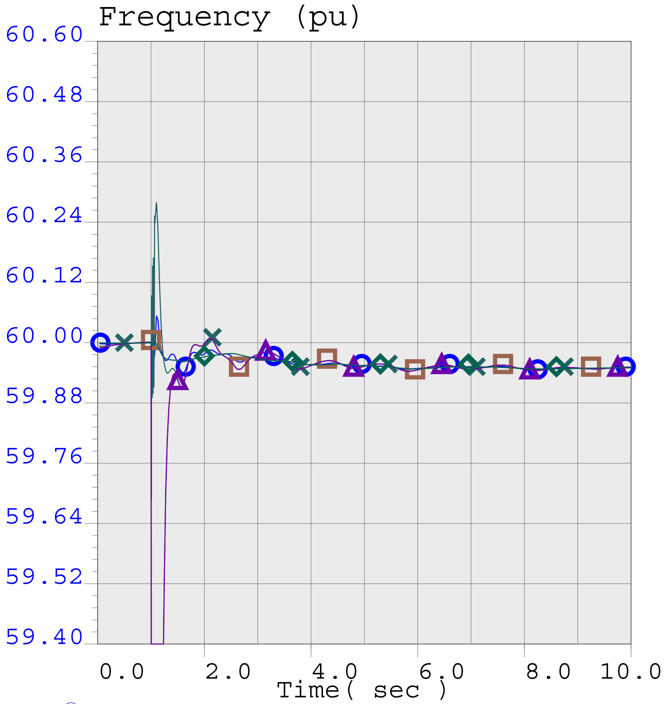
Fri Aug 26 08:39:06 2022

SYSTEM IMPACT STUDY (Frequency)



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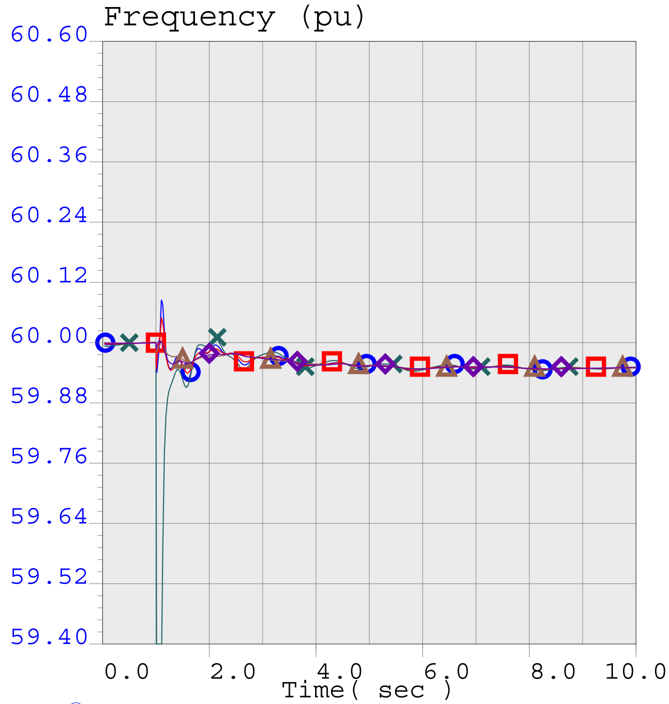

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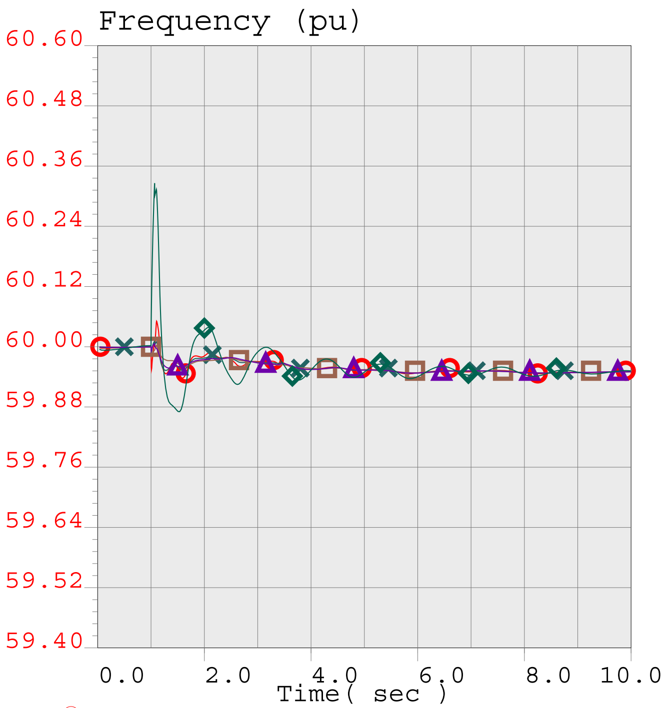

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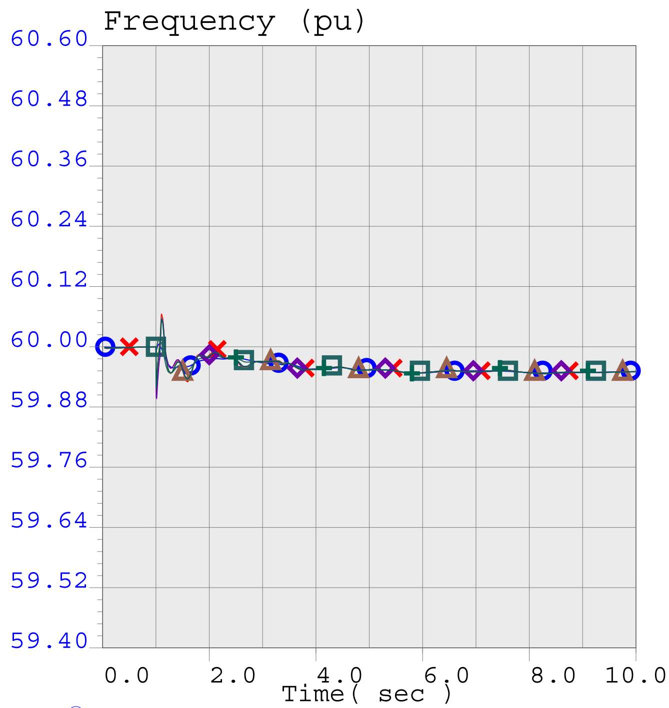

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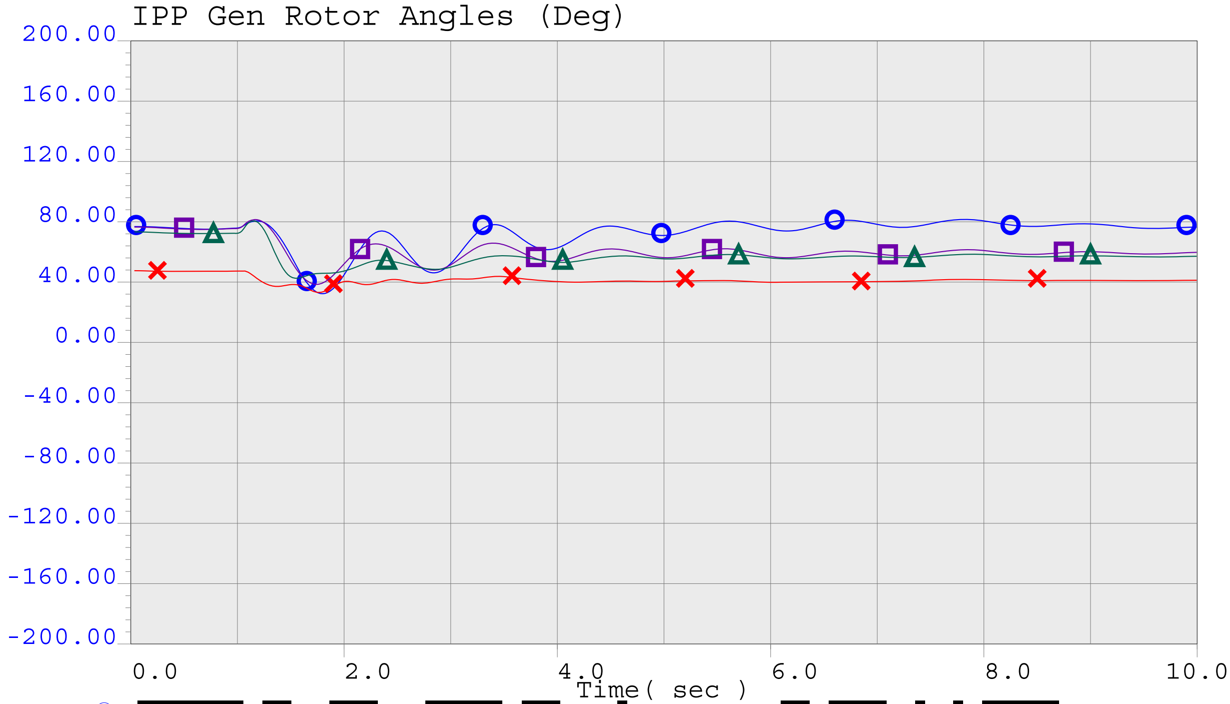
Fri Aug 26 08:39:06 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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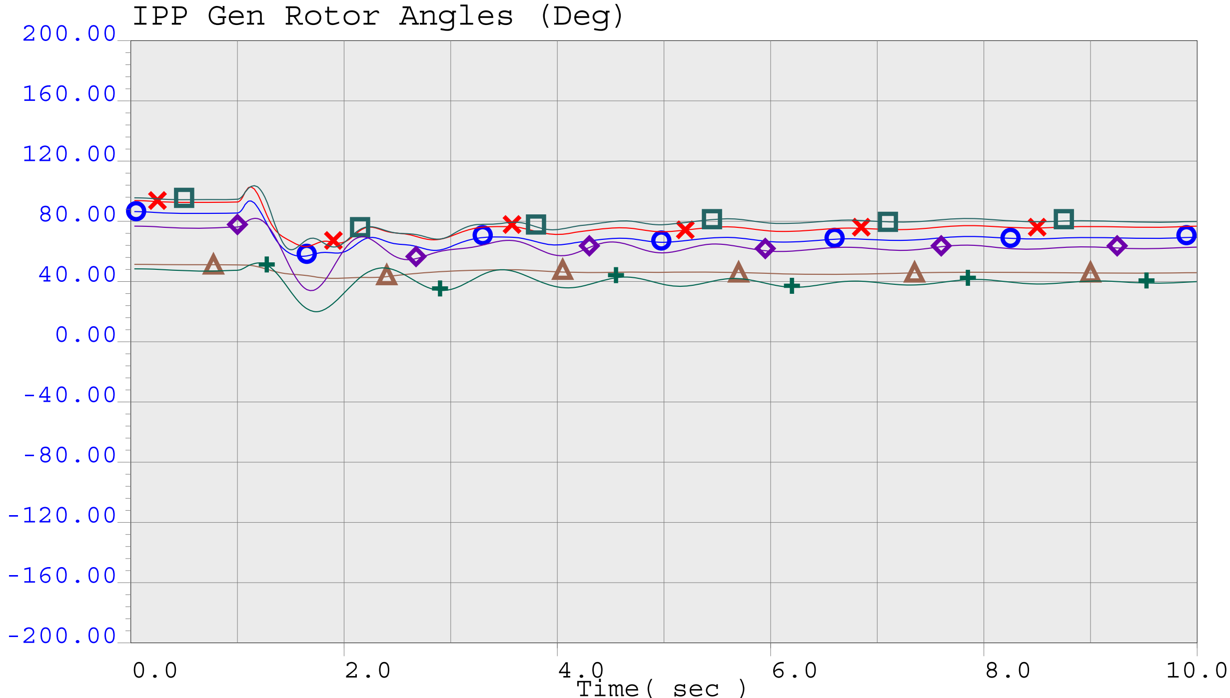
IPP Gen Rotor Angles (Deg)



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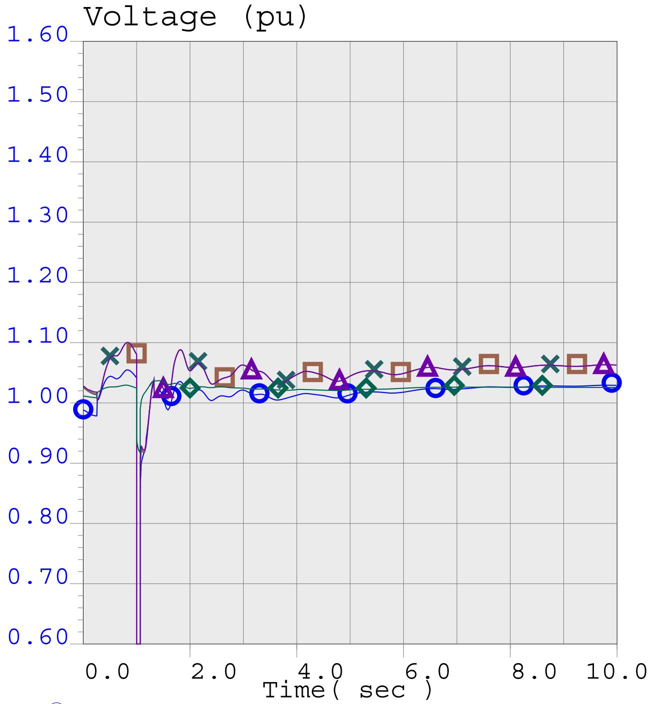
Fri Aug 26 08:39:06 2022

SYSTEM IMPACT STUDY (Voltage)



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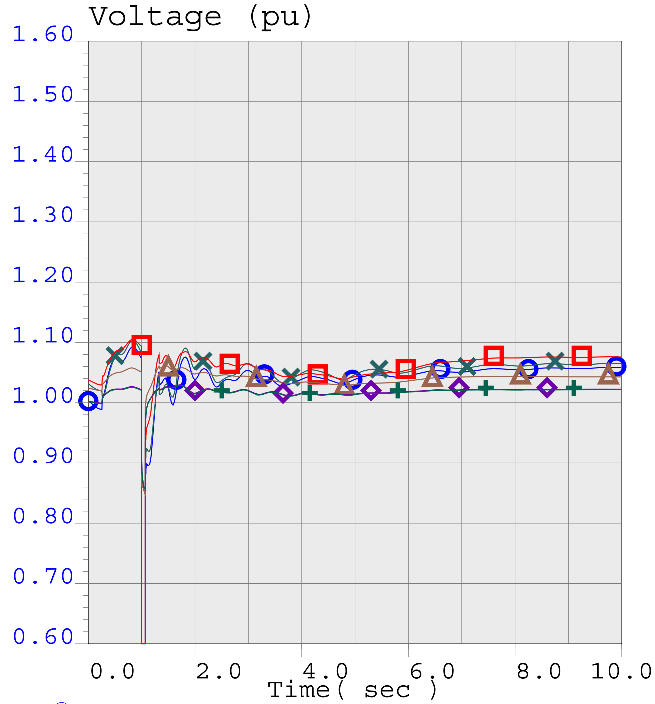

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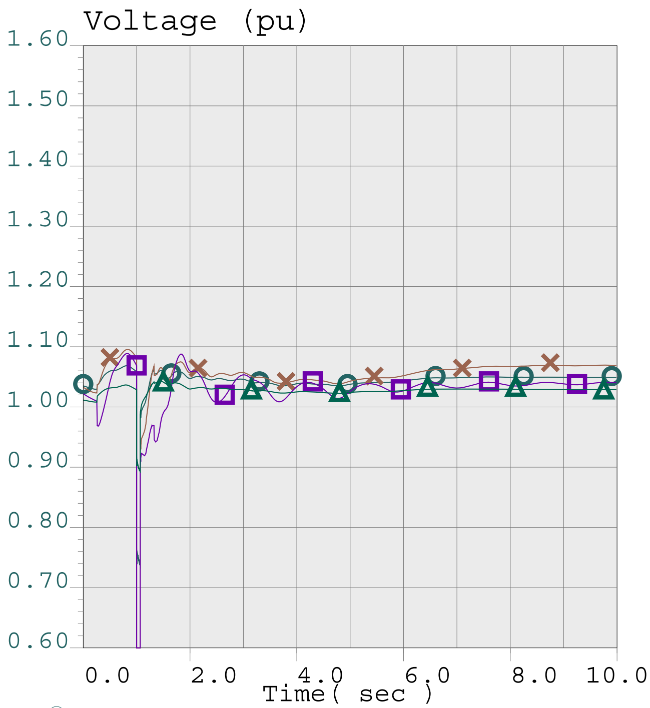

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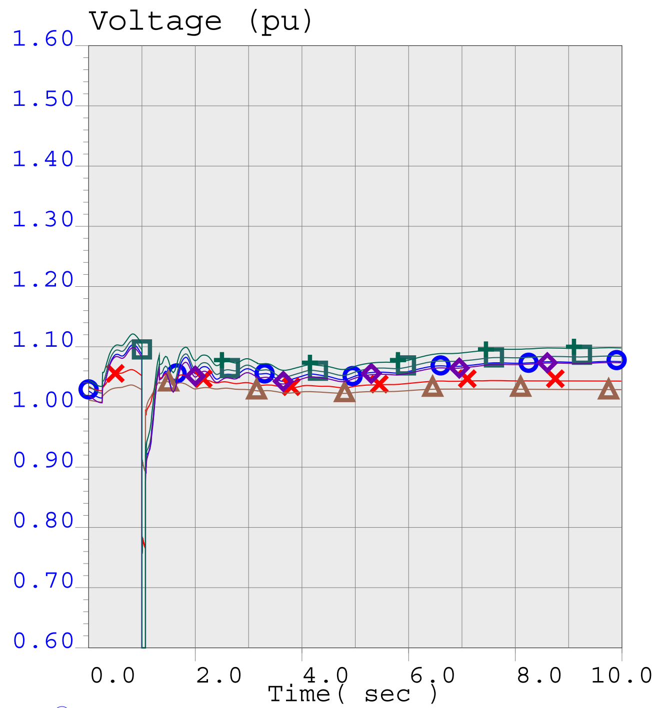

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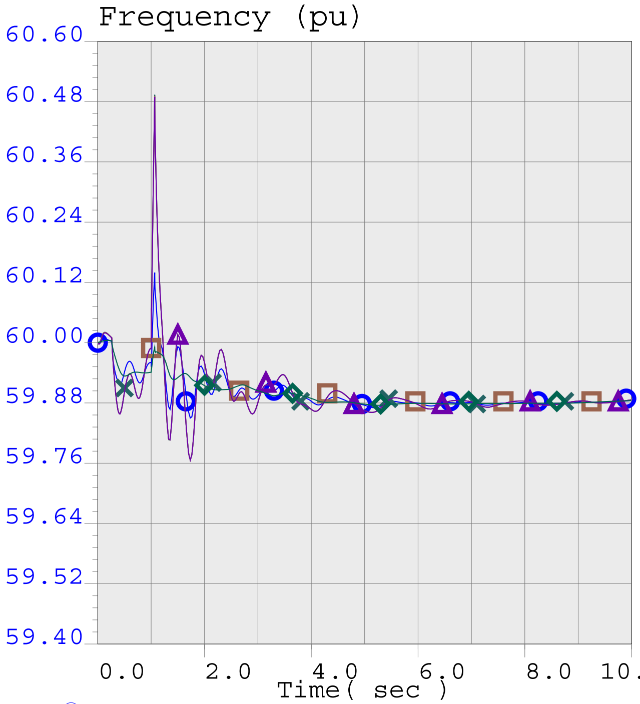
Fri Aug 26 08:39:08 2022

SYSTEM IMPACT STUDY (Frequency)



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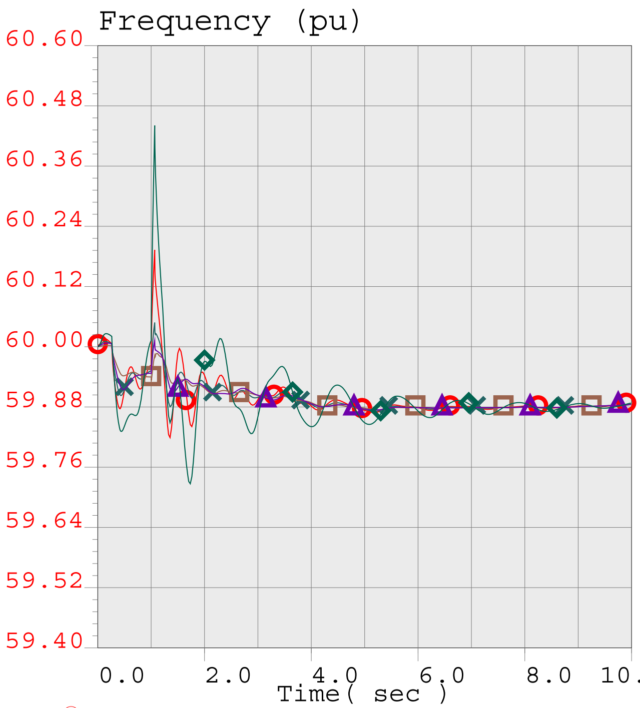

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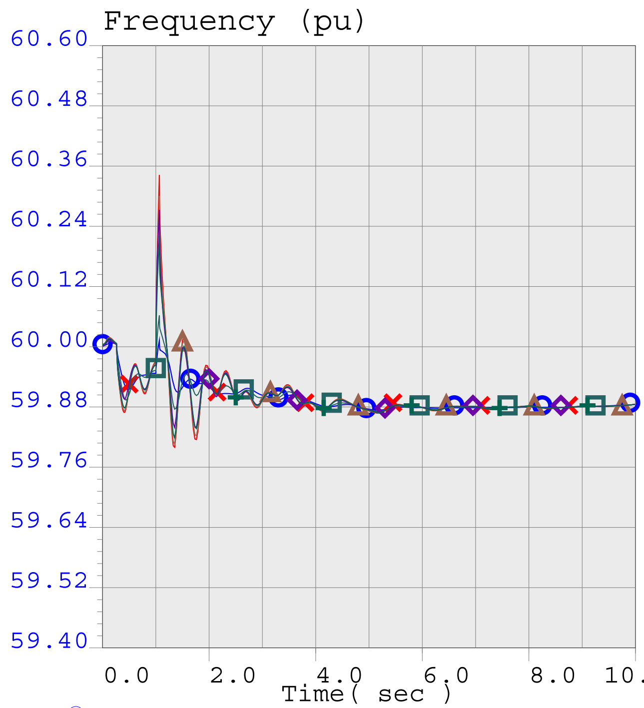

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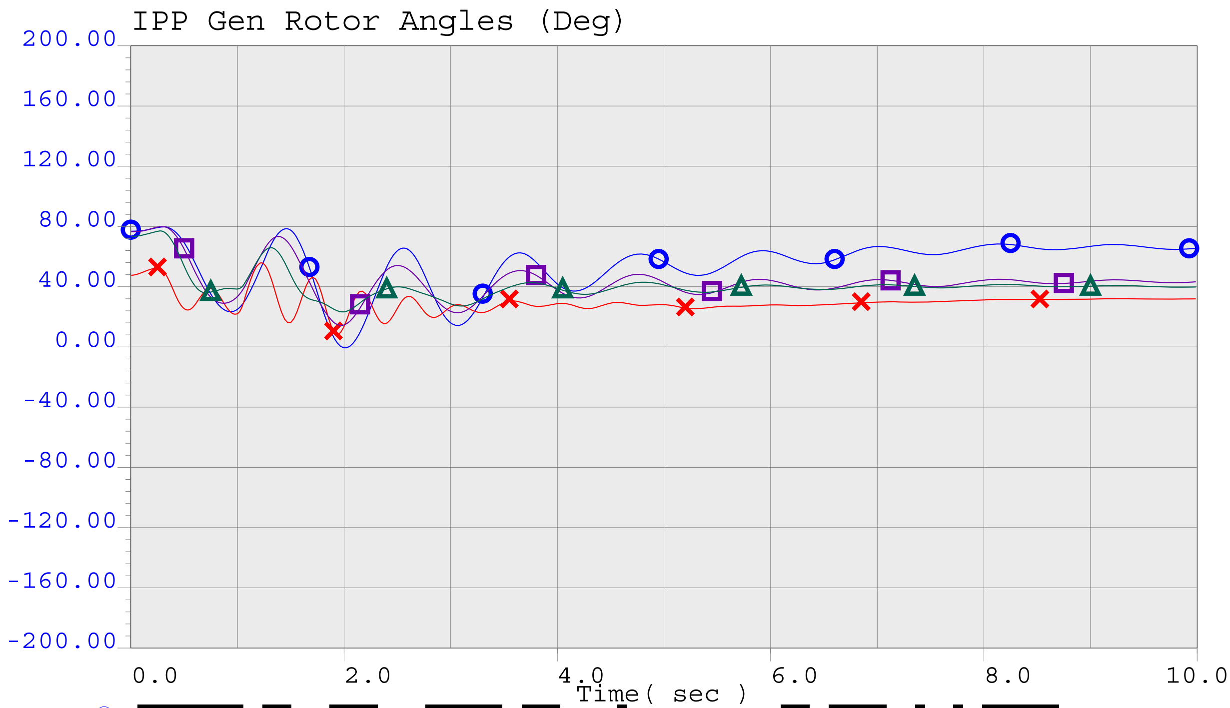
Fri Aug 26 08:39:08 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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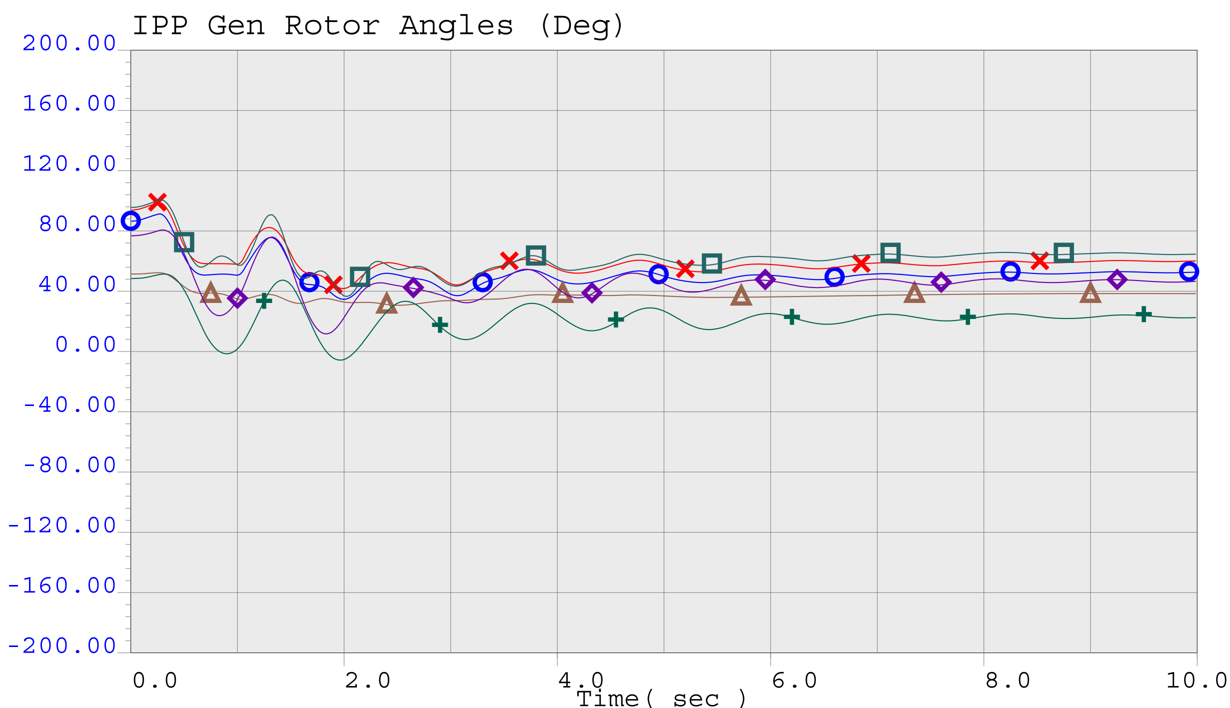

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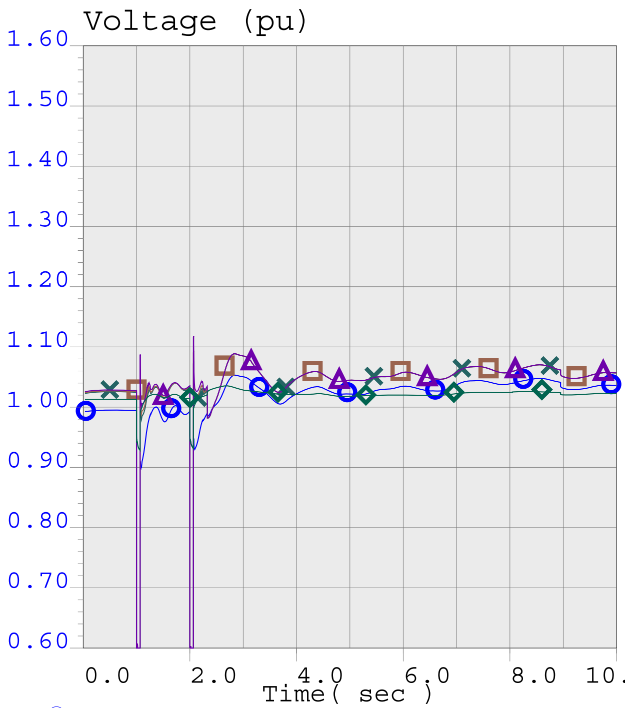
SYSTEM IMPACT STUDY (Voltage)



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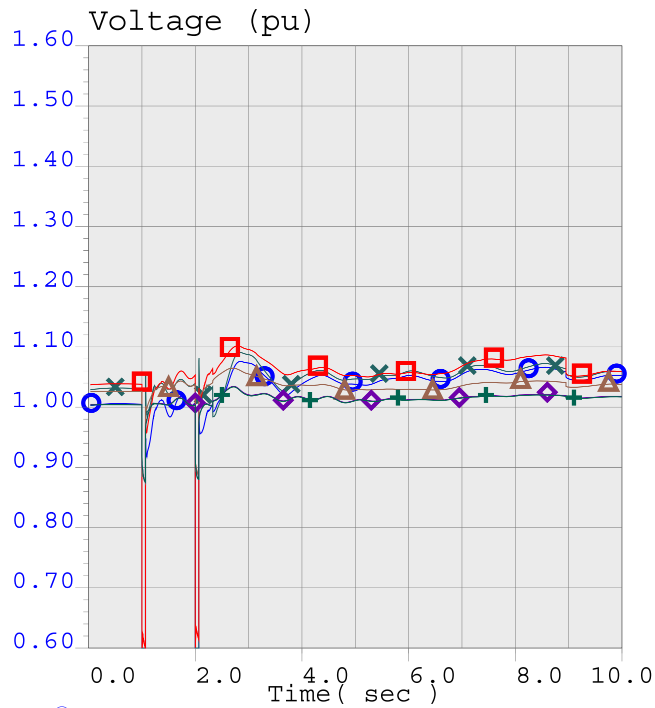

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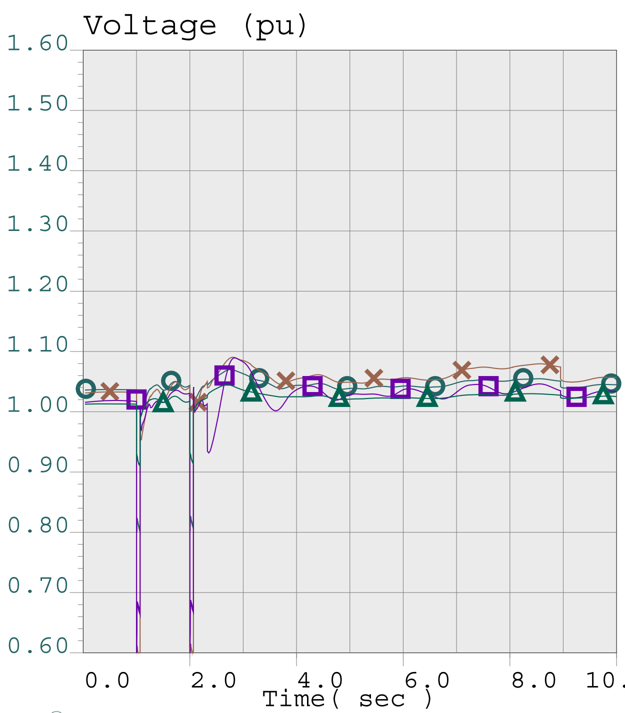

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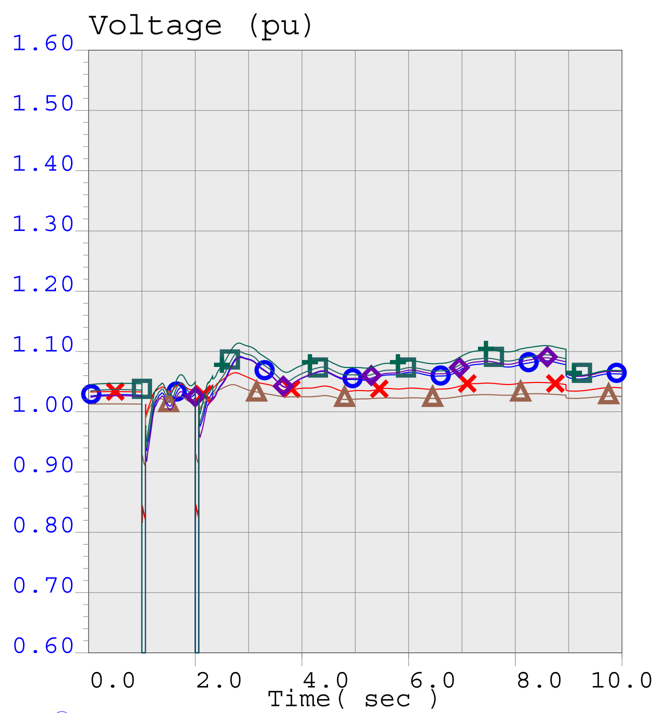

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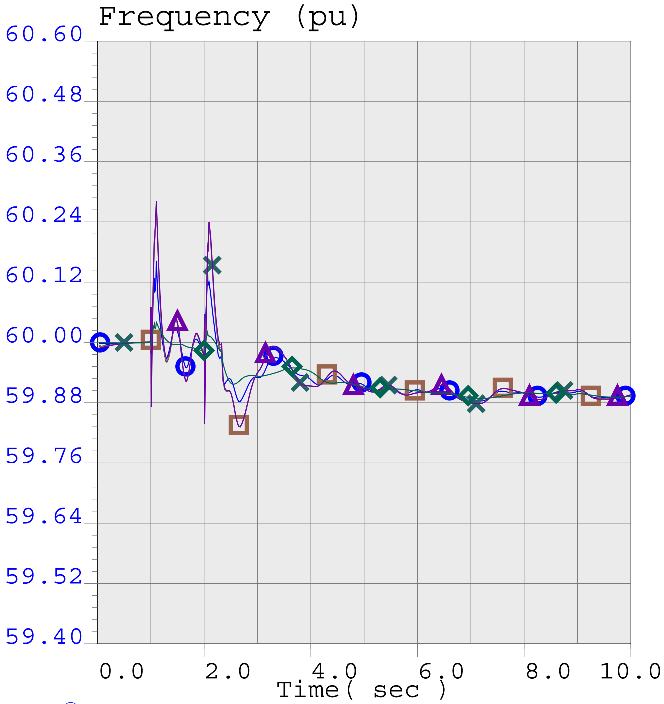

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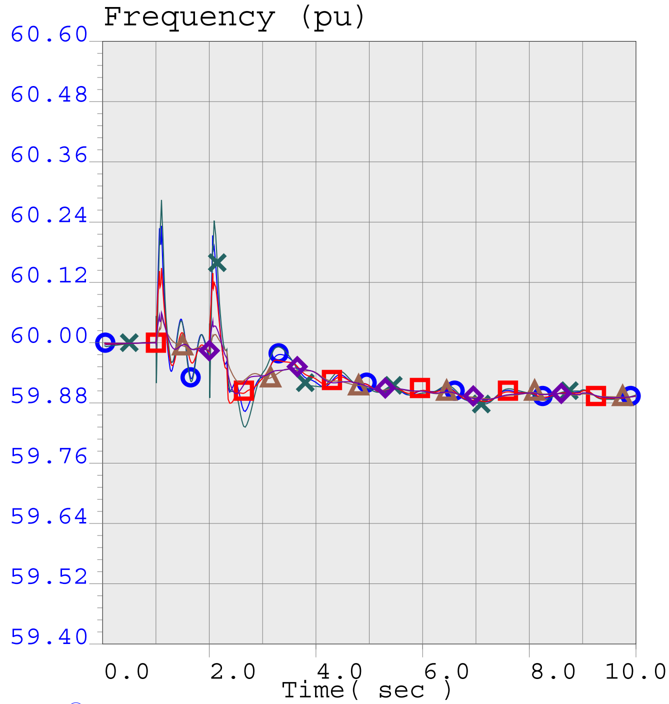

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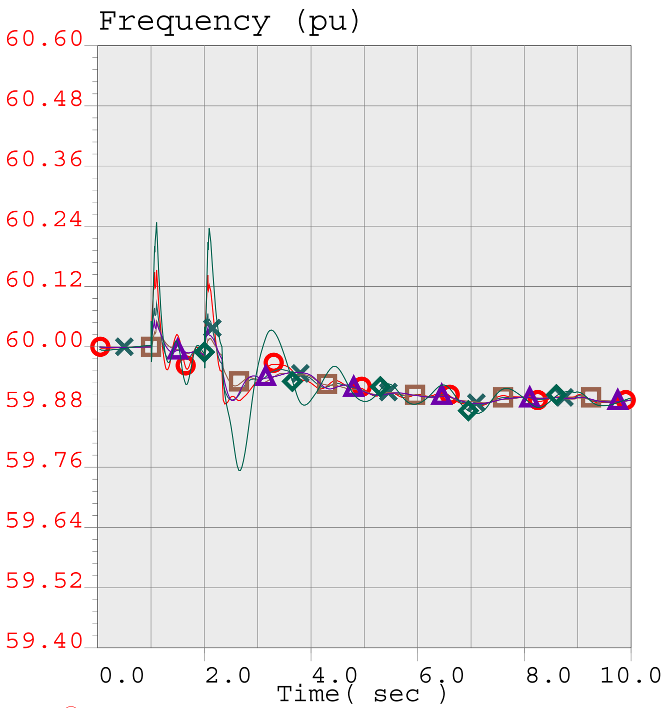

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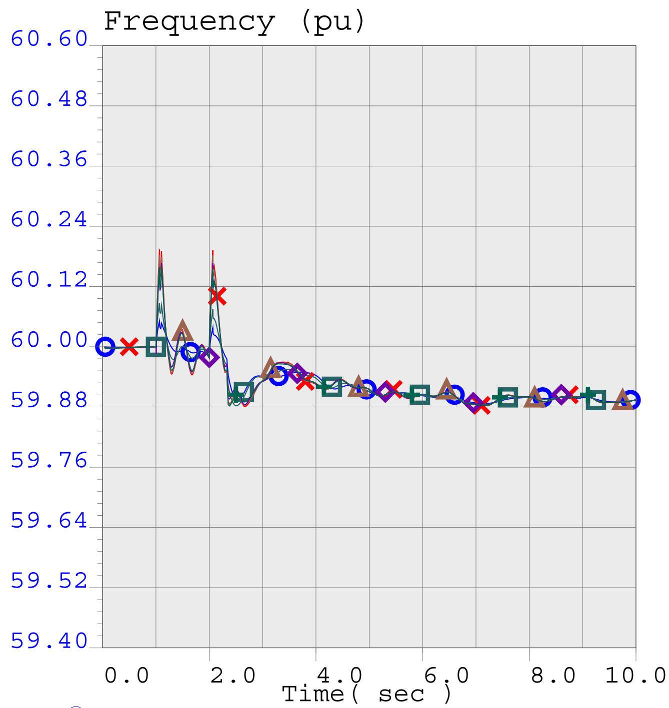

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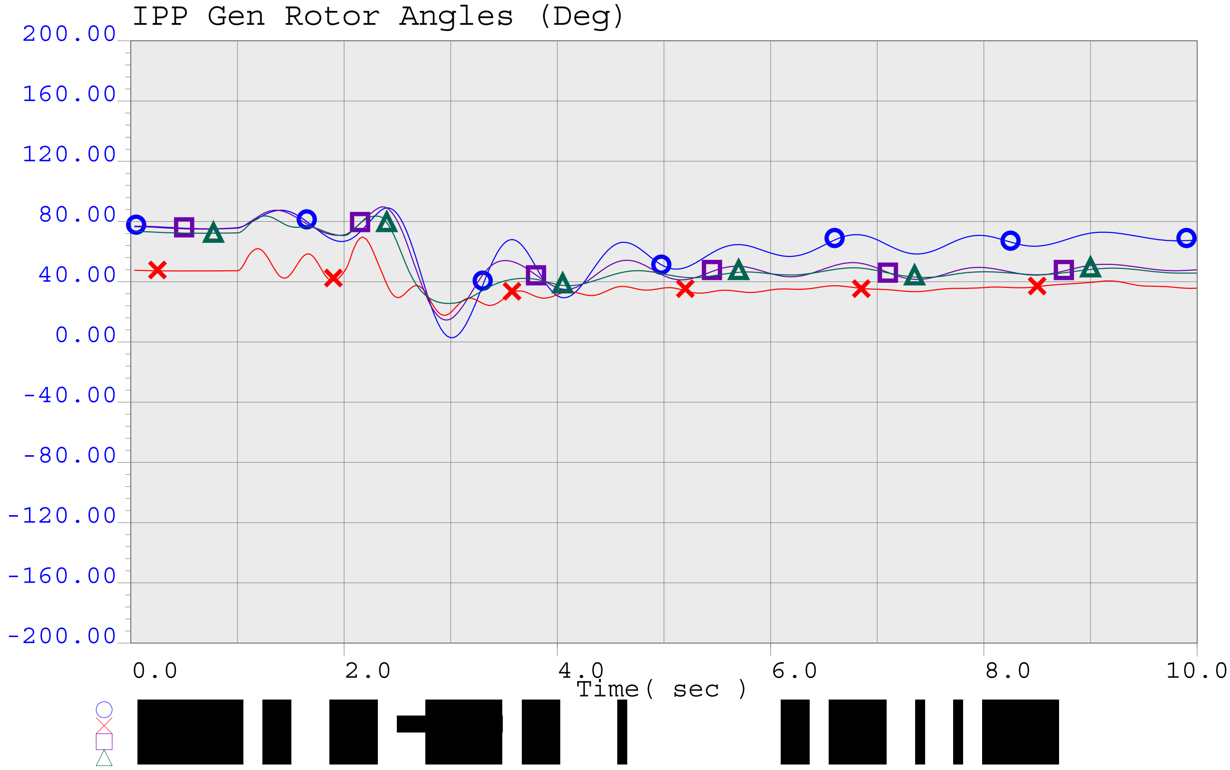
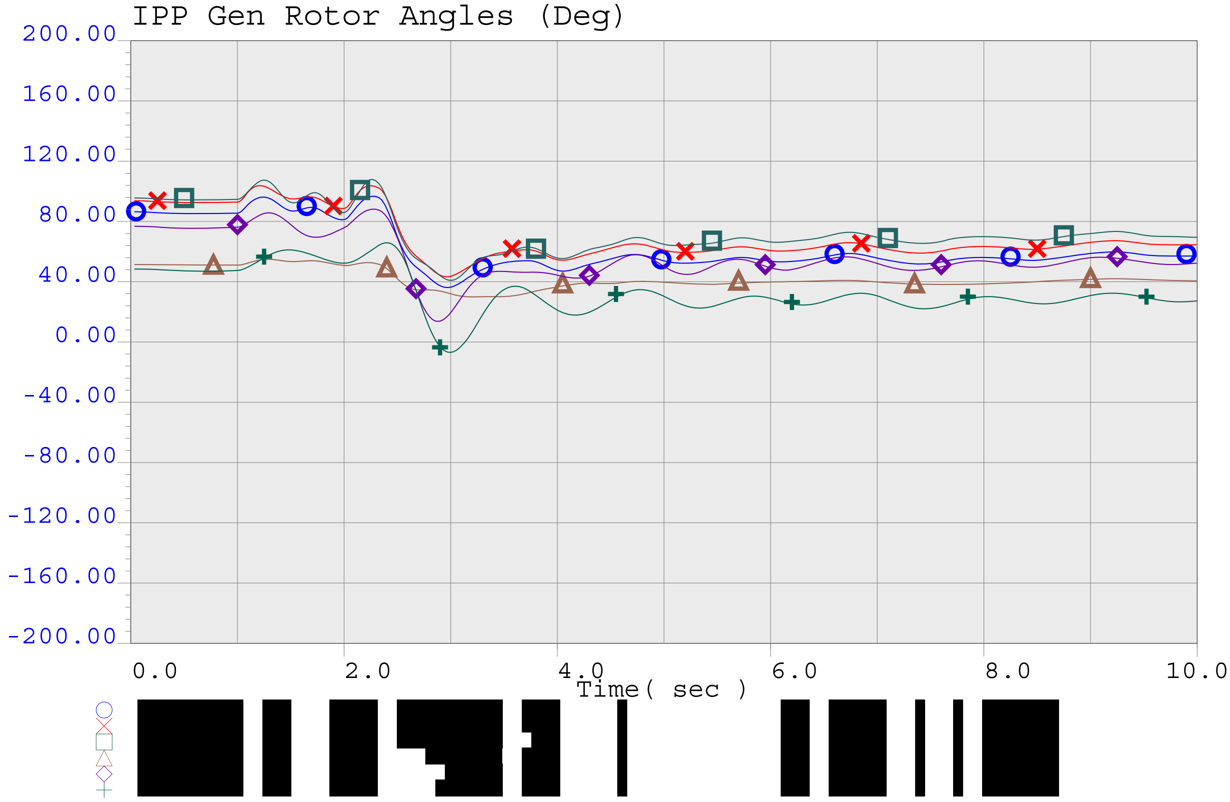
SYSTEM IMPACT STUDY (Rotor Angles)

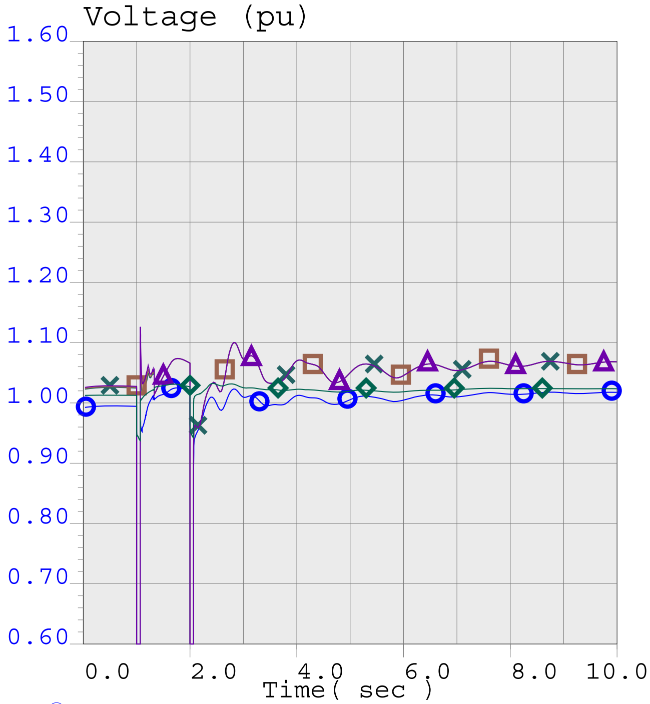
IPP Gen Rotor Angles (Deg)



IPP Gen Rotor Angles (Deg)



SYSTEM IMPACT STUDY (Voltage)



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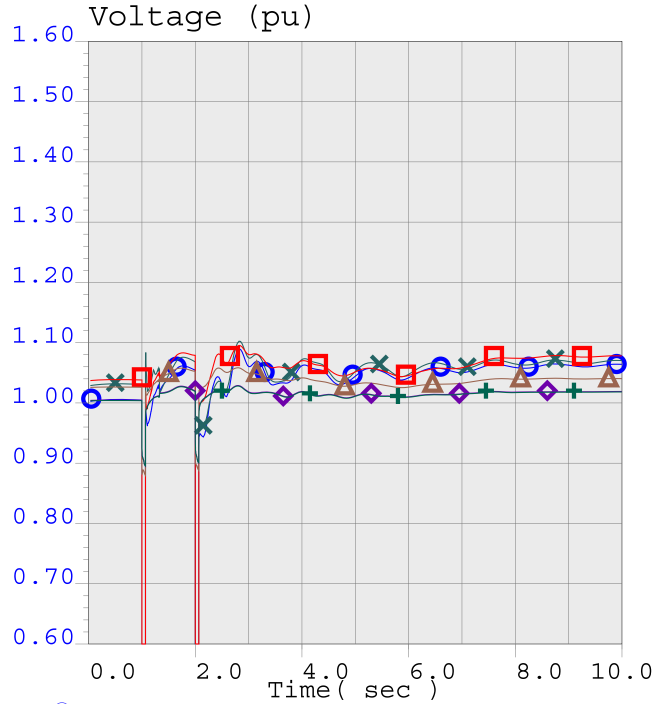

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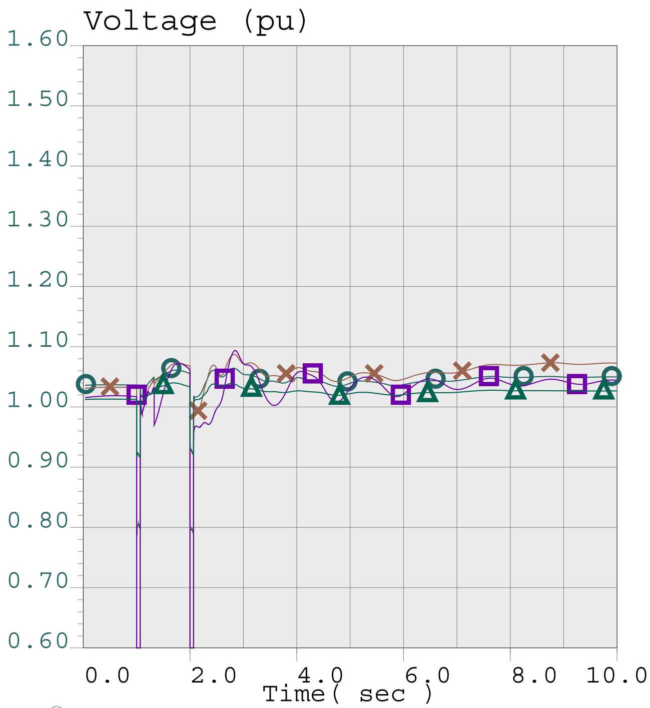

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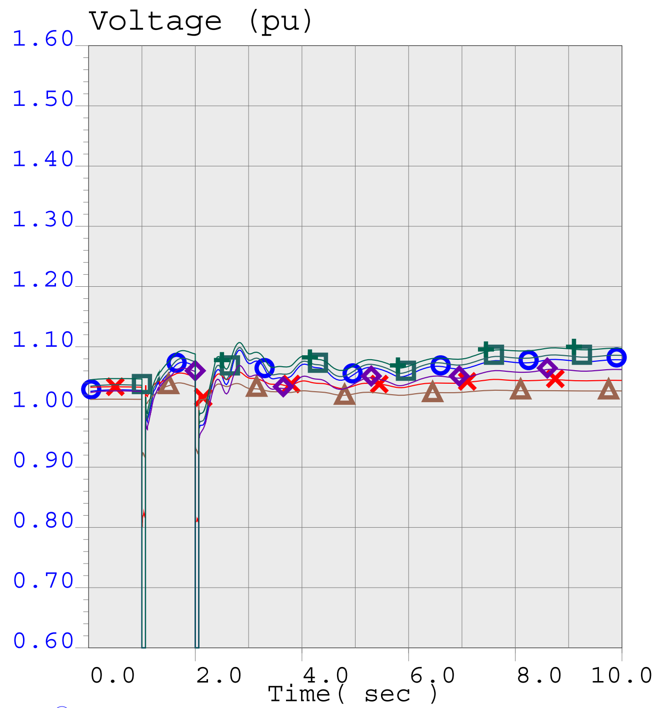

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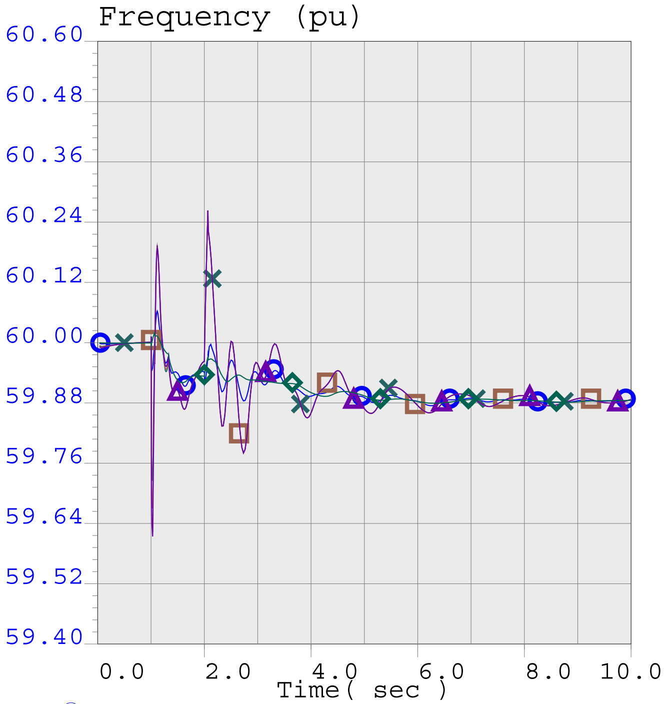
Fri Aug 26 08:39:14 2022

SYSTEM IMPACT STUDY (Frequency)



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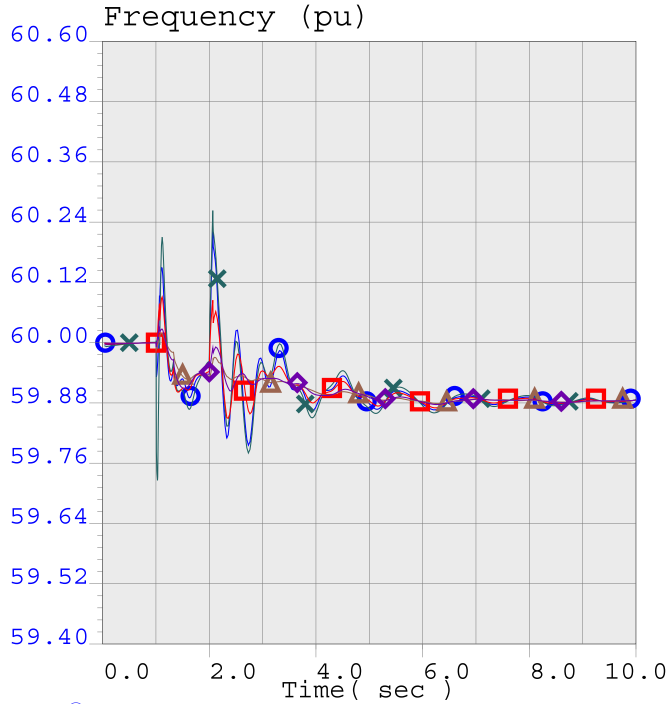

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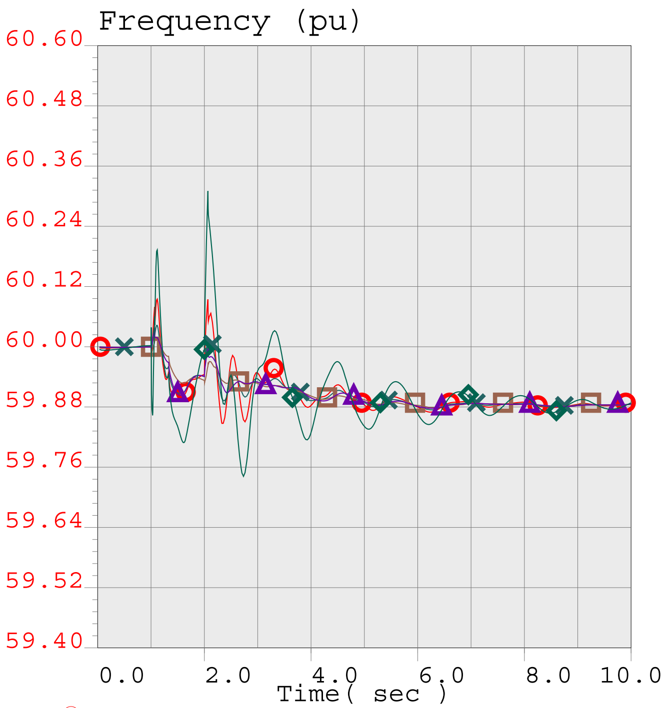

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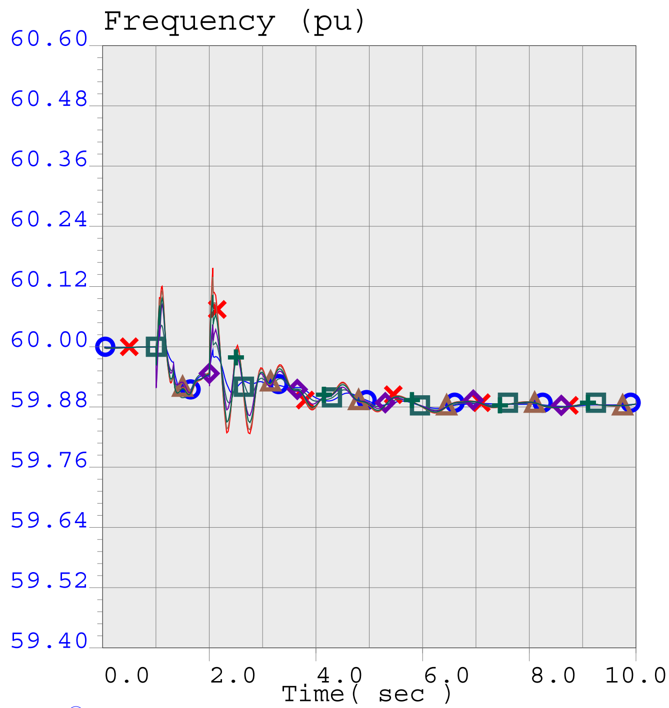

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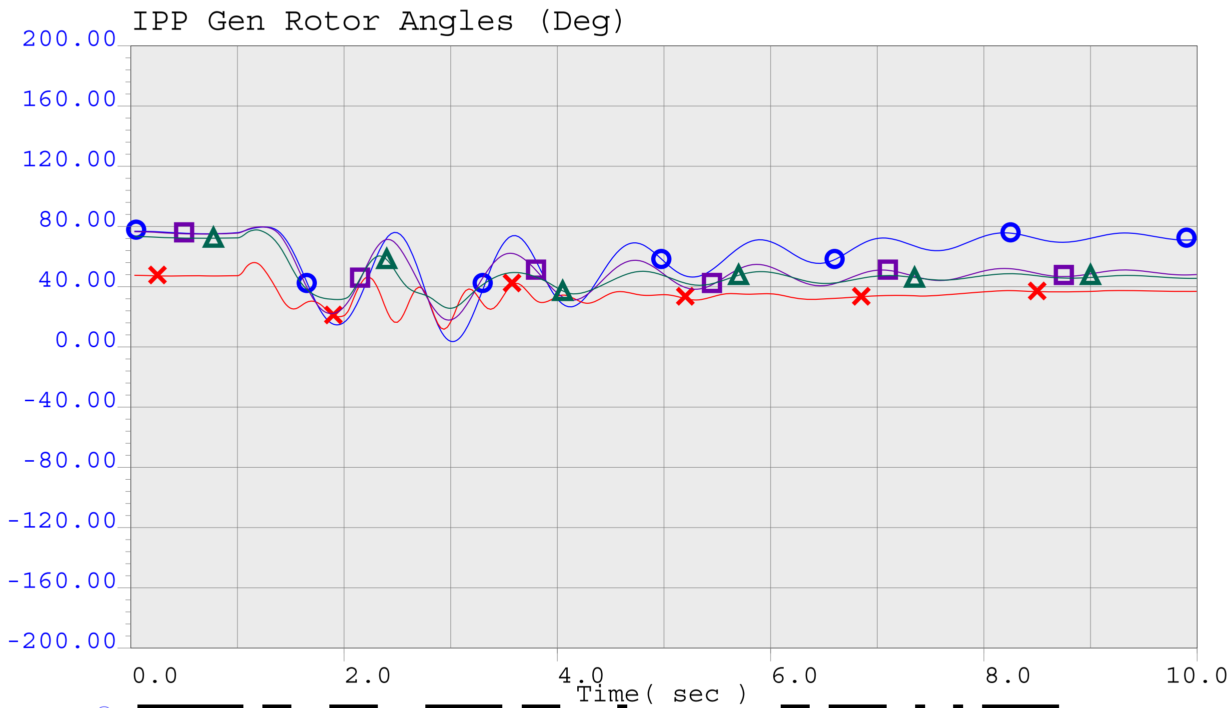
SYSTEM IMPACT STUDY (Rotor Angles)



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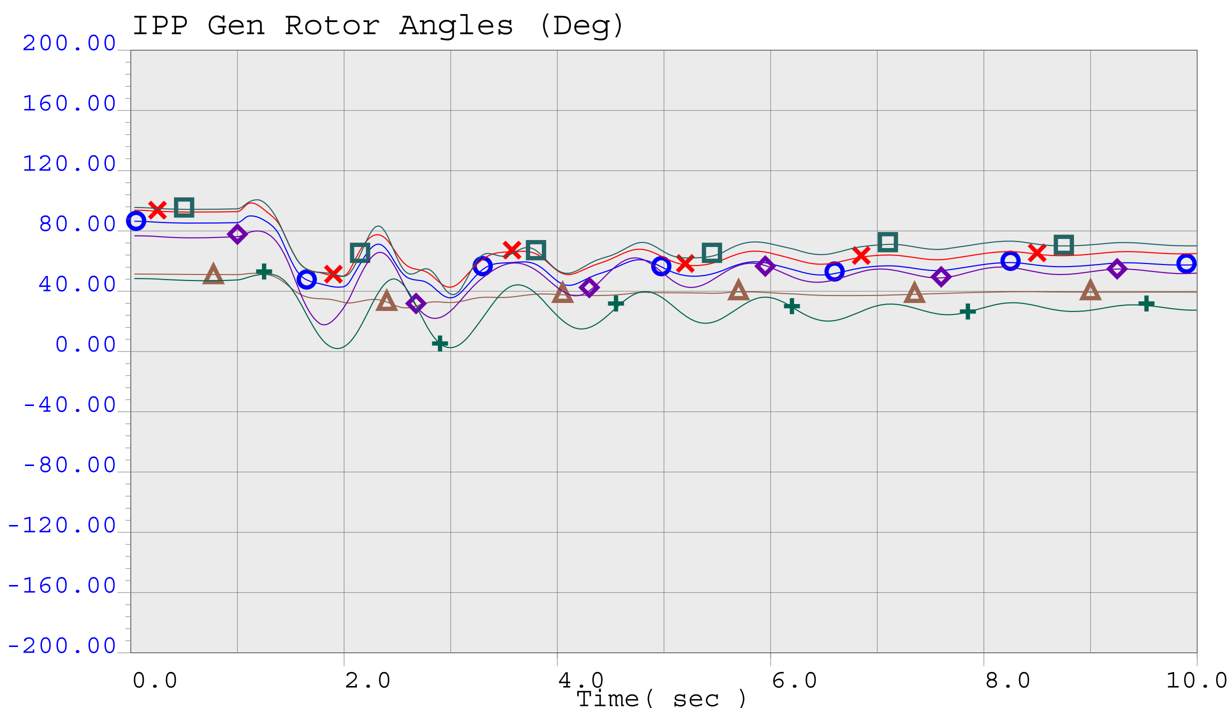

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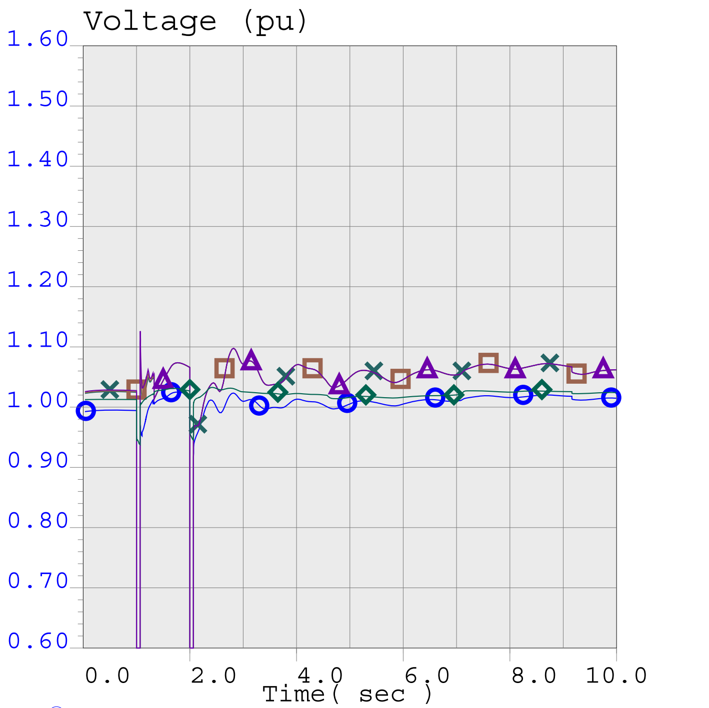
SYSTEM IMPACT STUDY (Voltage)



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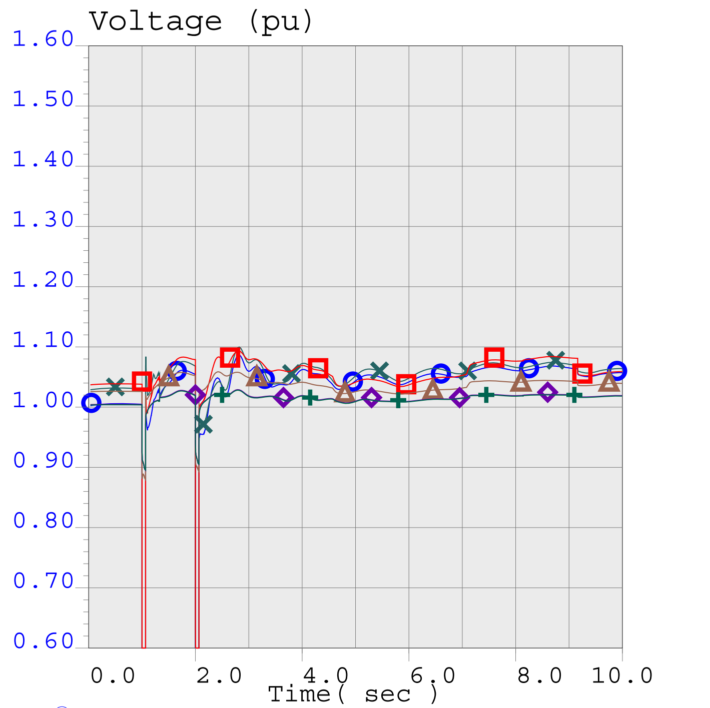

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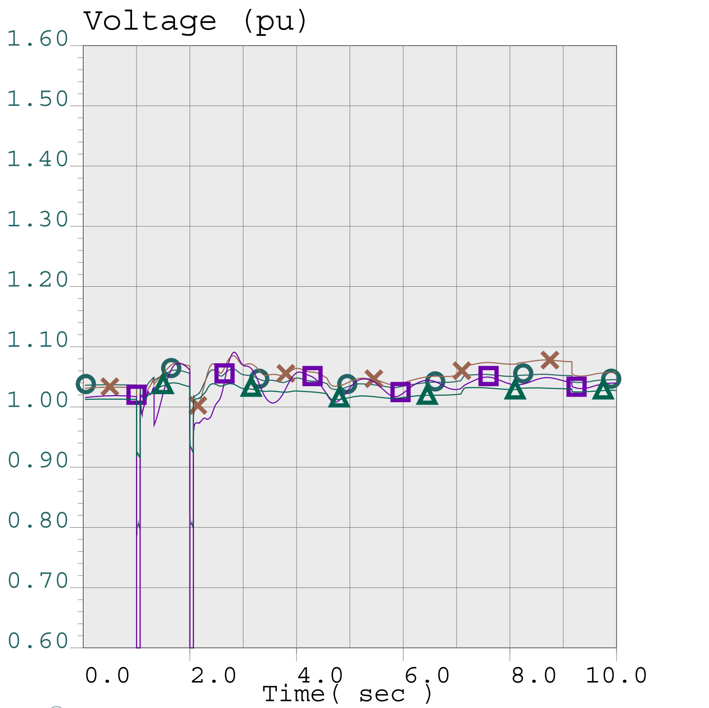

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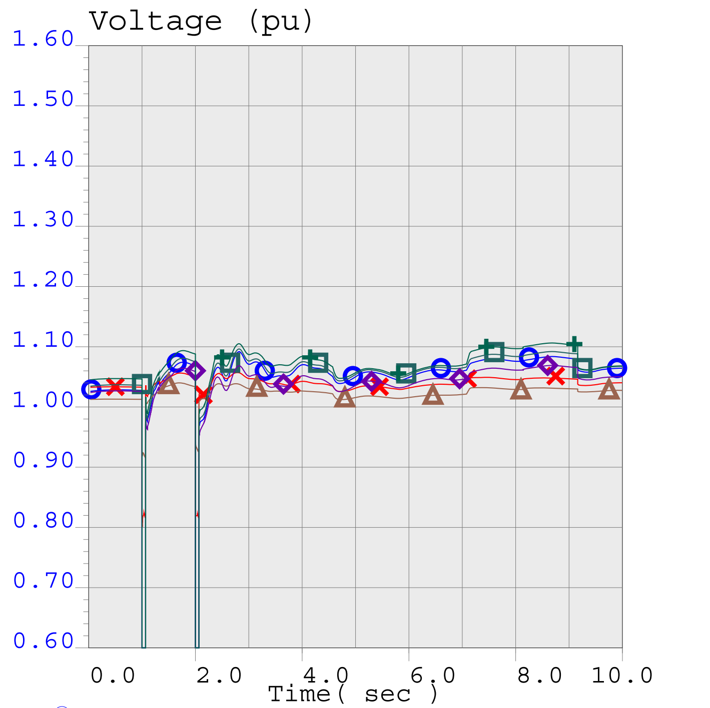

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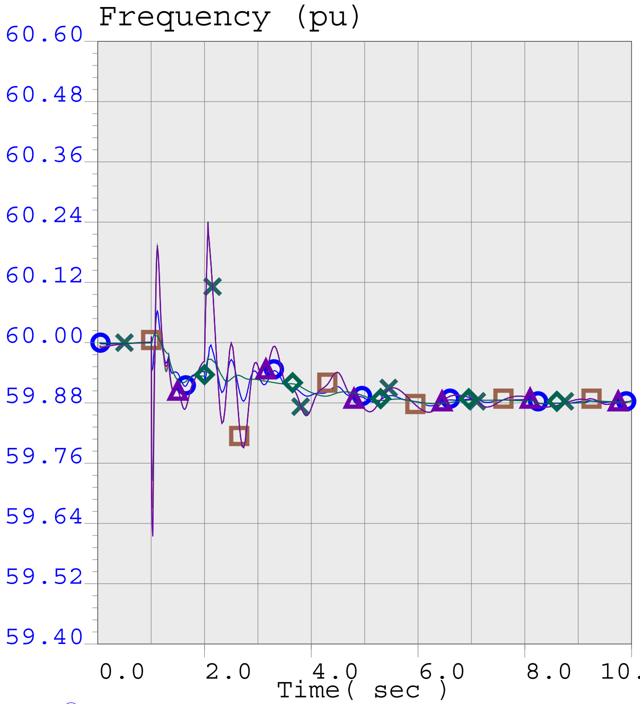
Fri Aug 26 08:39:16 2022

SYSTEM IMPACT STUDY (Frequency)



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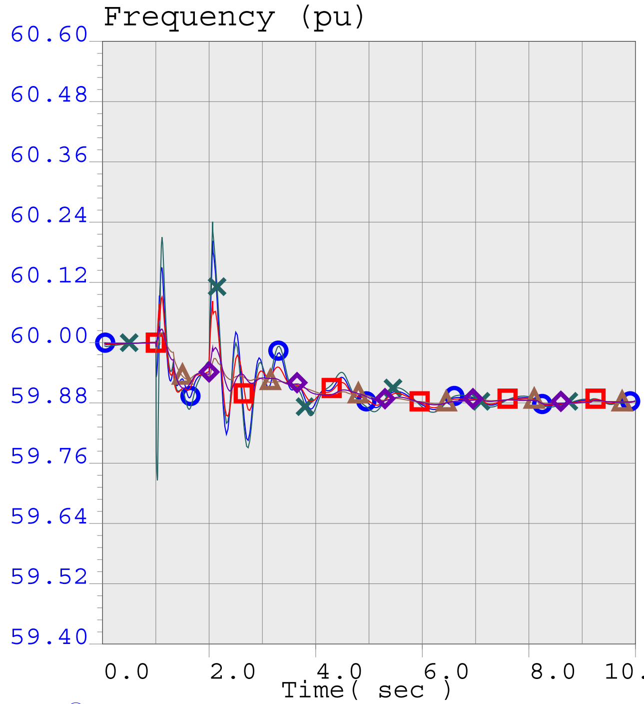

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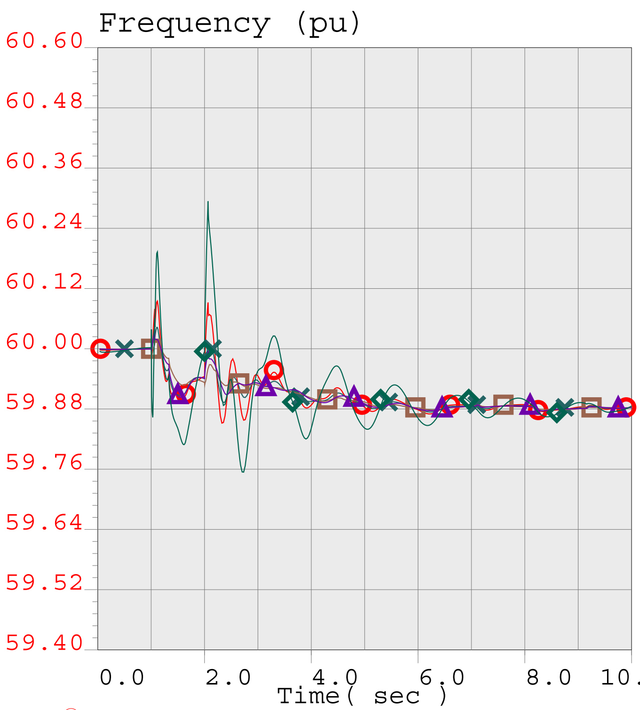

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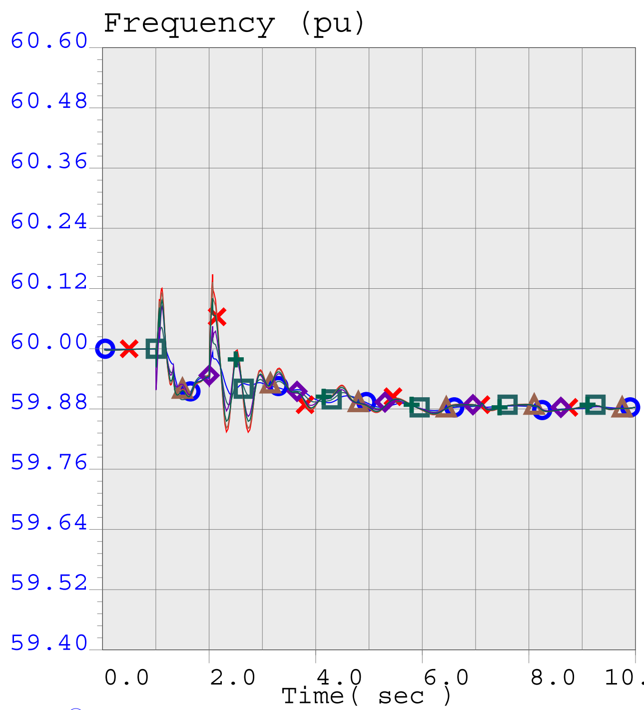

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SYSTEM IMPACT STUDY (Rotor Angles)

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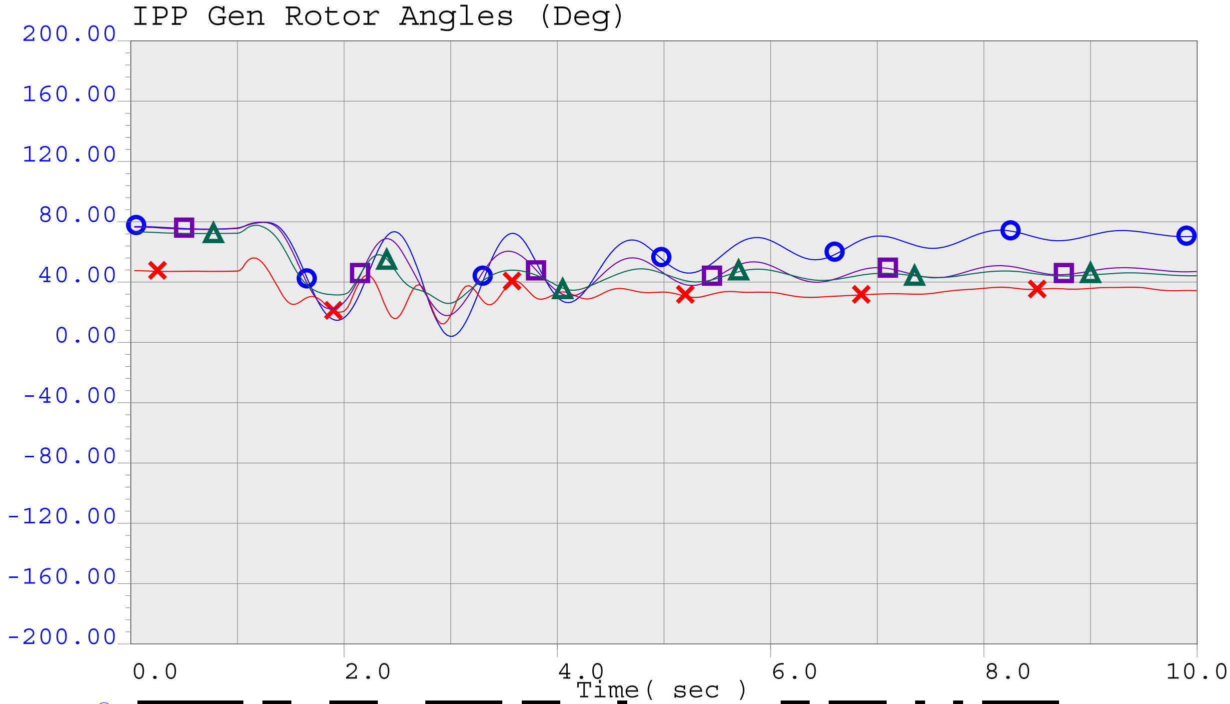

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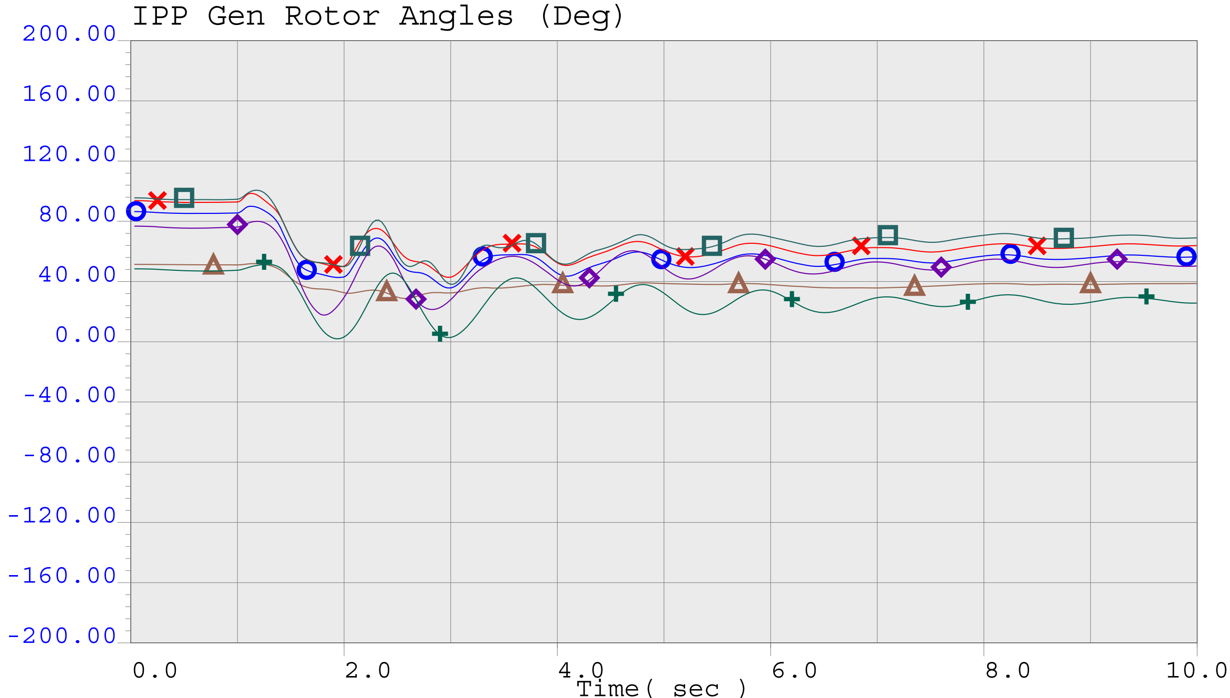

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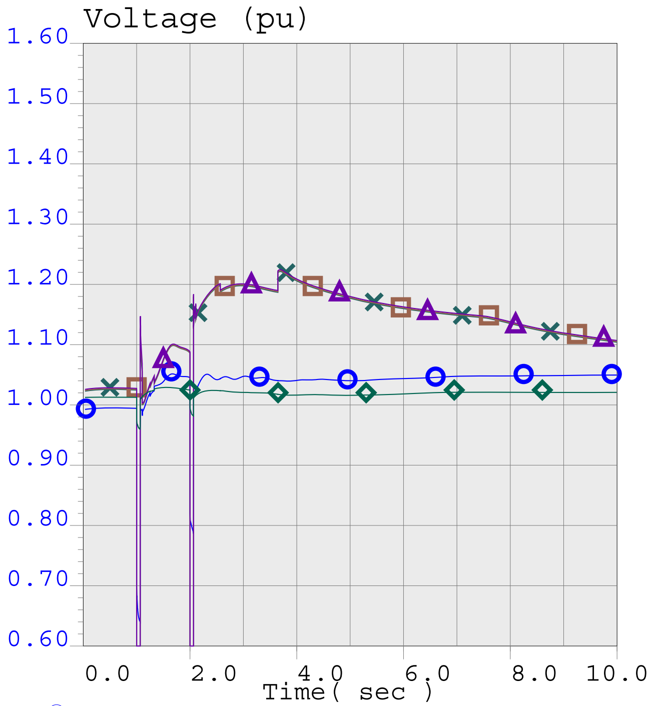

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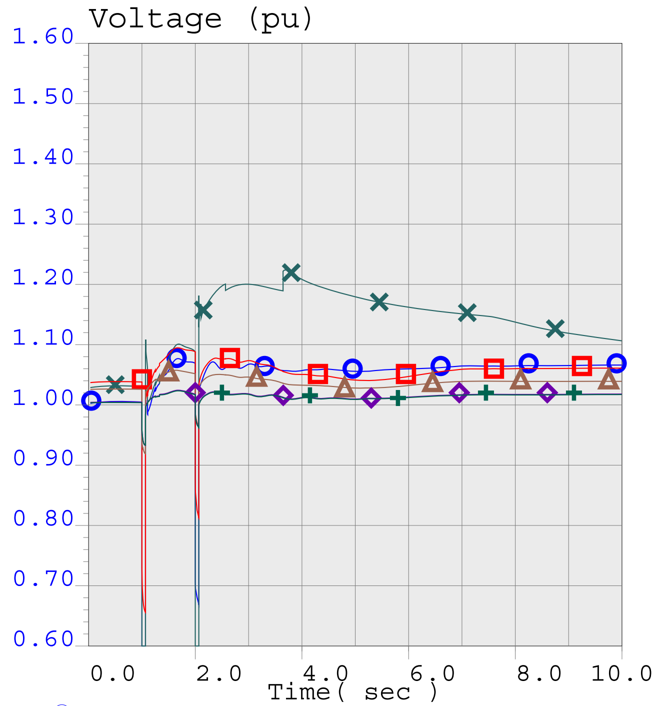

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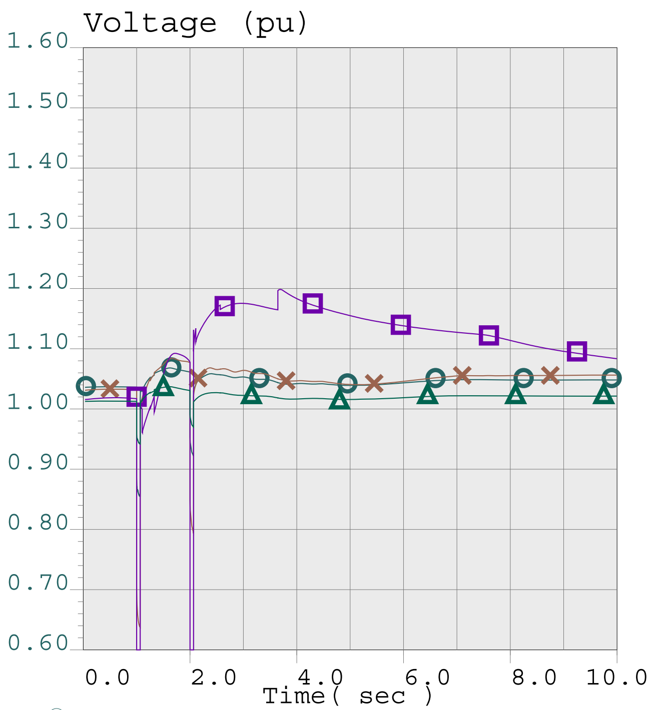

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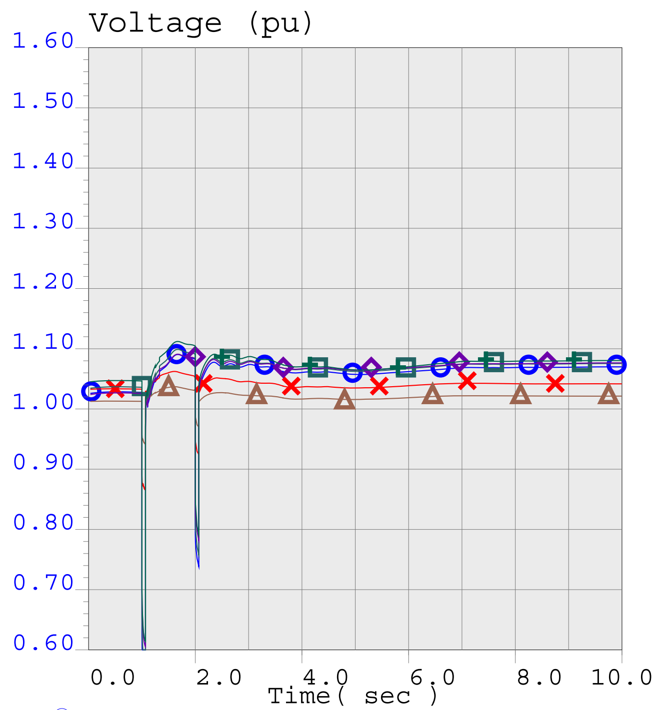

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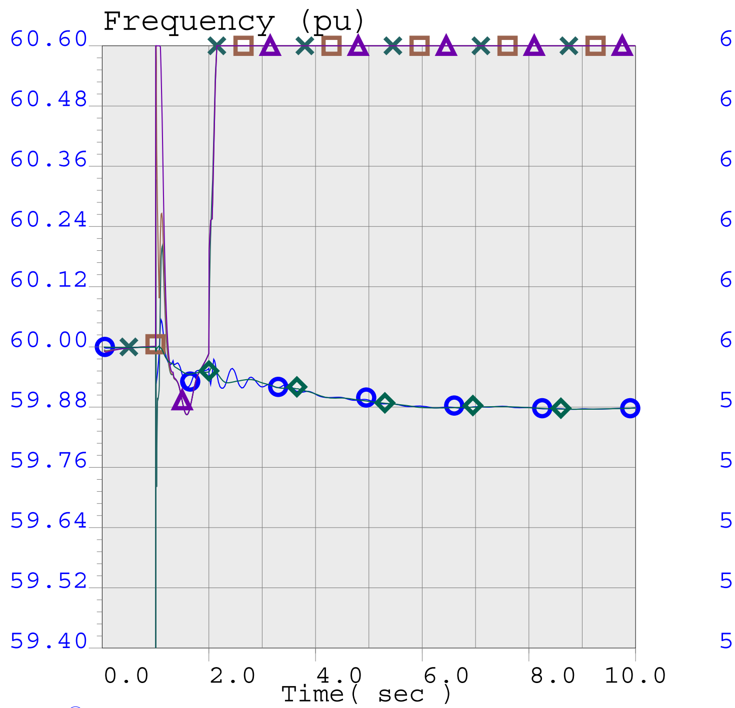

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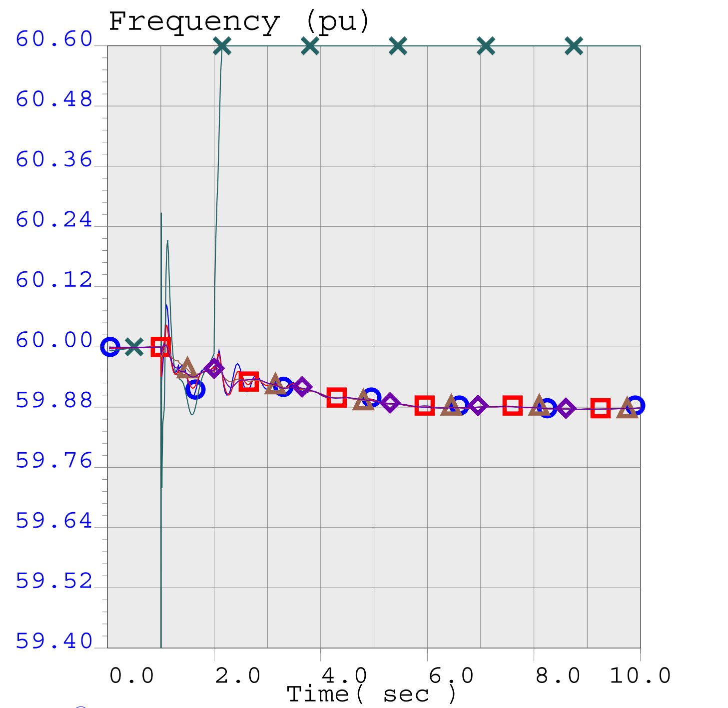

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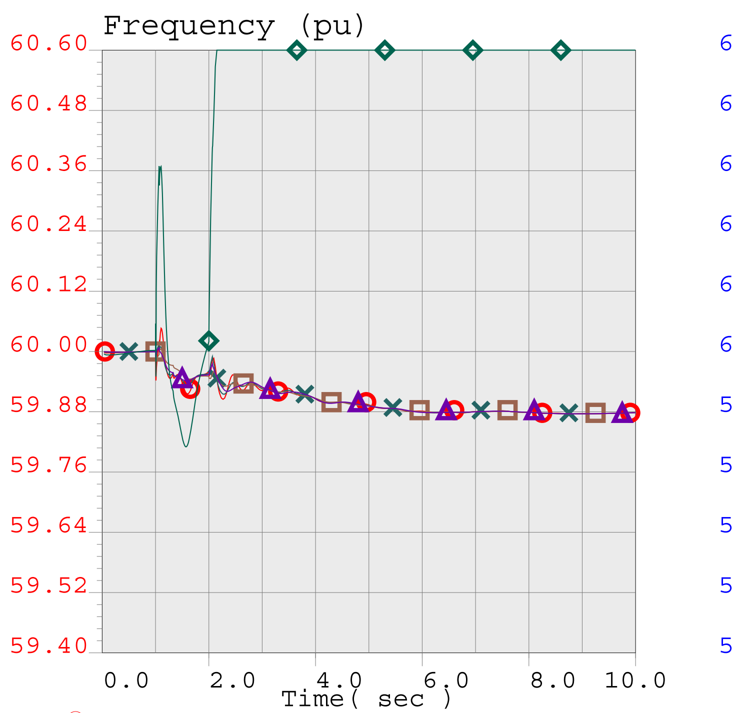

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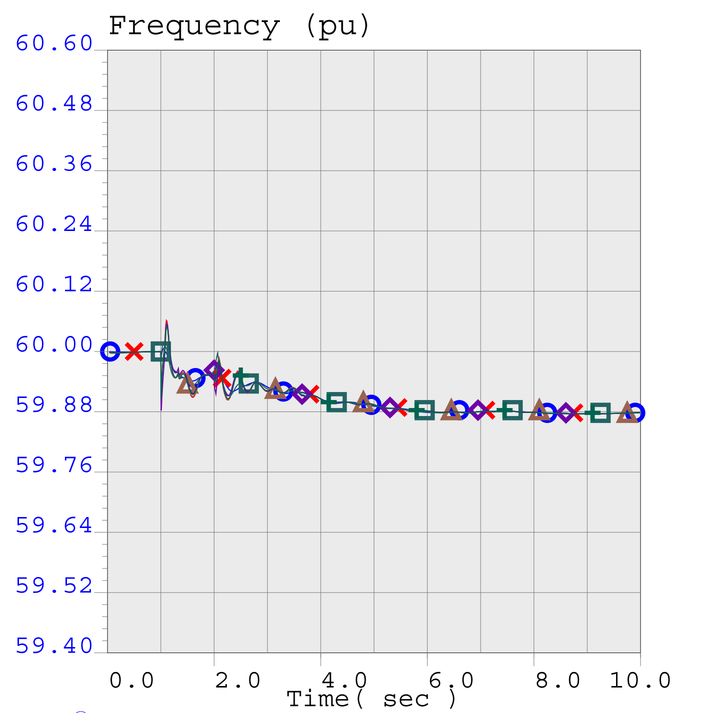

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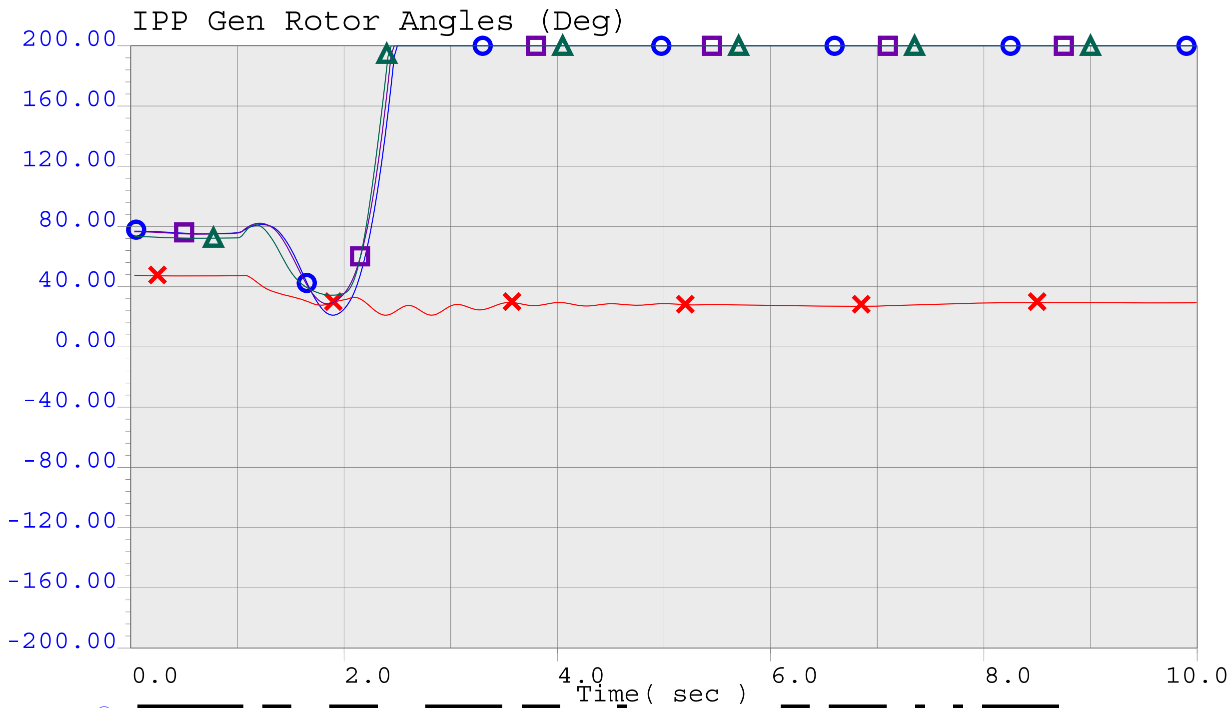
SYSTEM IMPACT STUDY (Rotor Angles)



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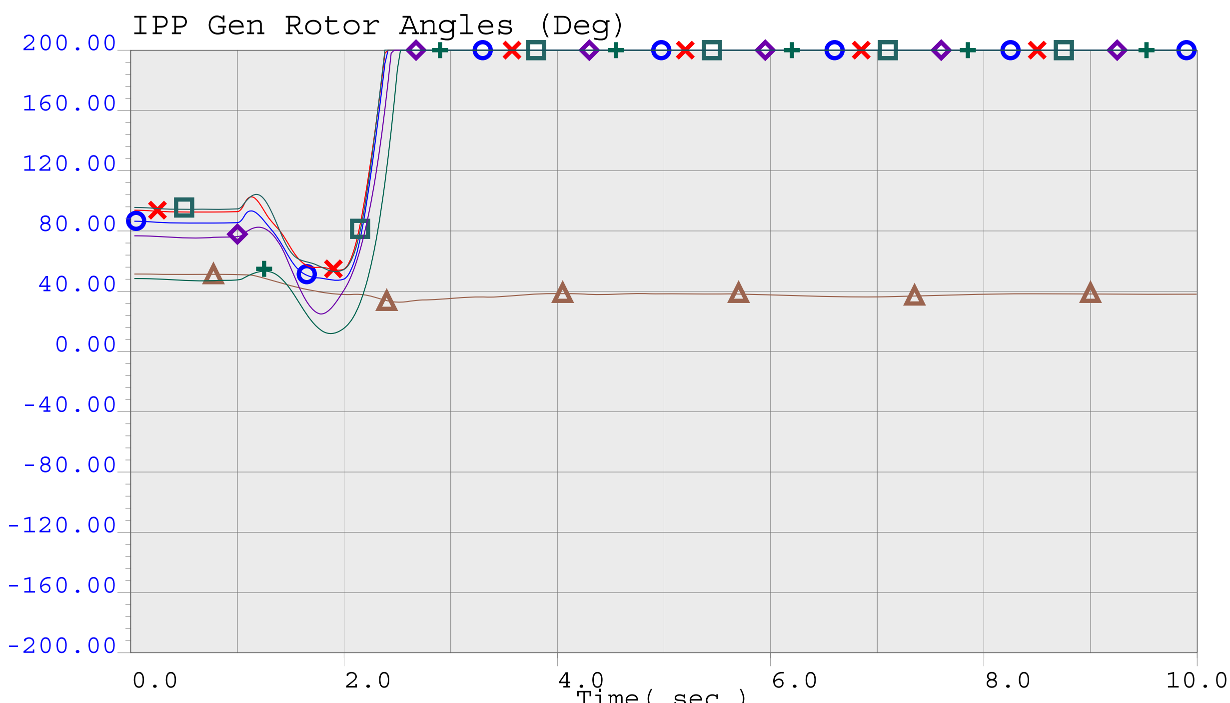

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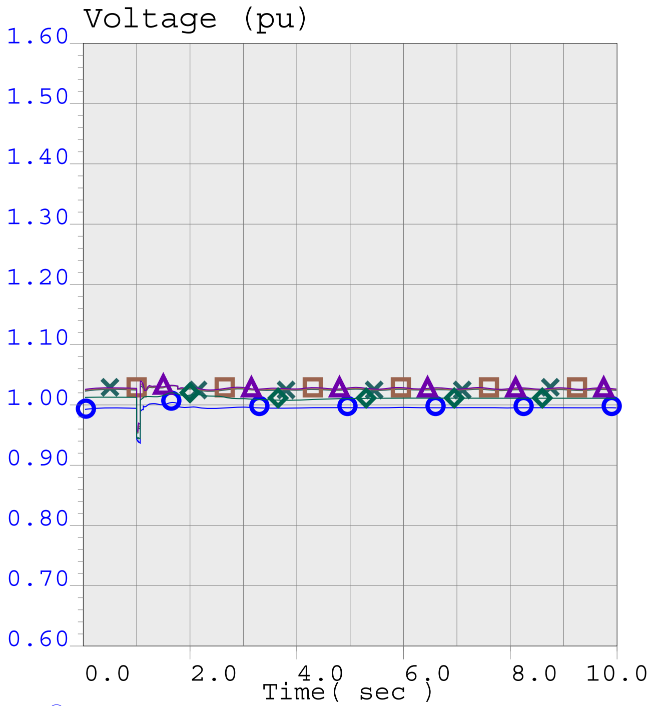

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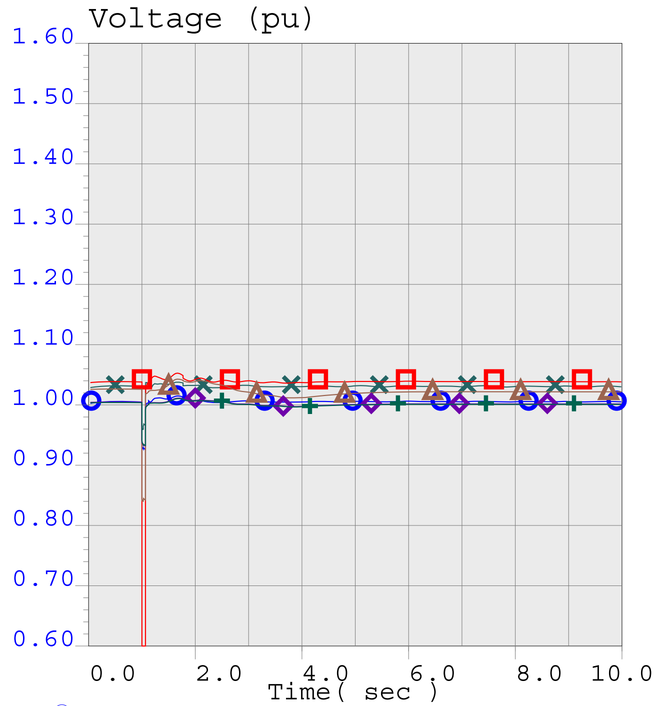

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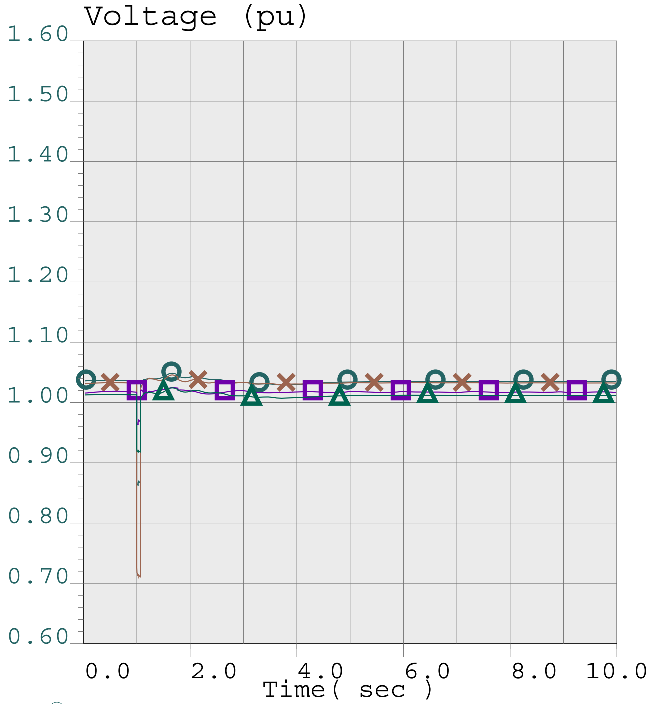

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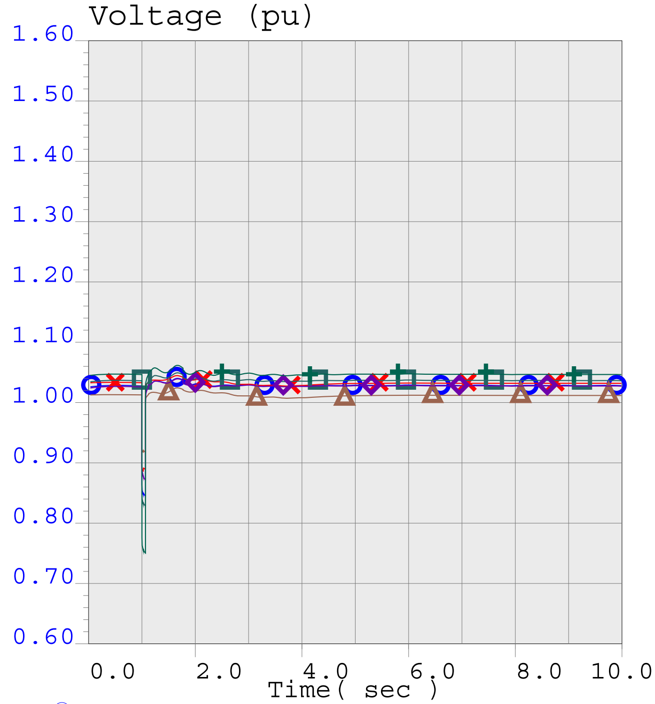

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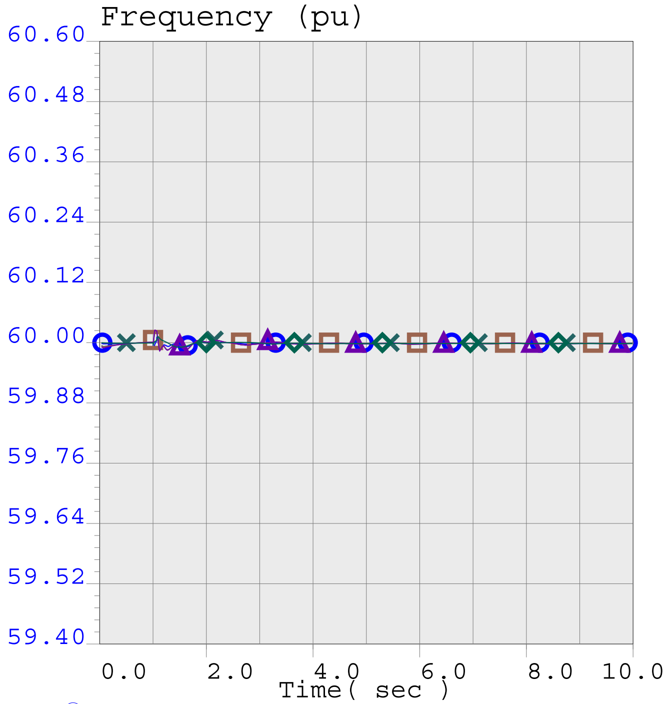
SYSTEM IMPACT STUDY (Frequency)



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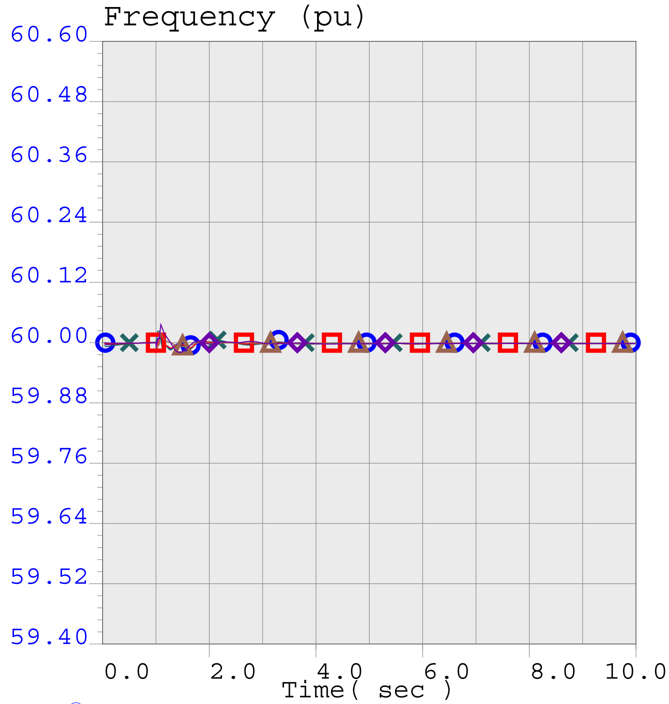

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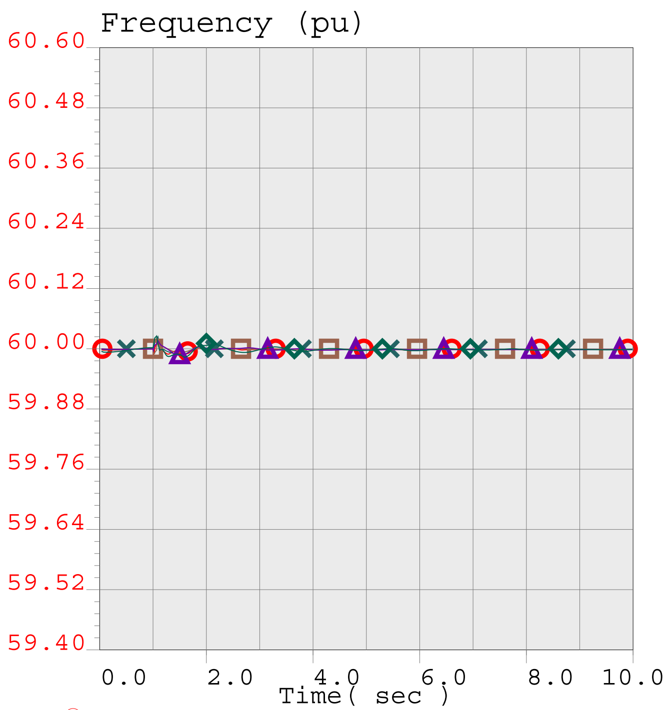

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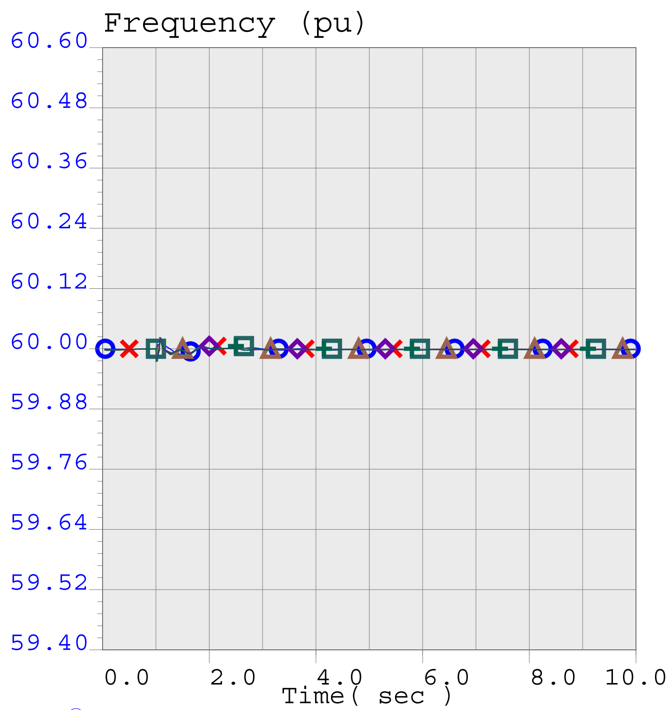

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SYSTEM IMPACT STUDY (Rotor Angles)

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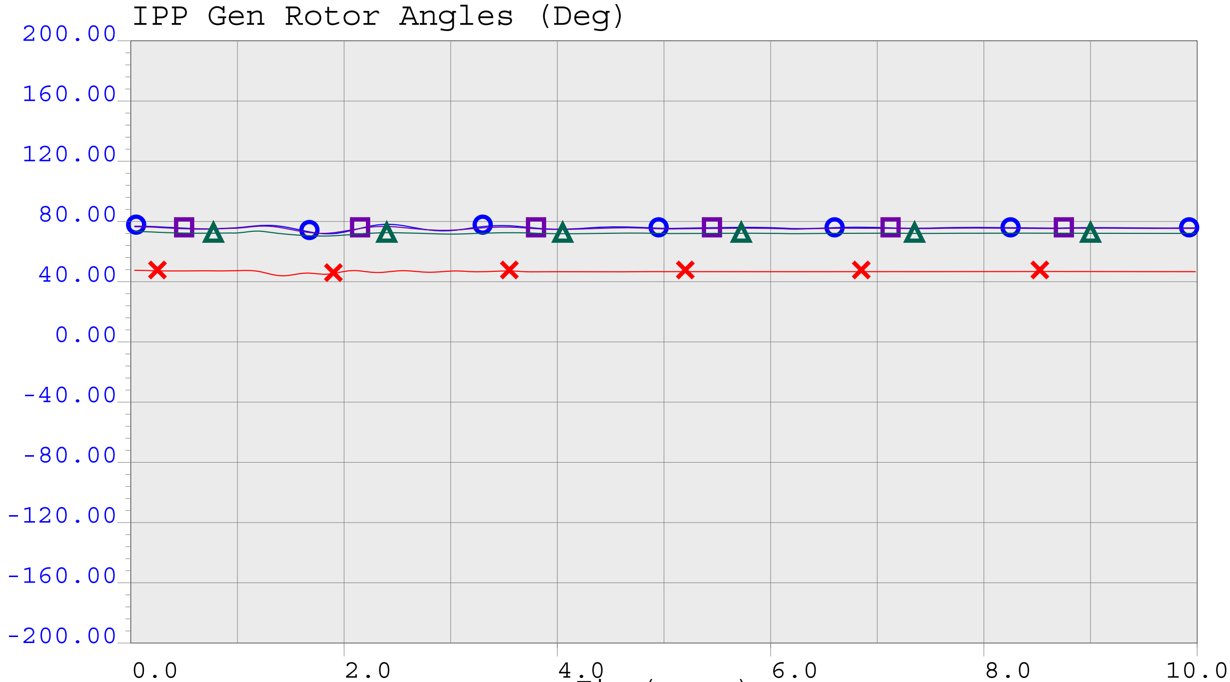

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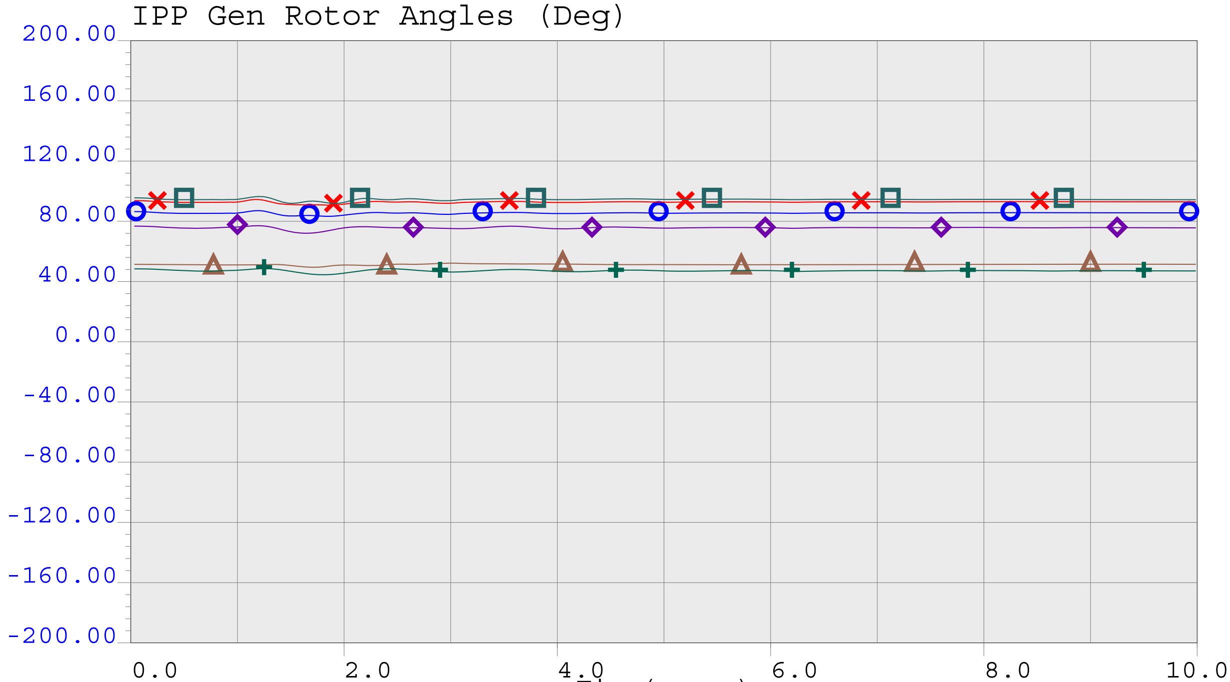
IPP Gen Rotor Angles (Deg)



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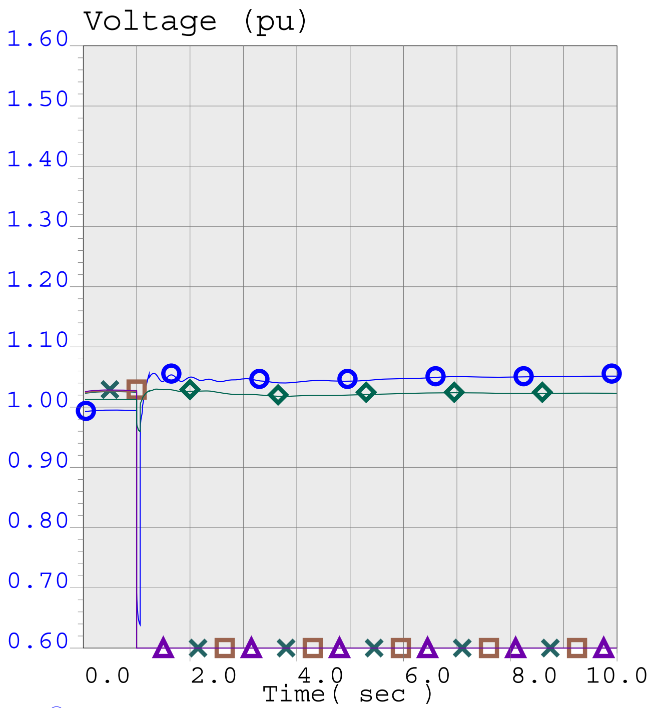

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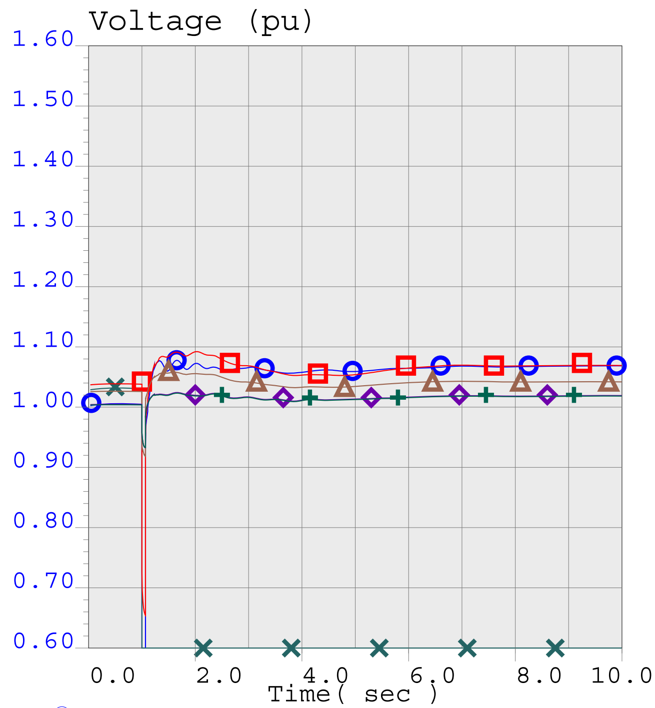

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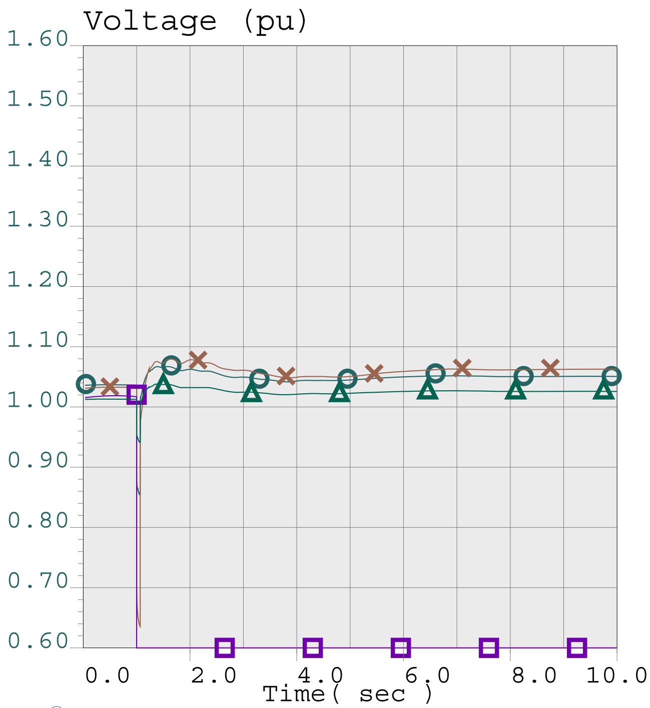

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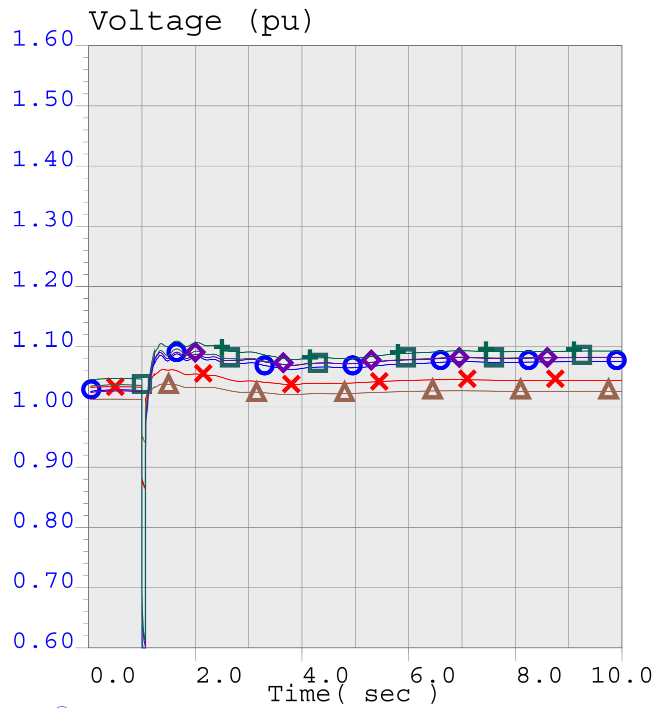

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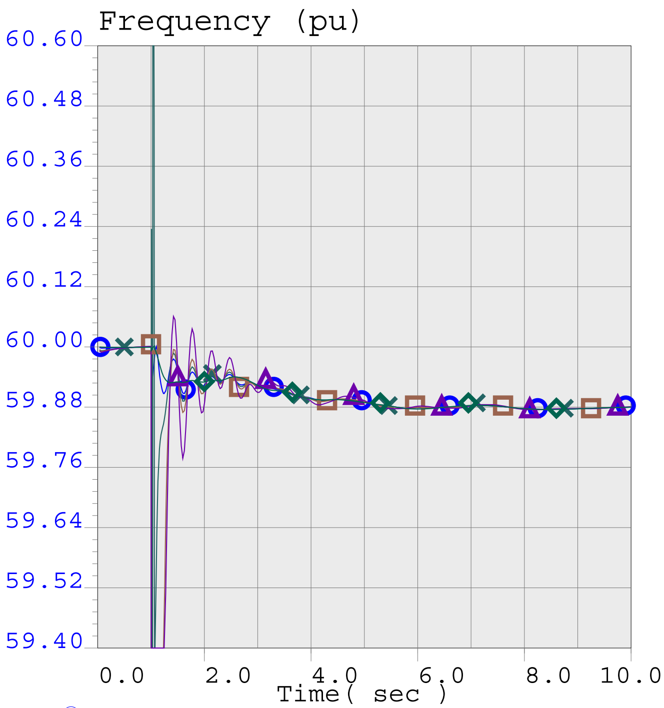

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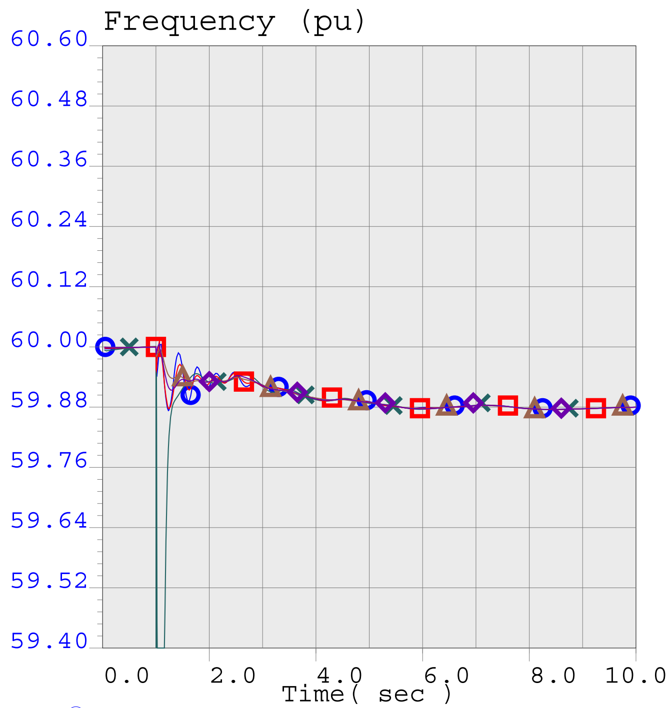

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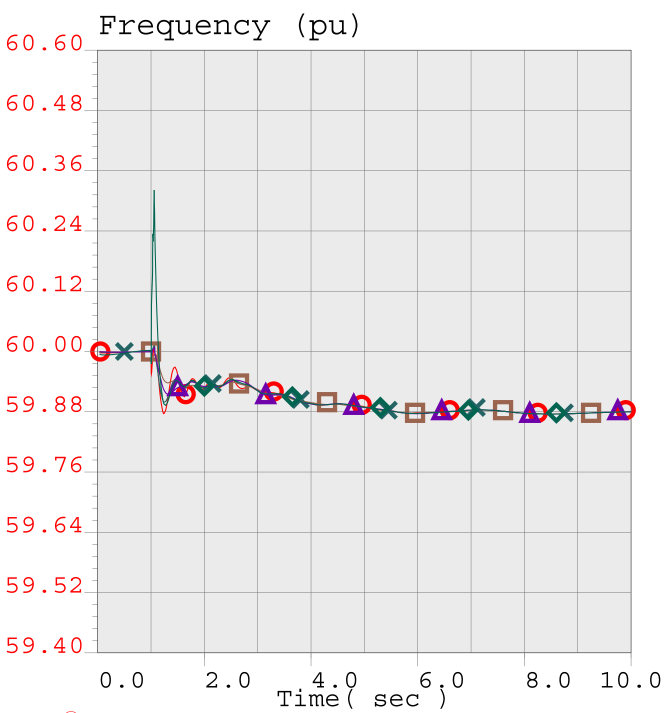

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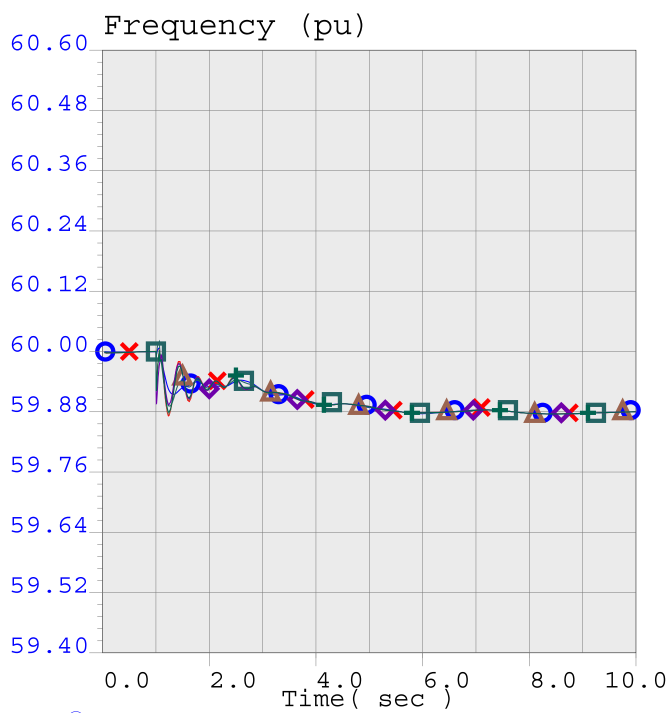

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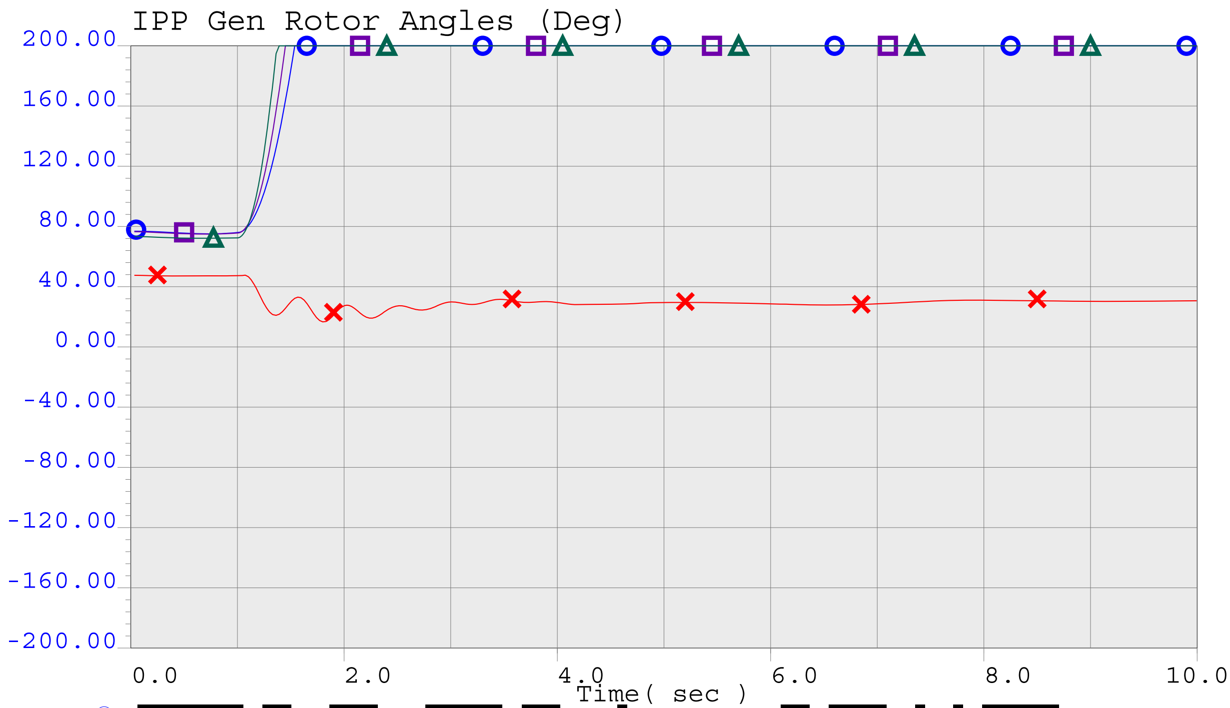

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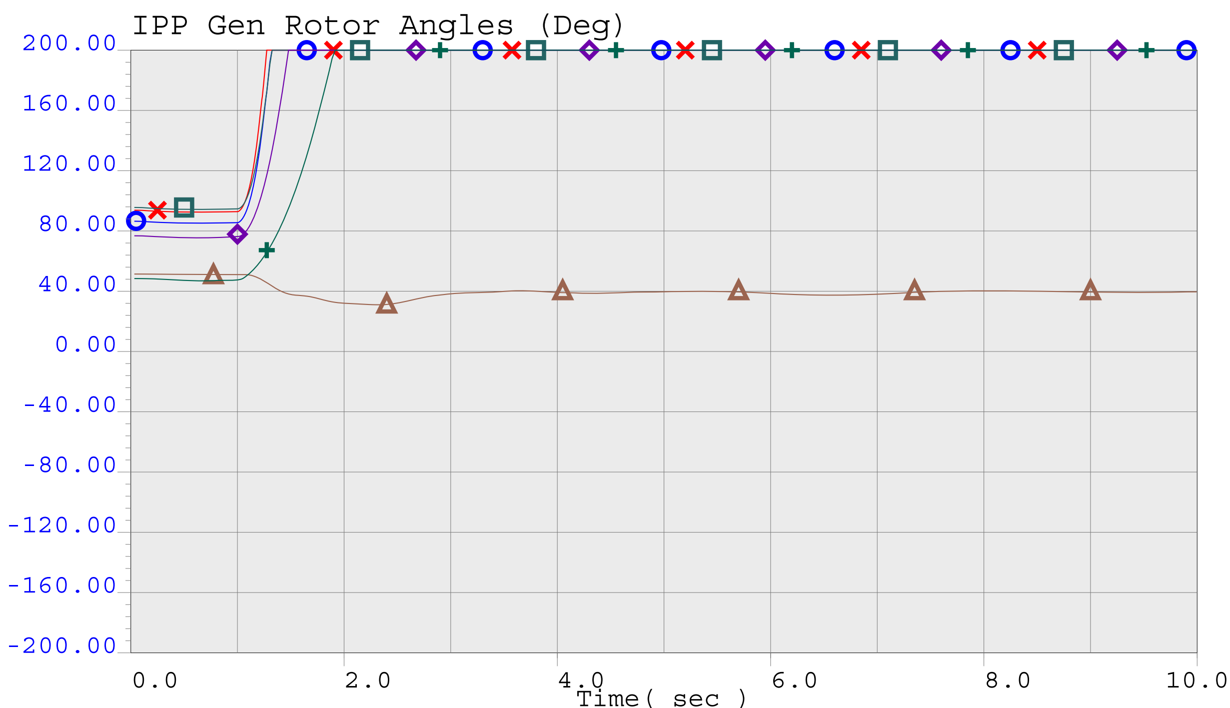

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Fri Aug 26 11:42:02 2022

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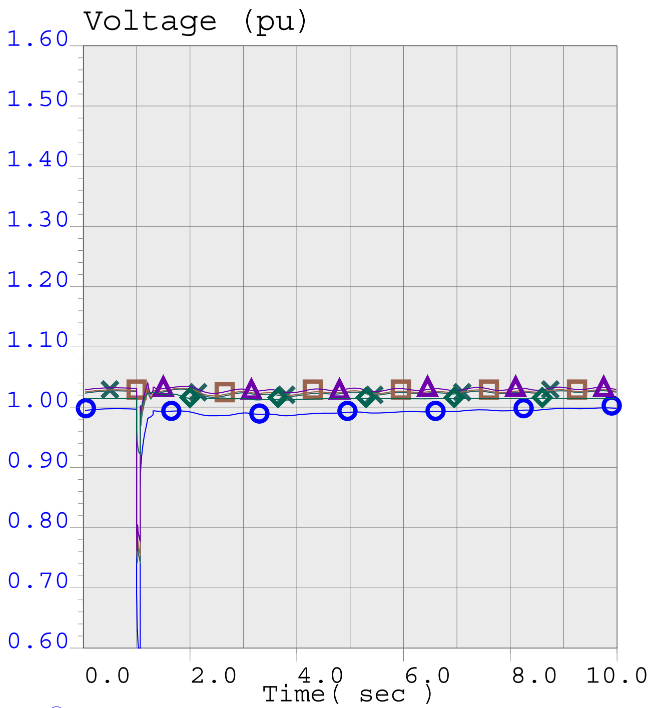

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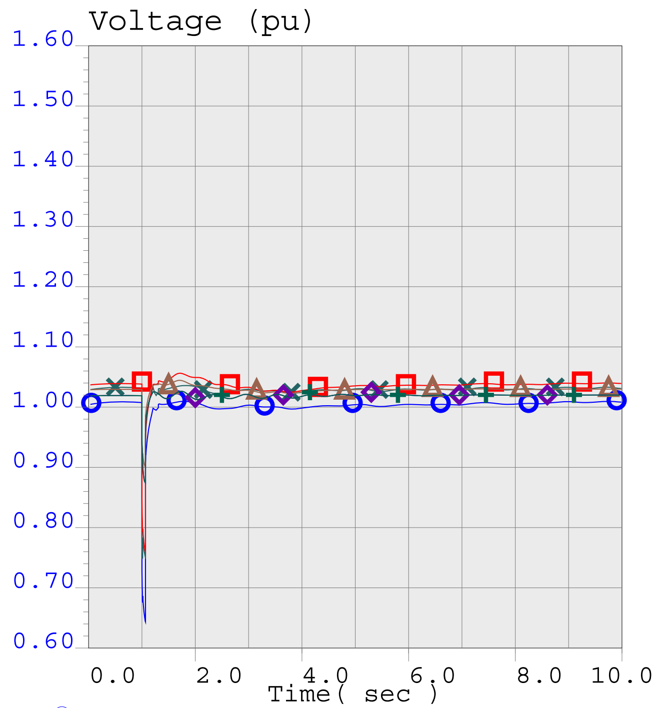

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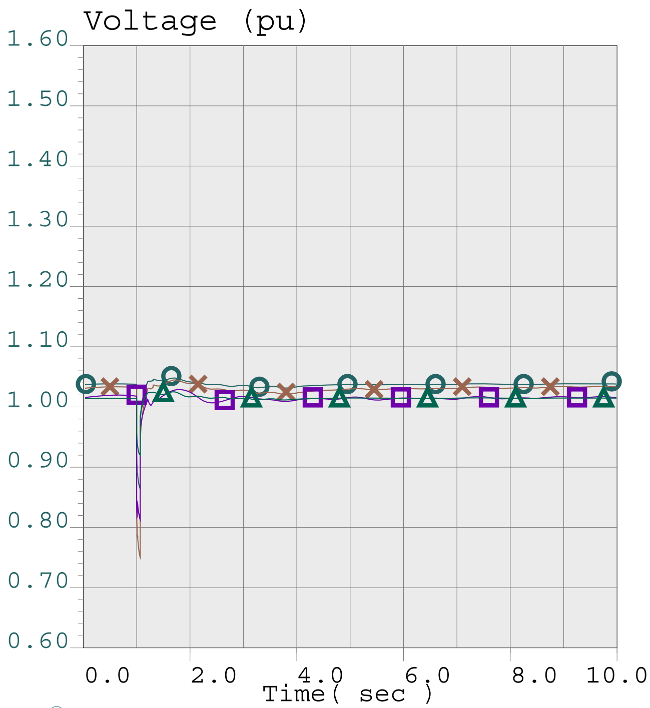

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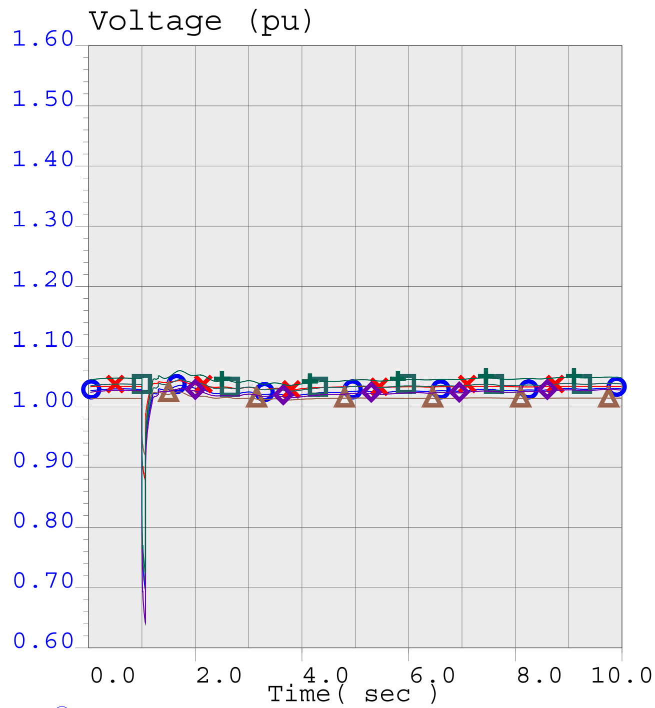

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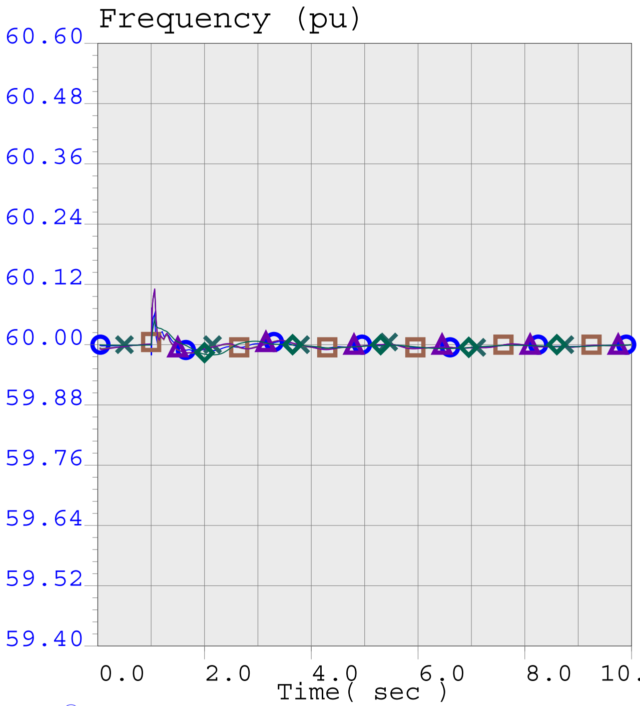

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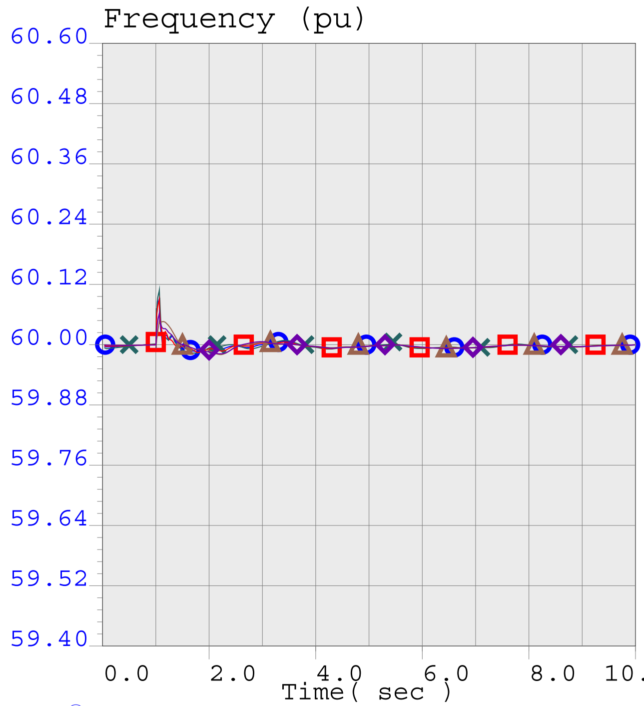

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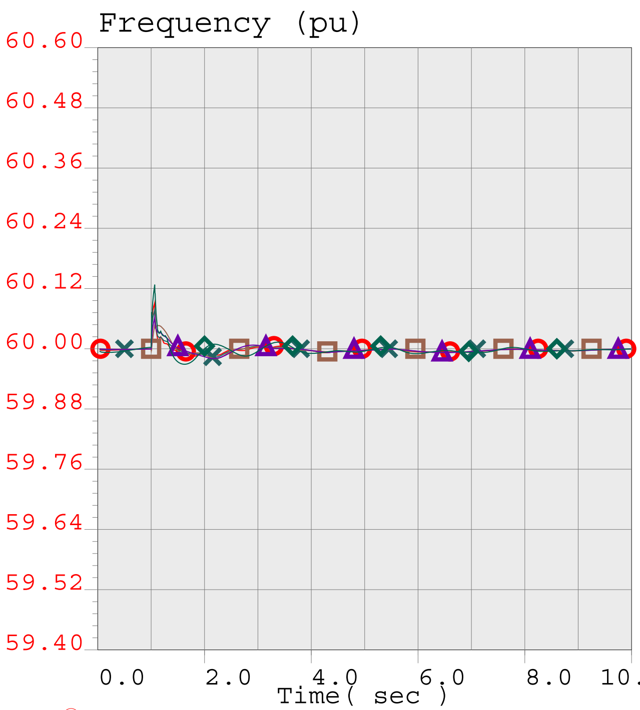

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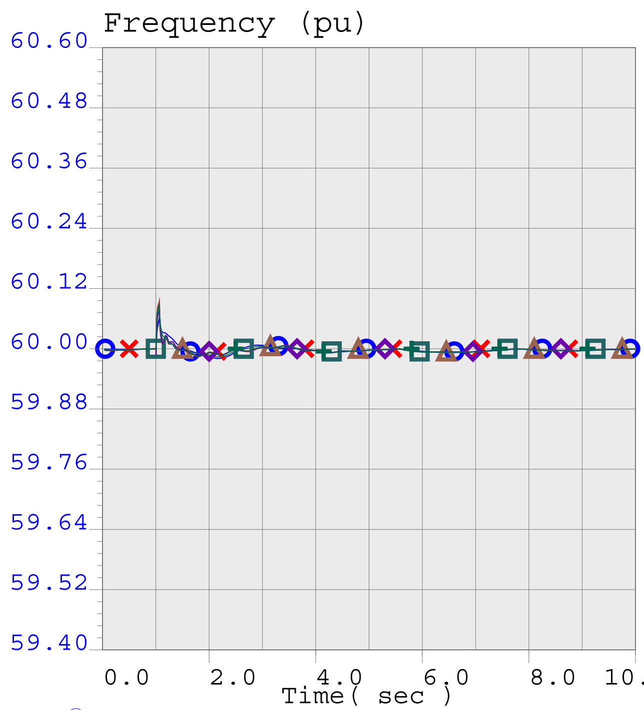

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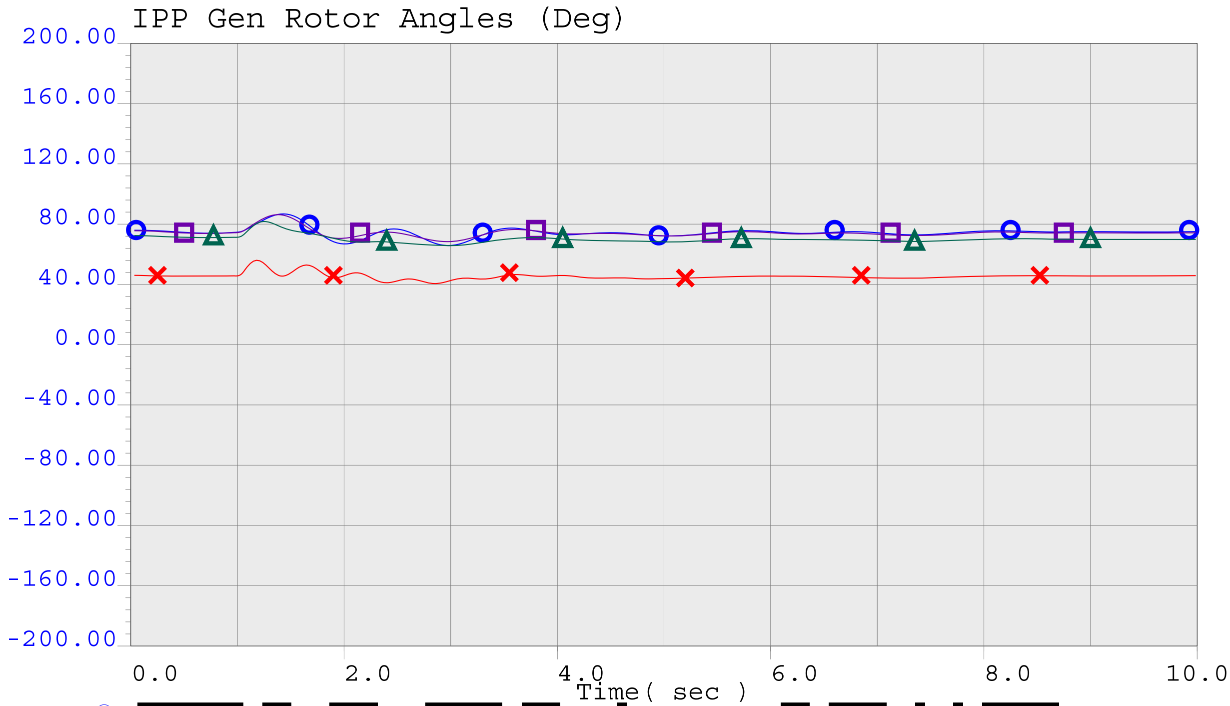

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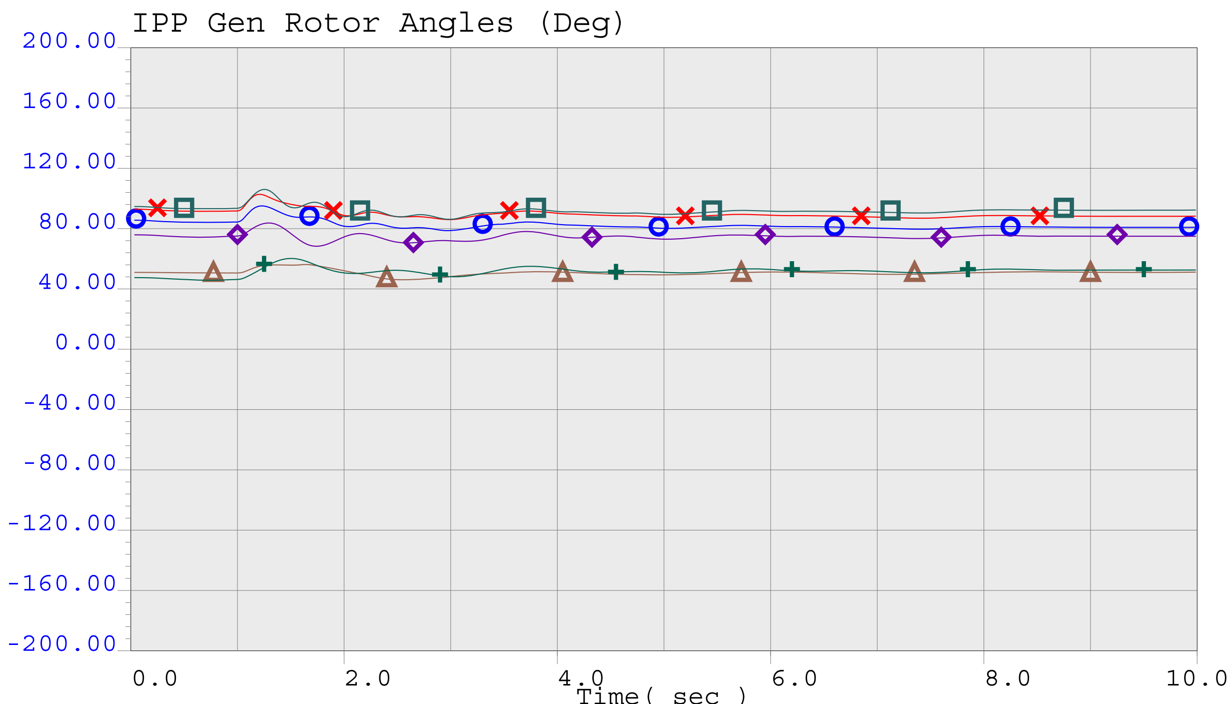

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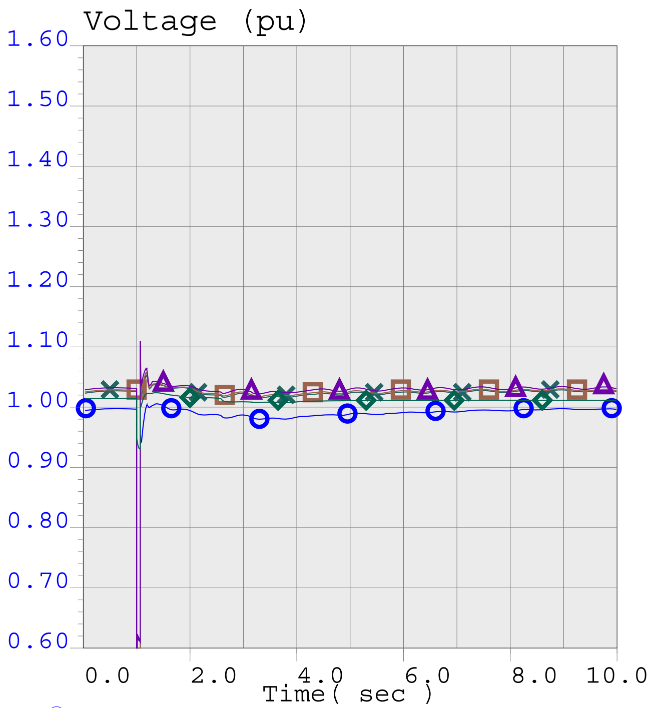

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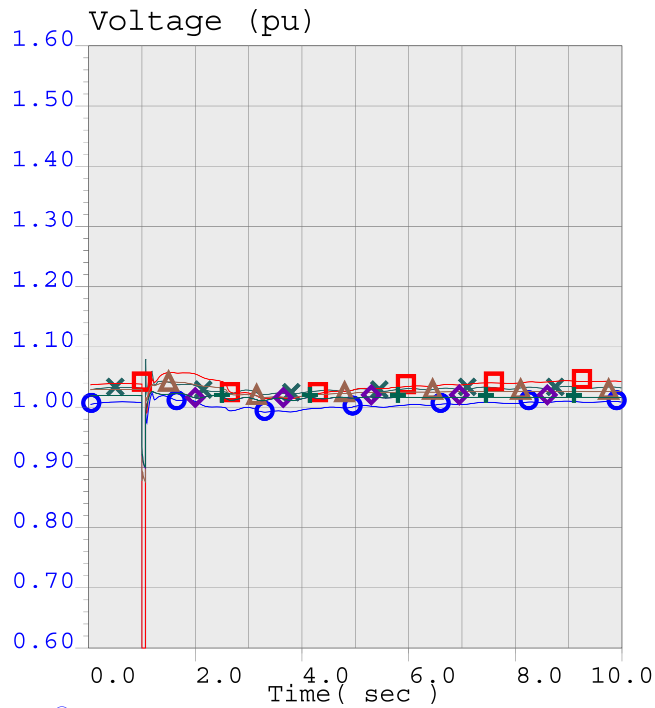

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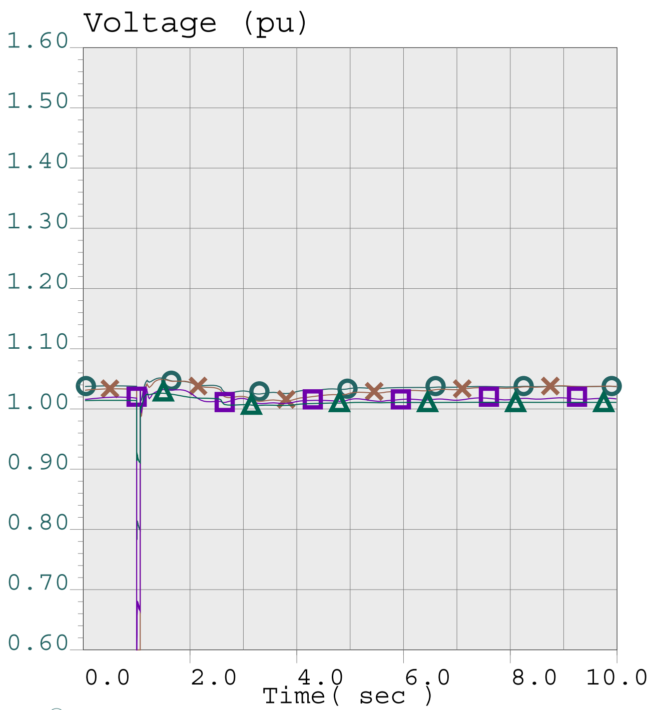

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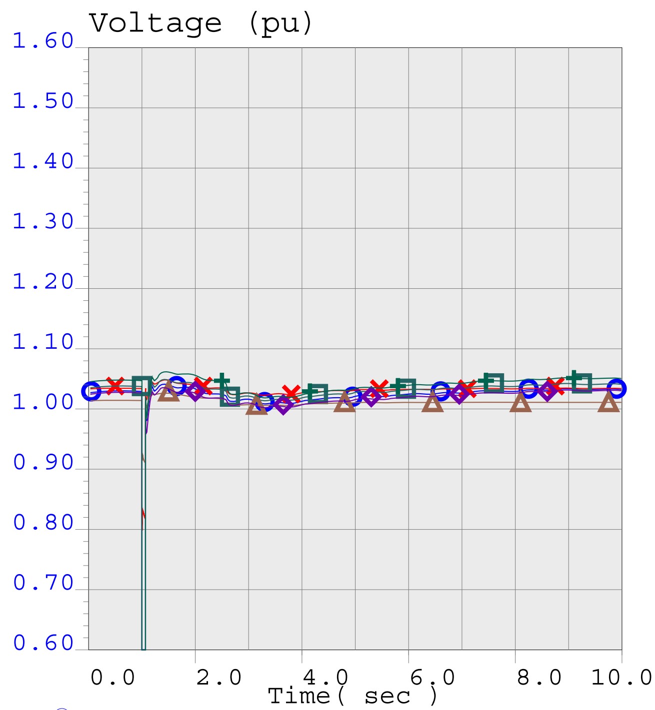

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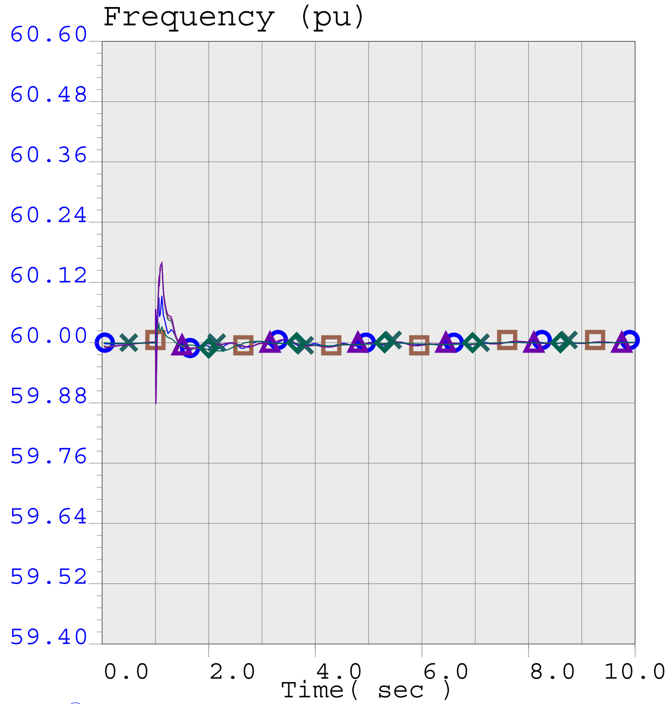

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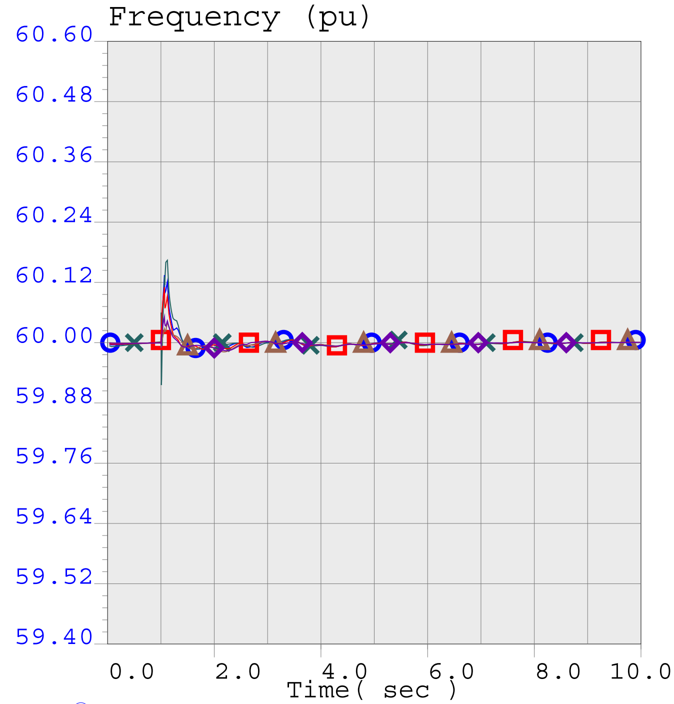

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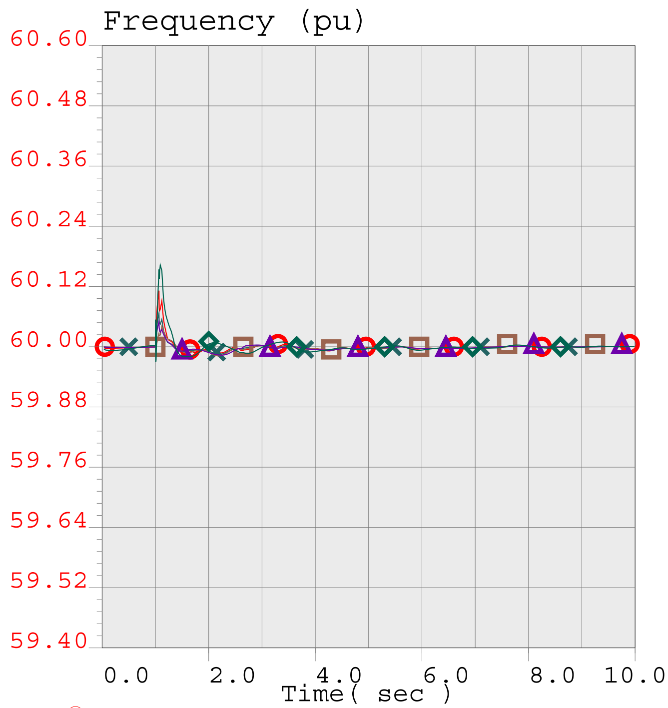

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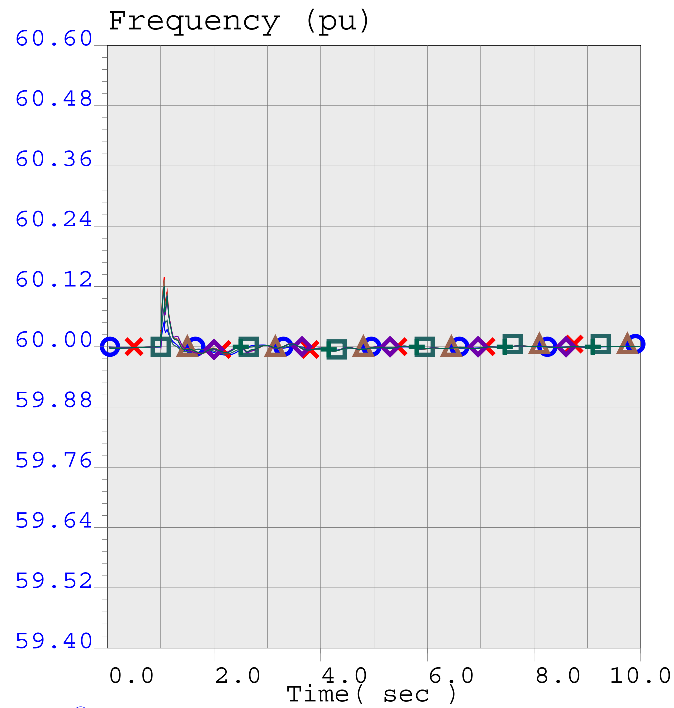

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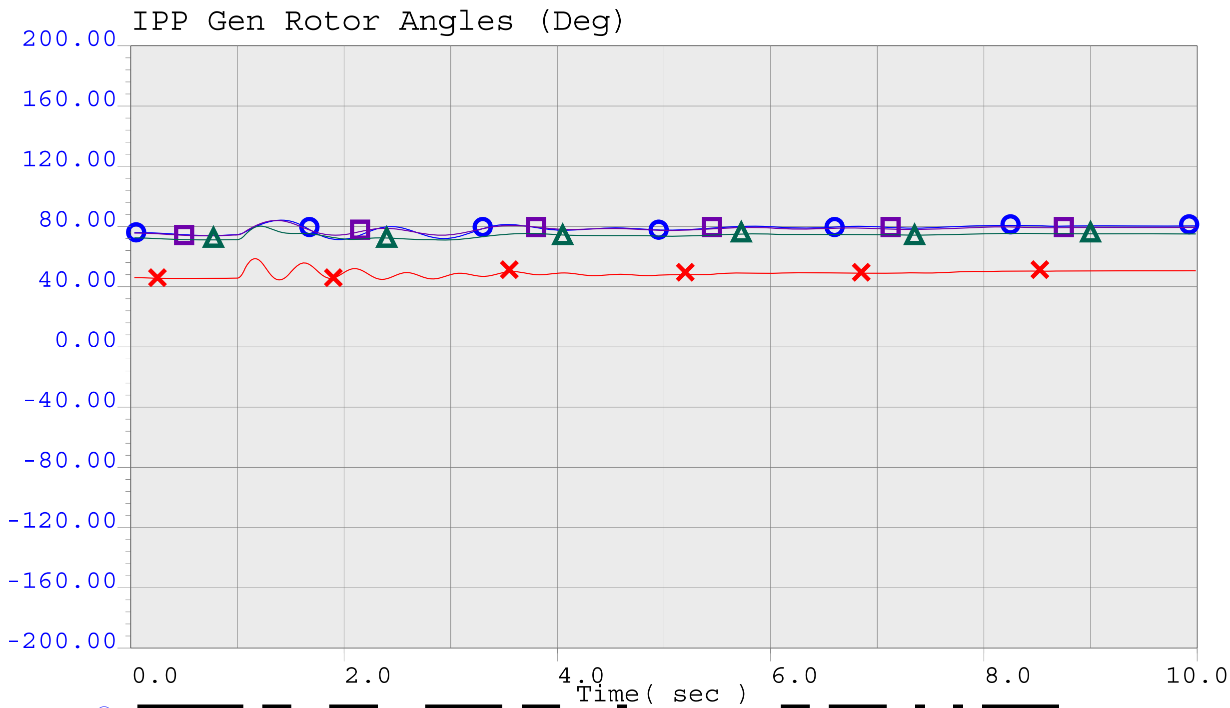
SYSTEM IMPACT STUDY (Rotor Angles)



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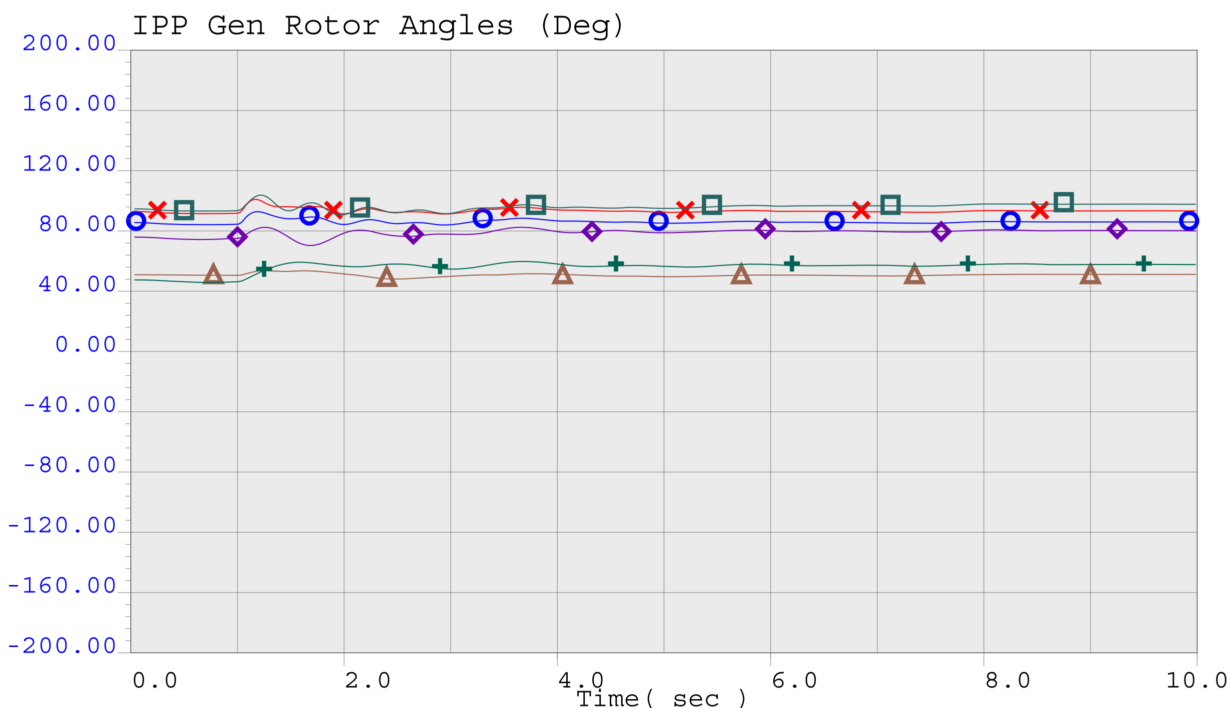

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Fri Aug 26 09:18:44 2022

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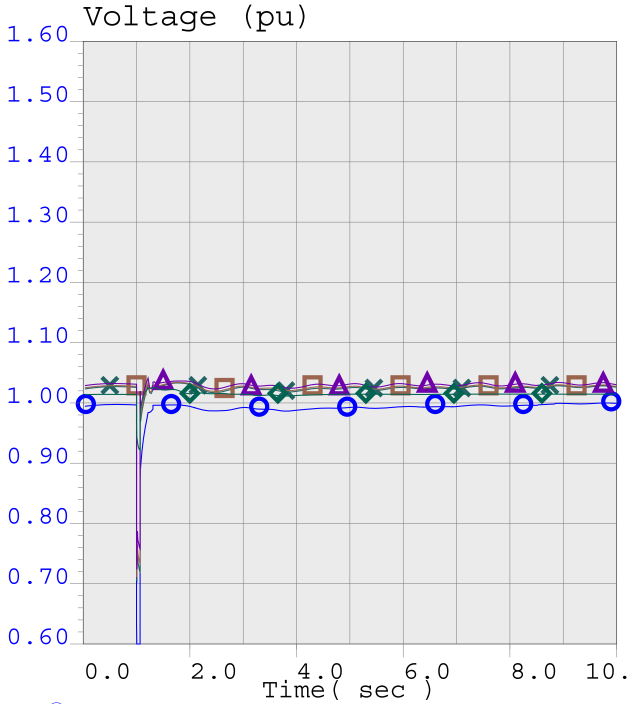

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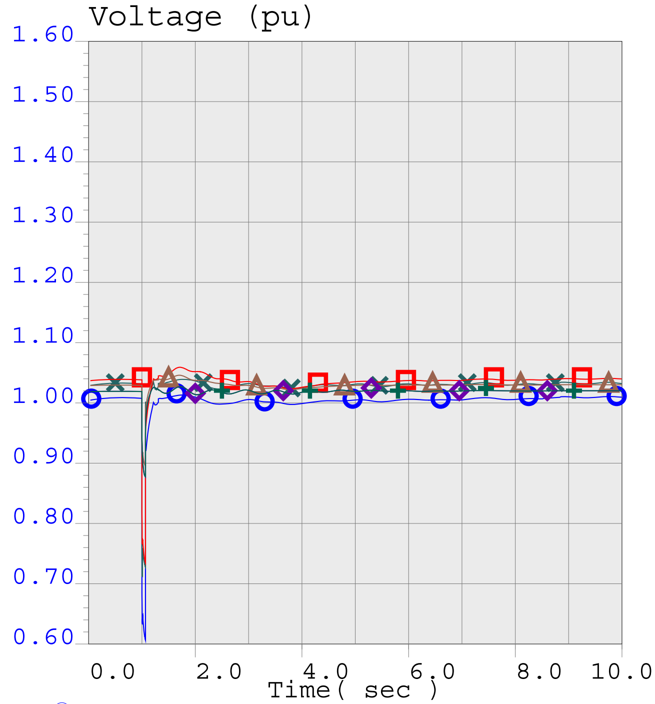

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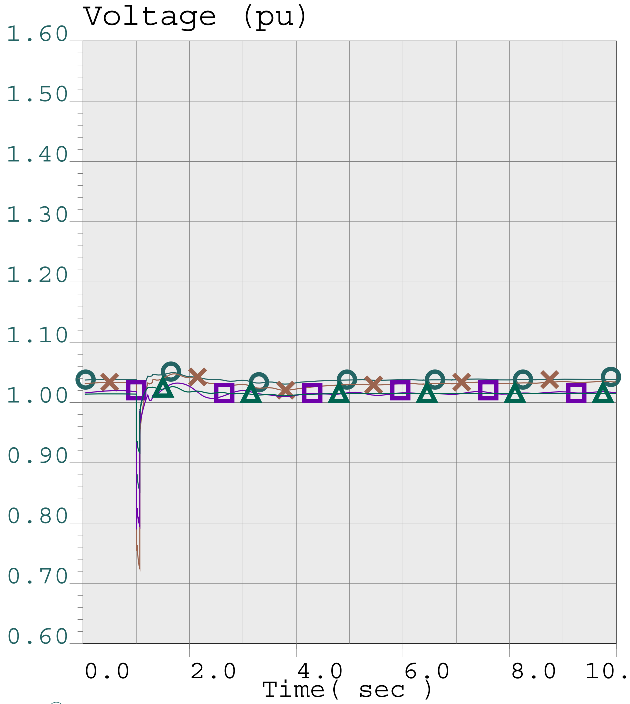

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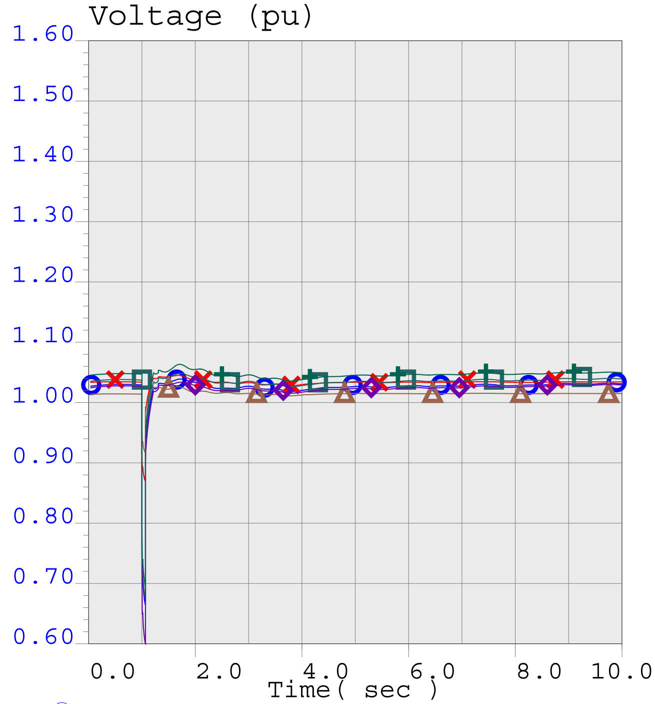

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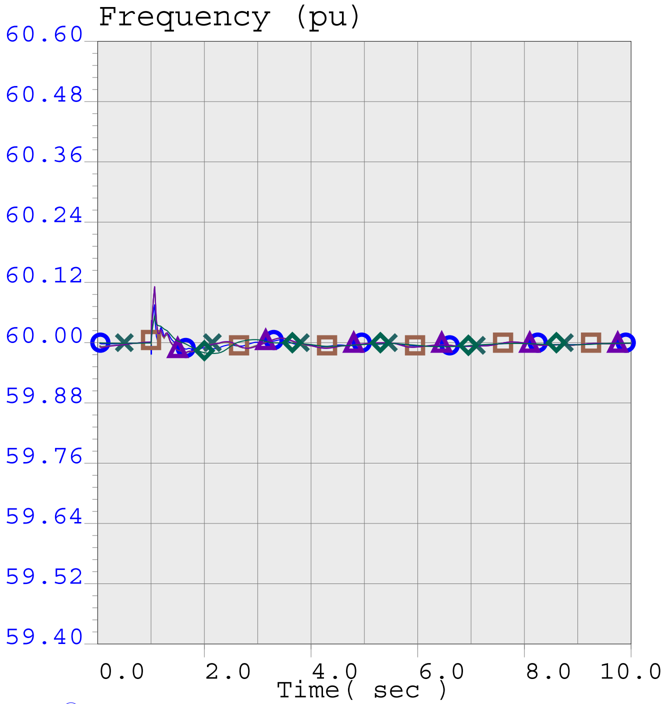

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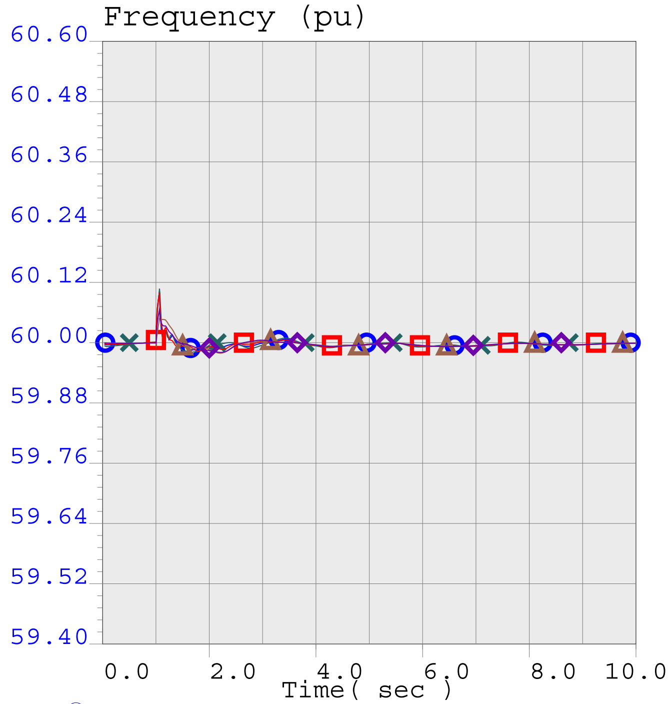

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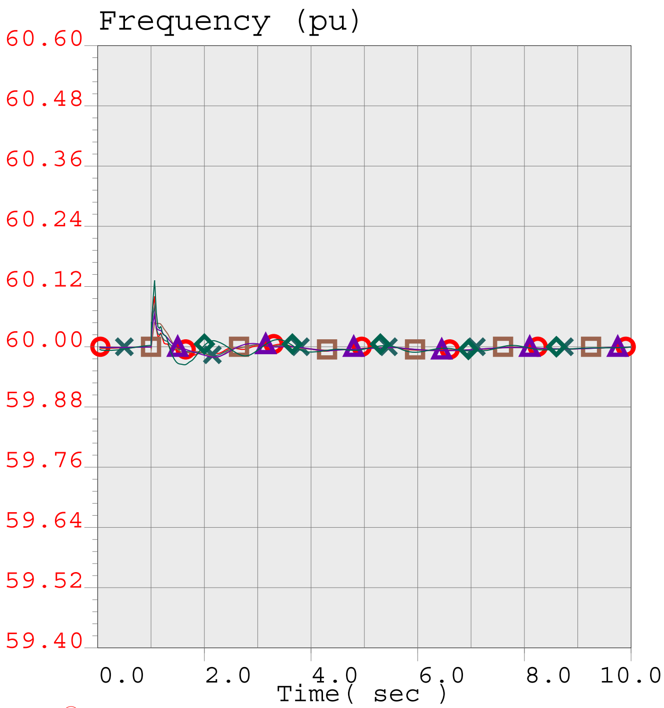

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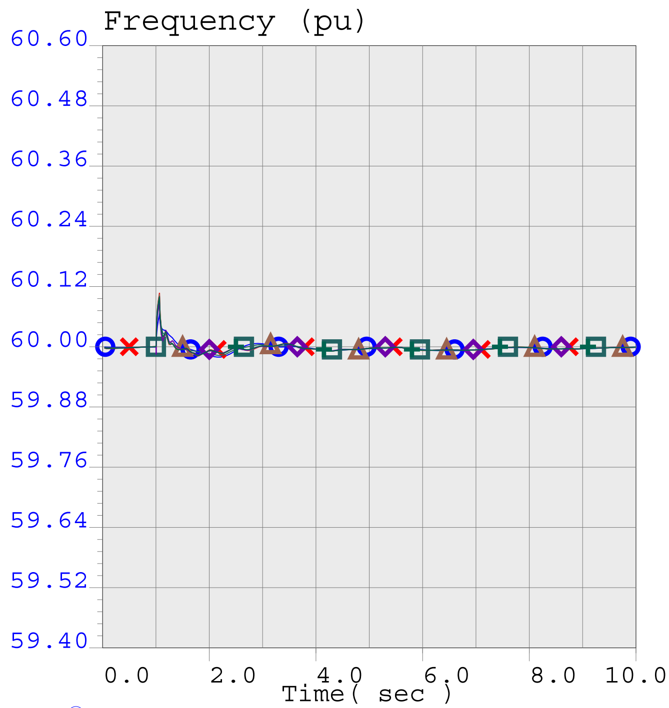

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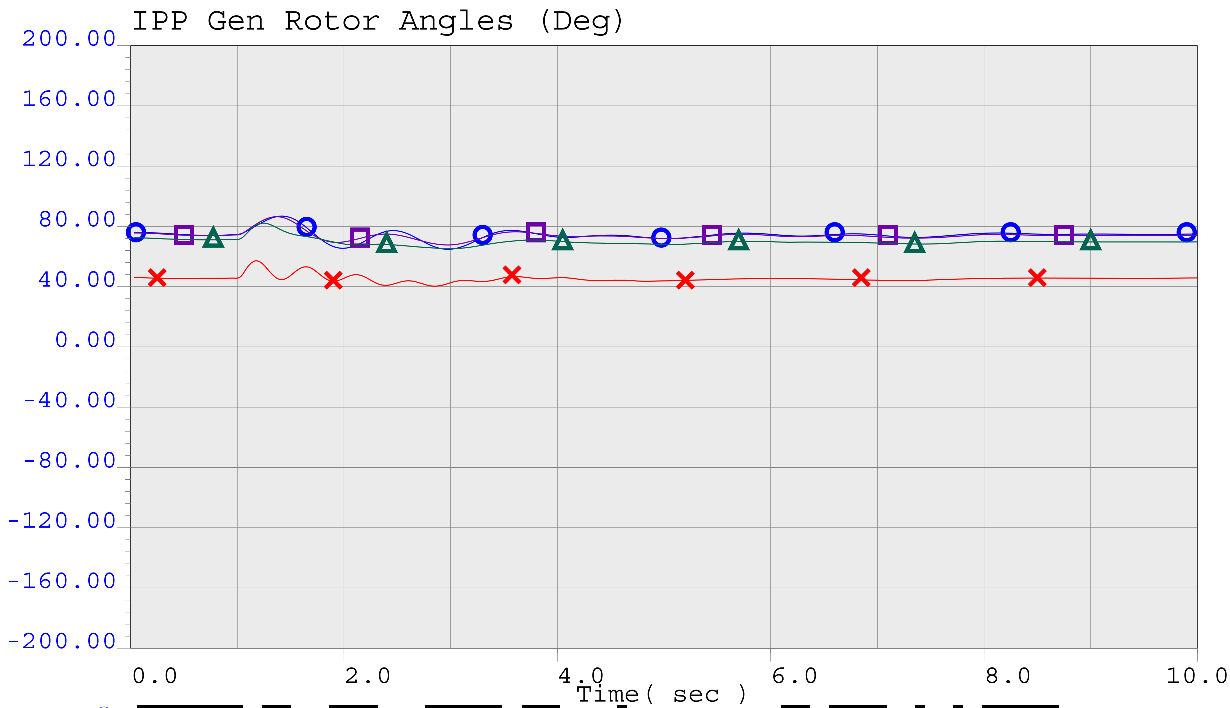
SYSTEM IMPACT STUDY (Rotor Angles)



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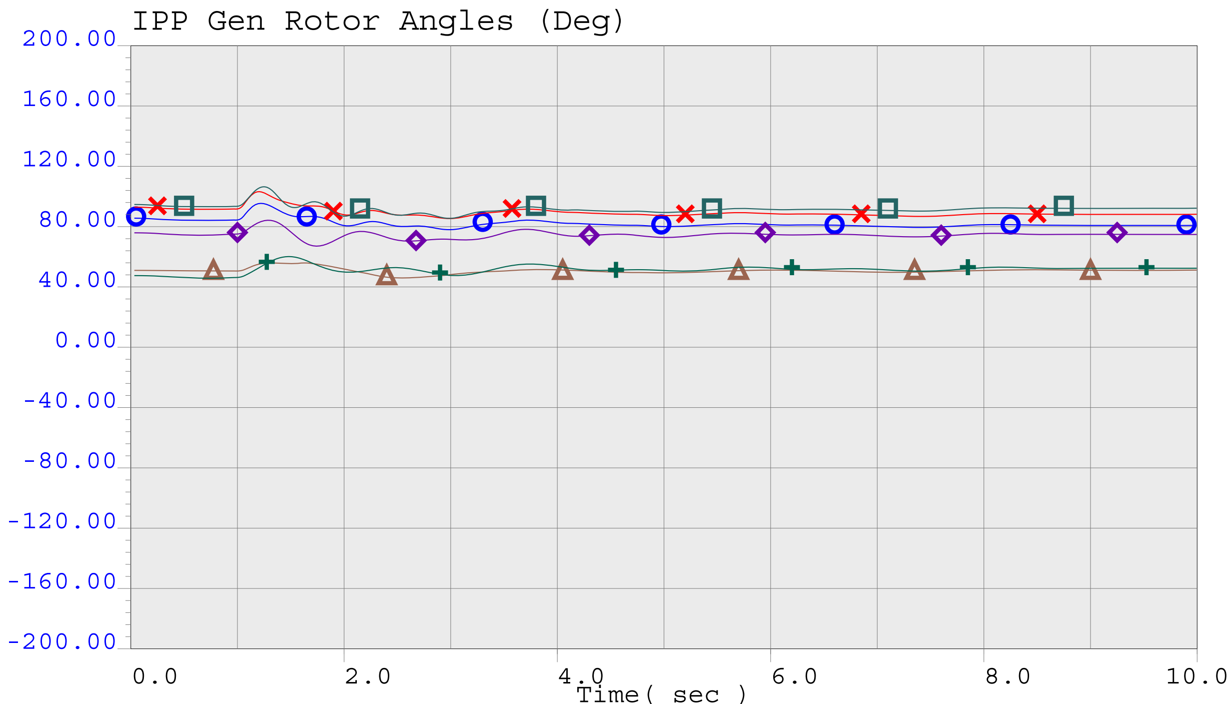

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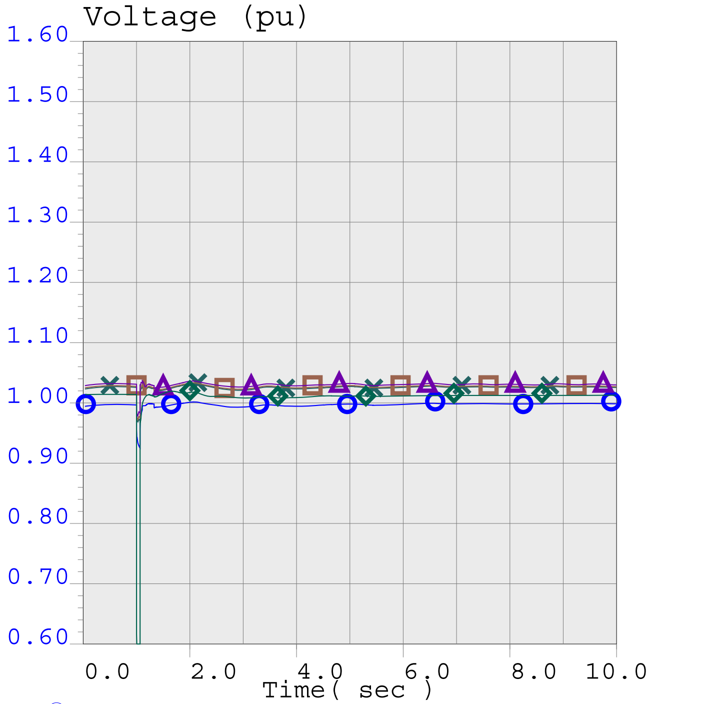
SYSTEM IMPACT STUDY (Voltage)



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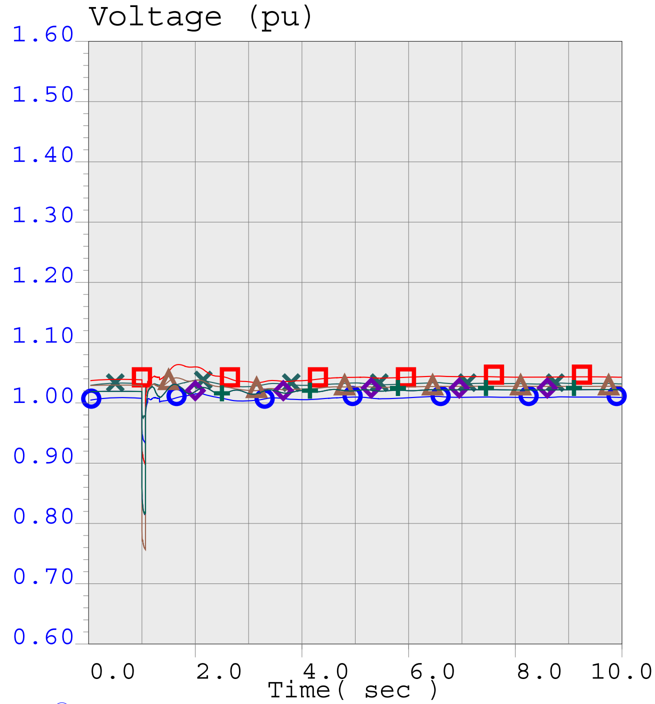

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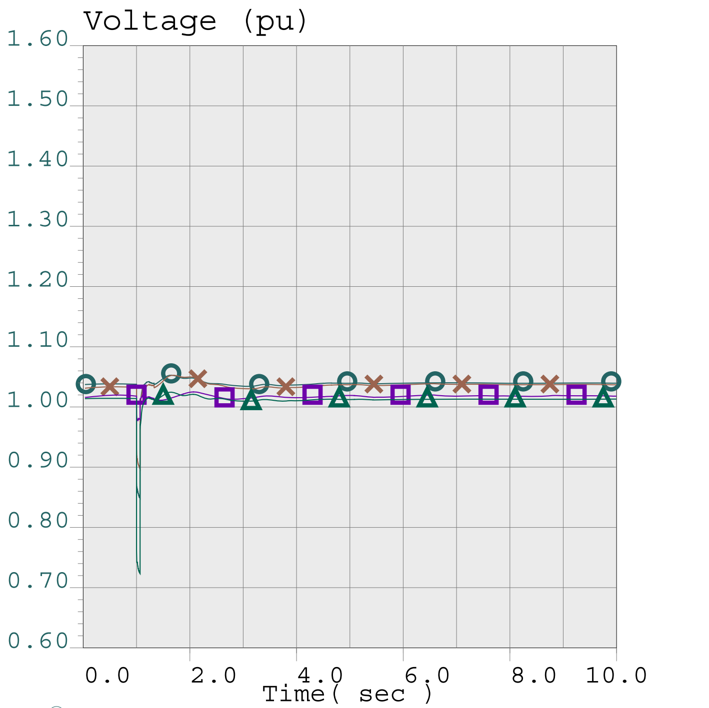

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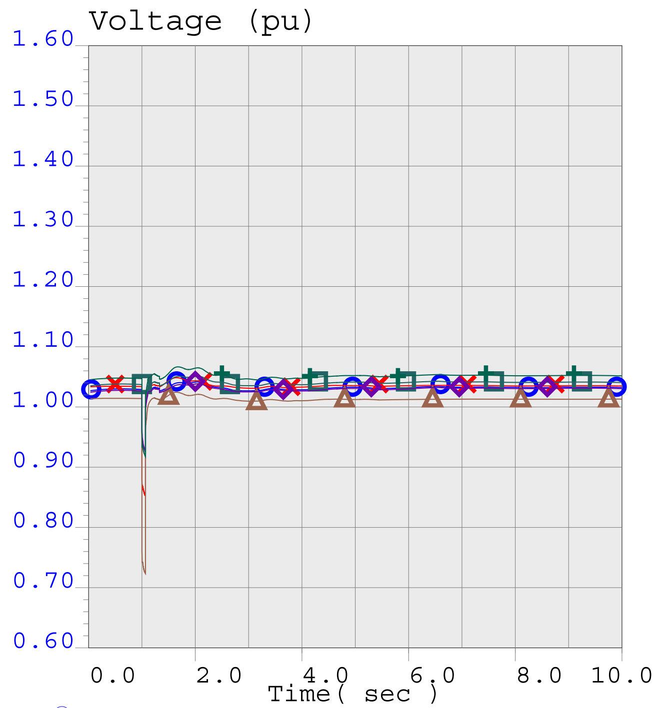

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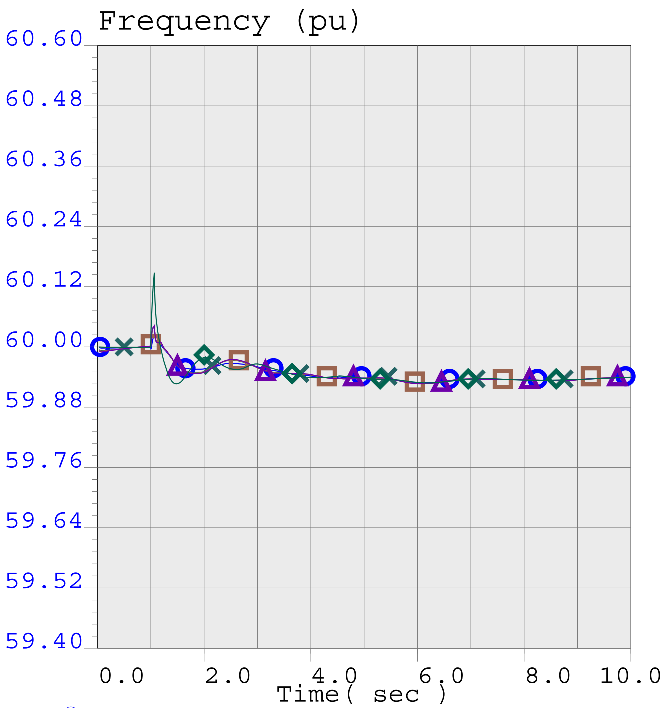
Fri Aug 26 09:18:48 2022

SYSTEM IMPACT STUDY (Frequency)



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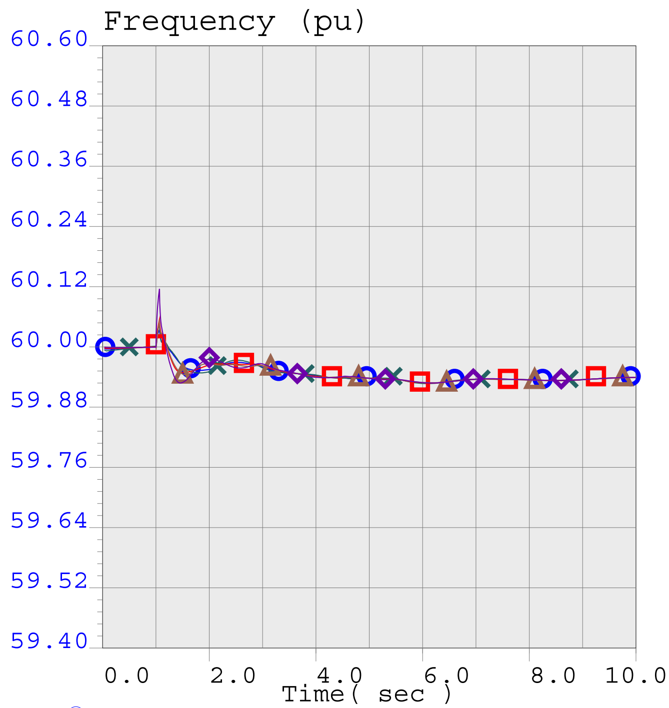

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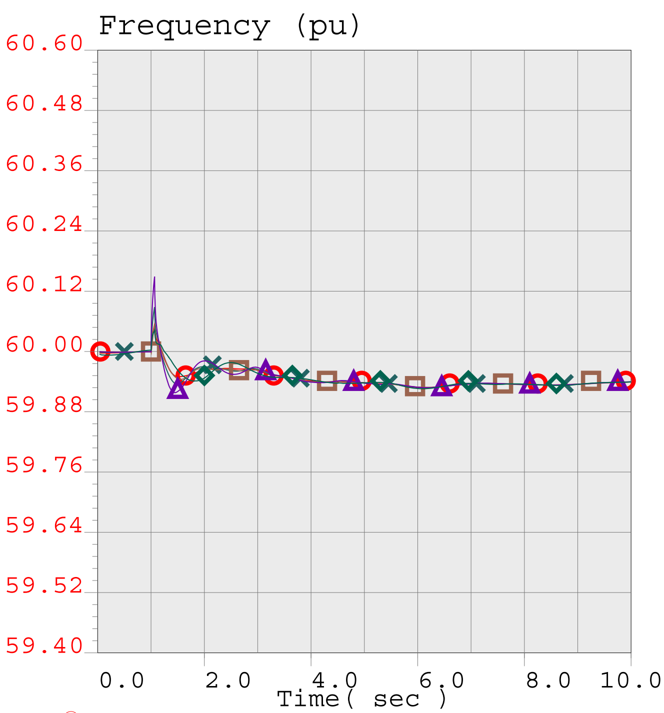

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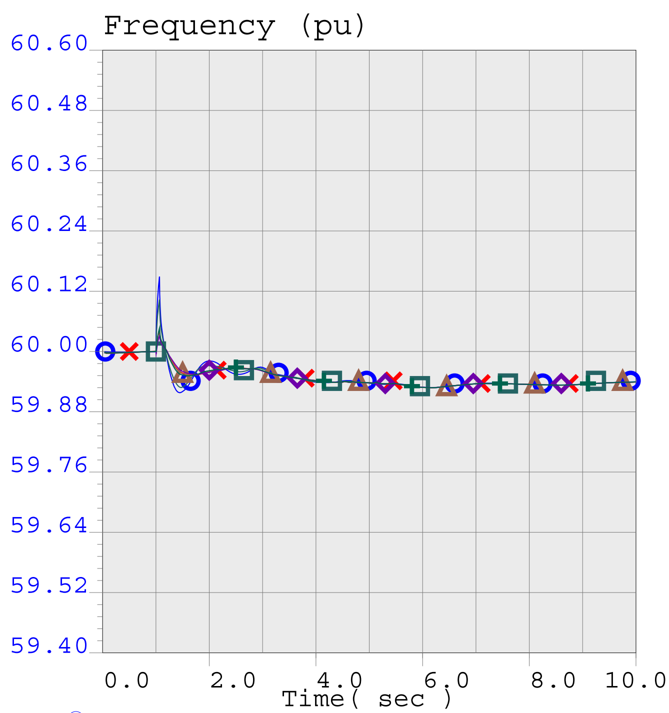

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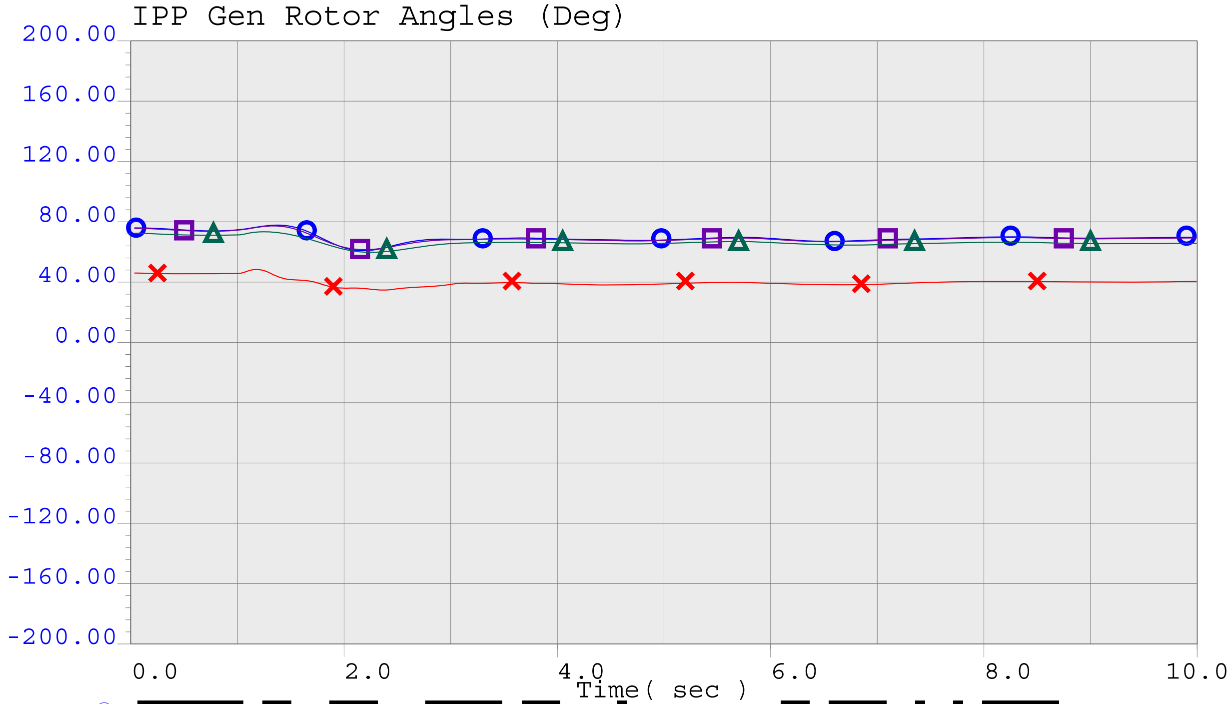
Fri Aug 26 09:18:48 2022

SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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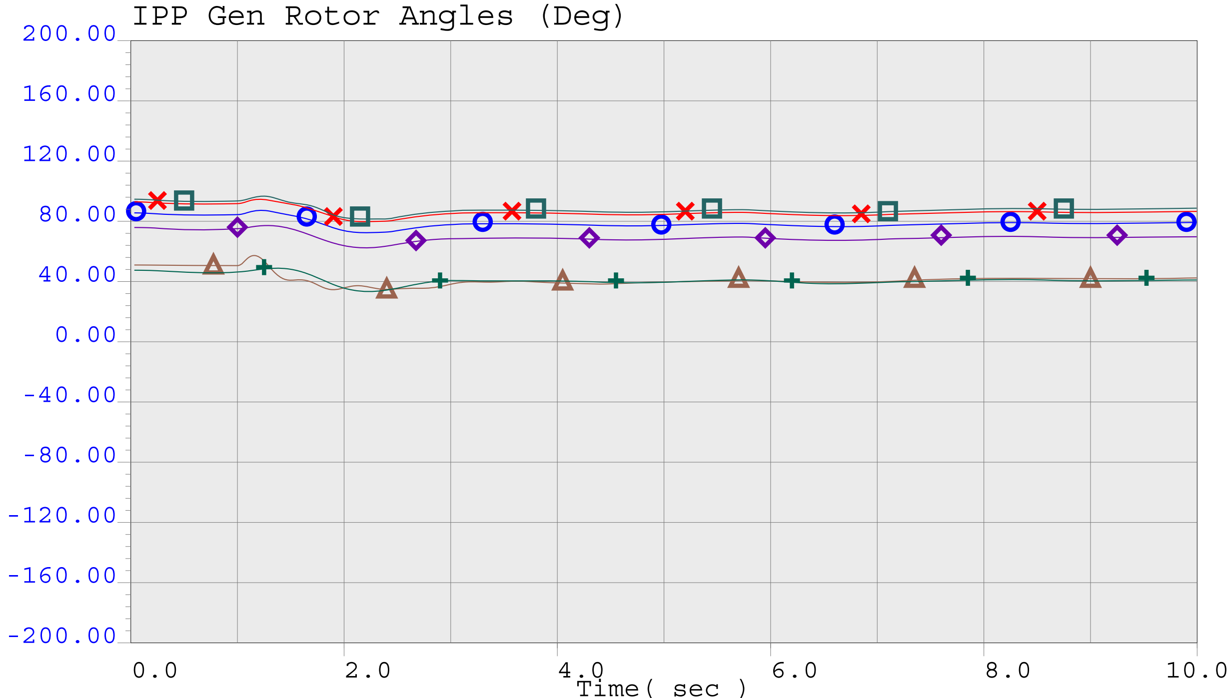
IPP Gen Rotor Angles (Deg)



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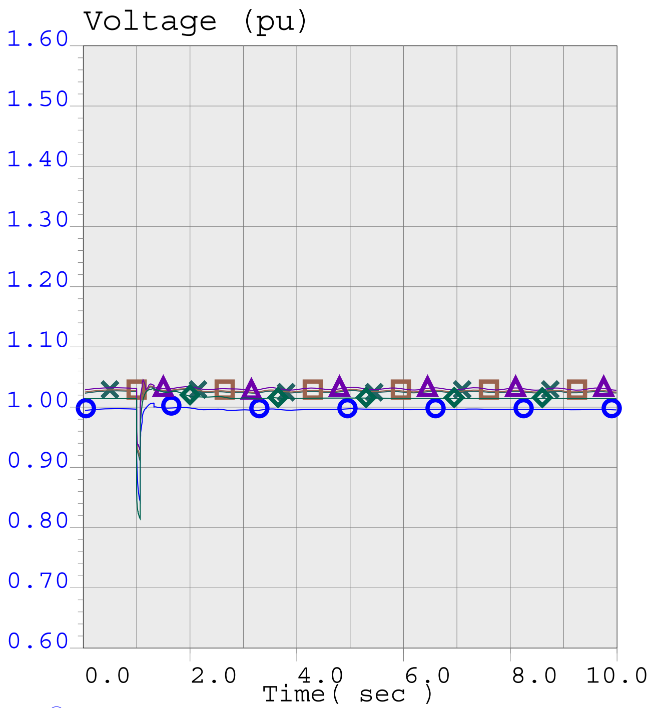
SYSTEM IMPACT STUDY (Voltage)



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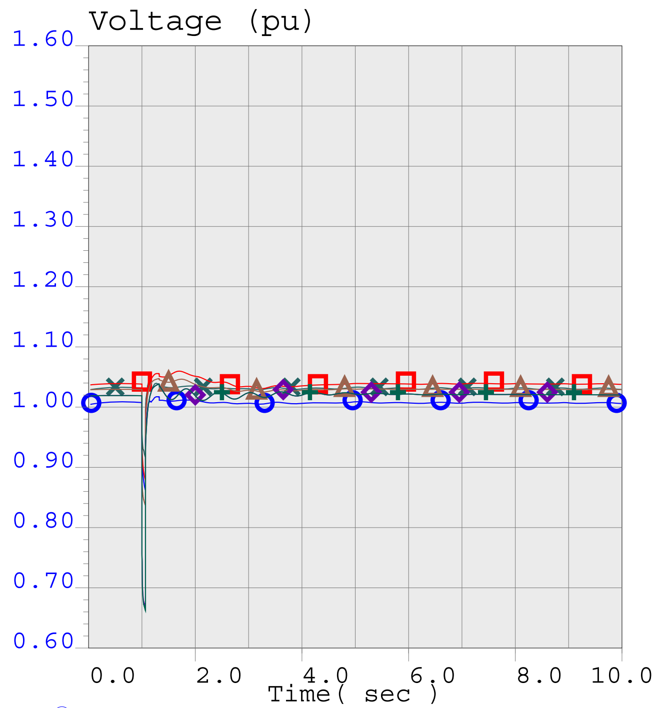

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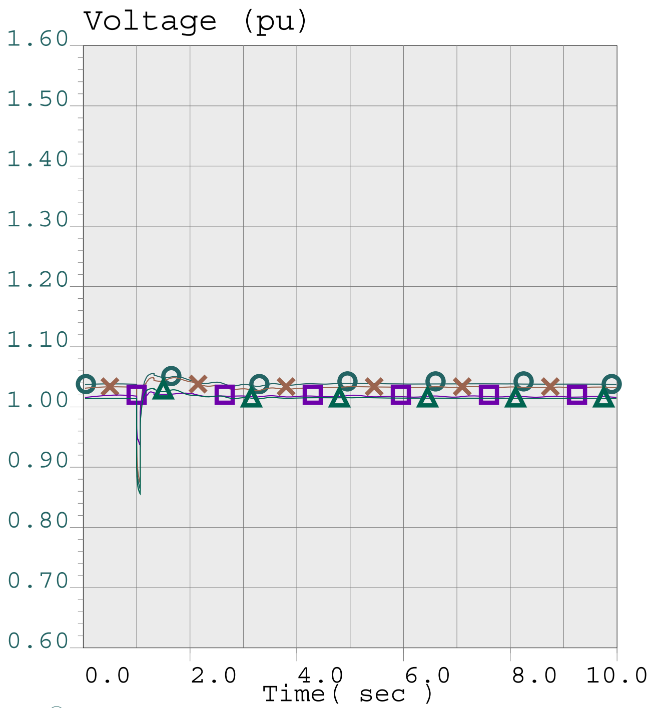

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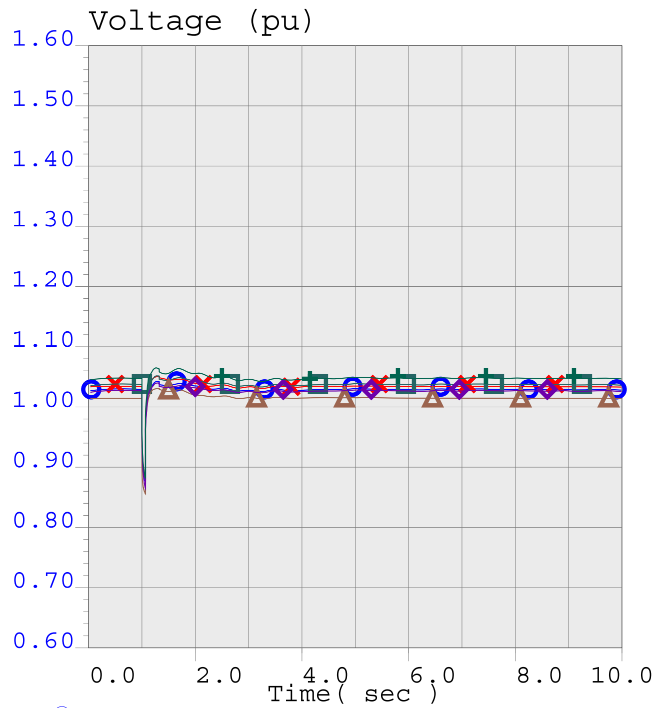

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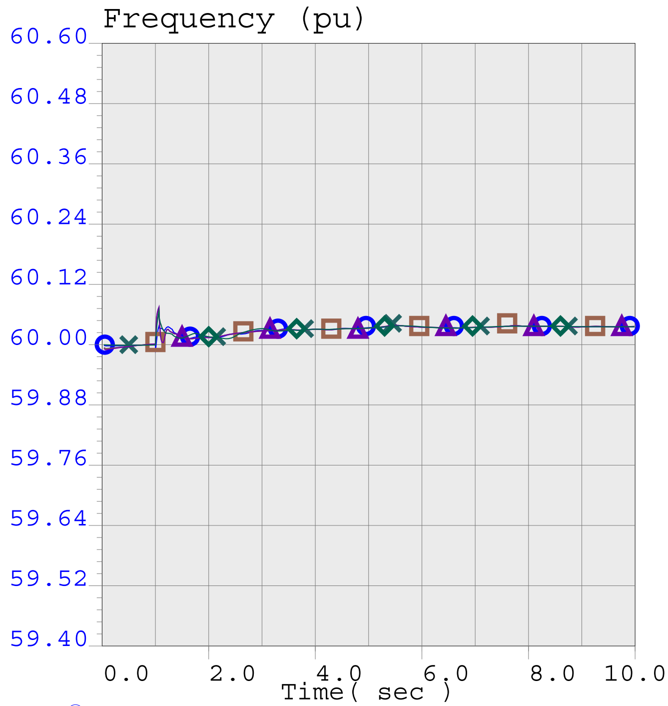
Fri Aug 26 09:18:51 2022

SYSTEM IMPACT STUDY (Frequency)



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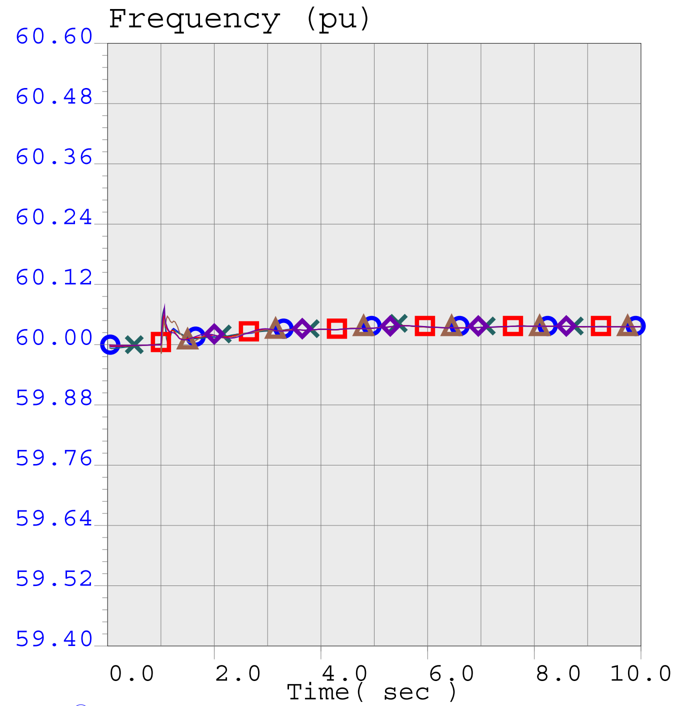

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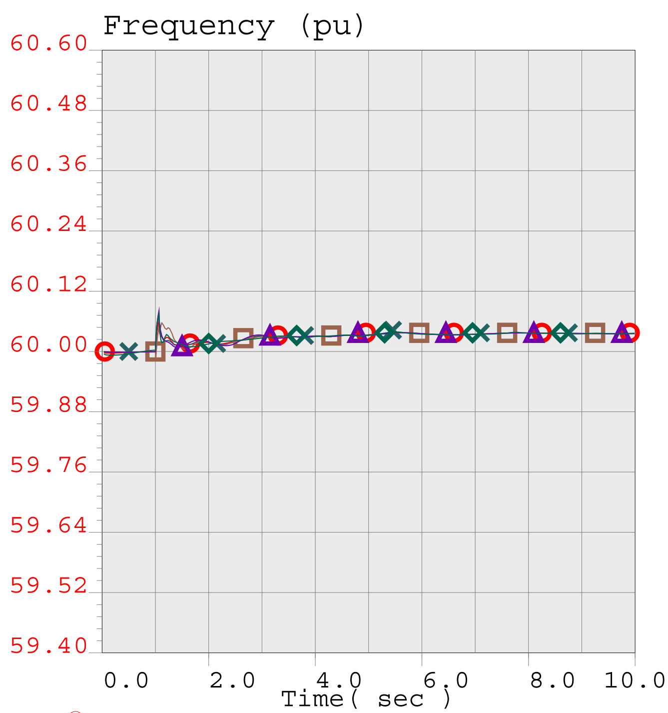

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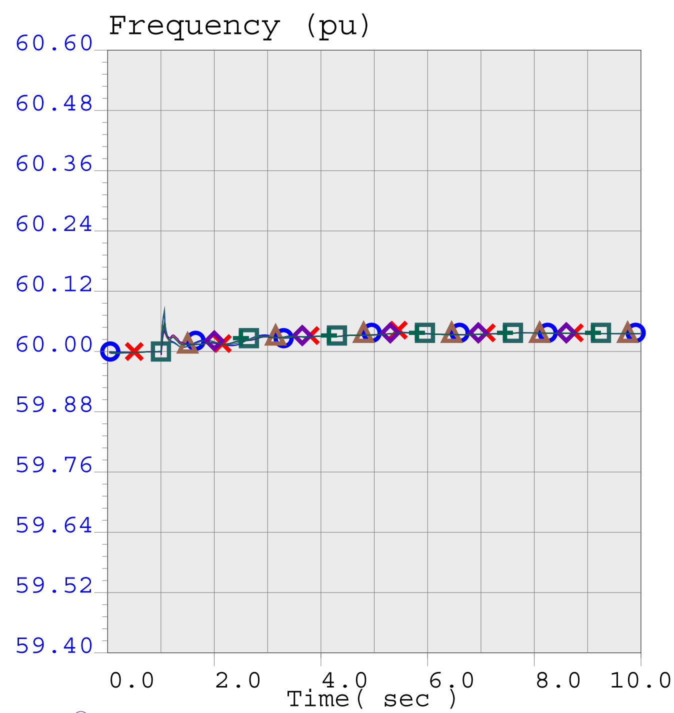

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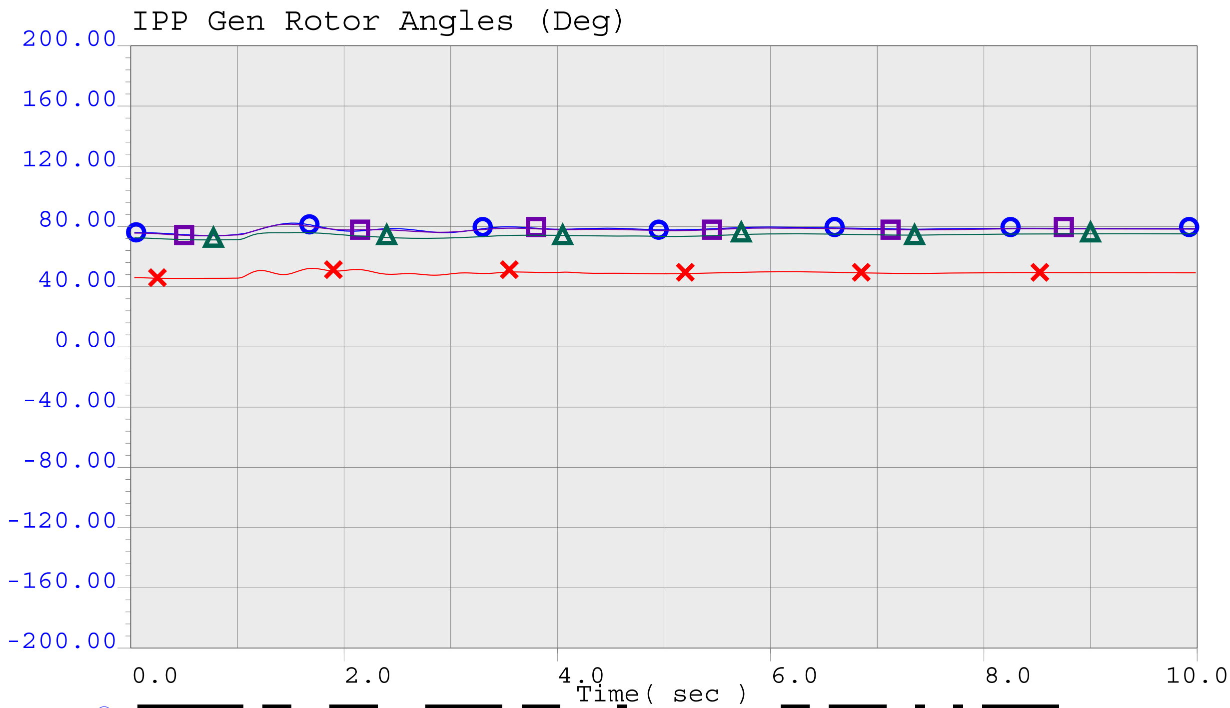
Fri Aug 26 09:18:51 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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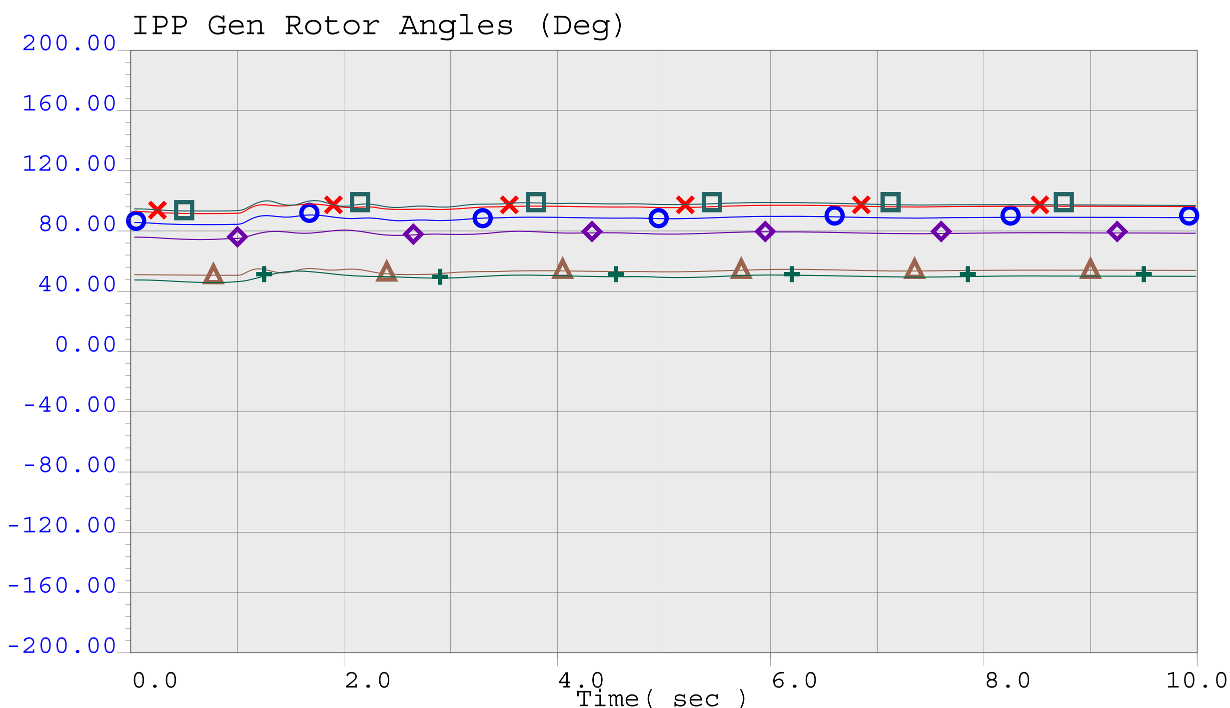

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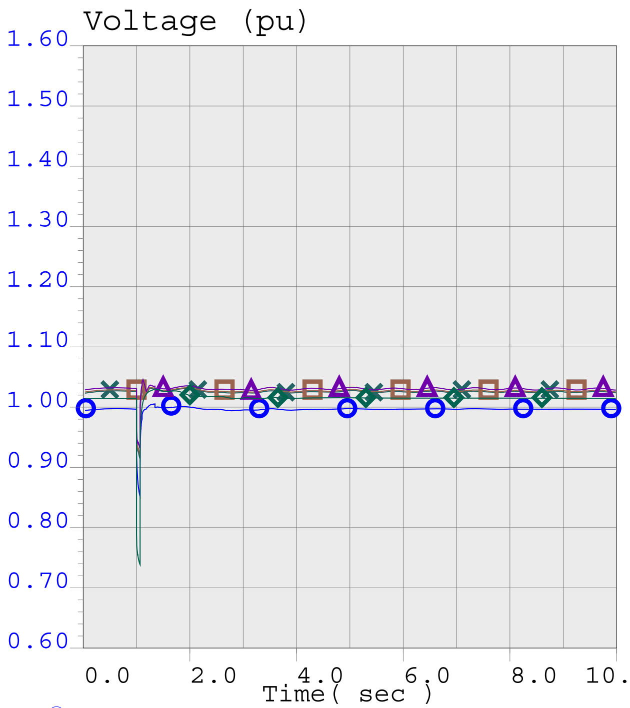
SYSTEM IMPACT STUDY (Voltage)



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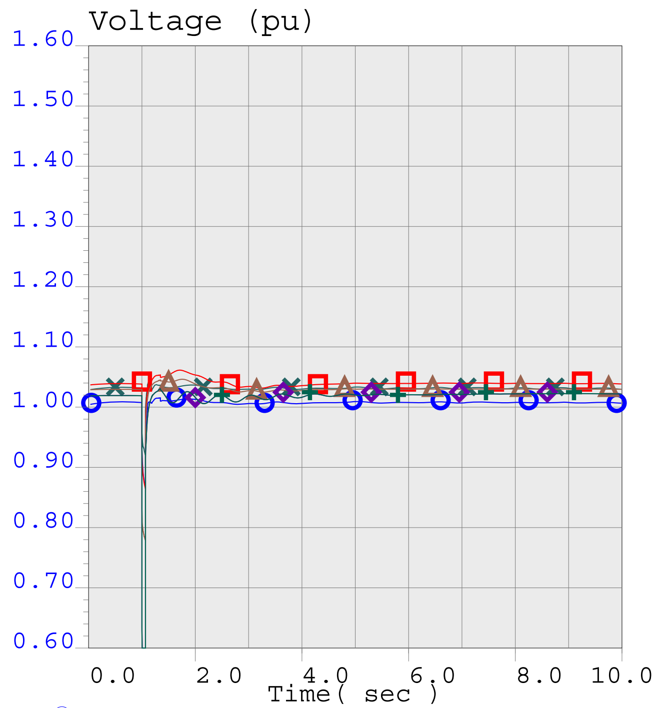

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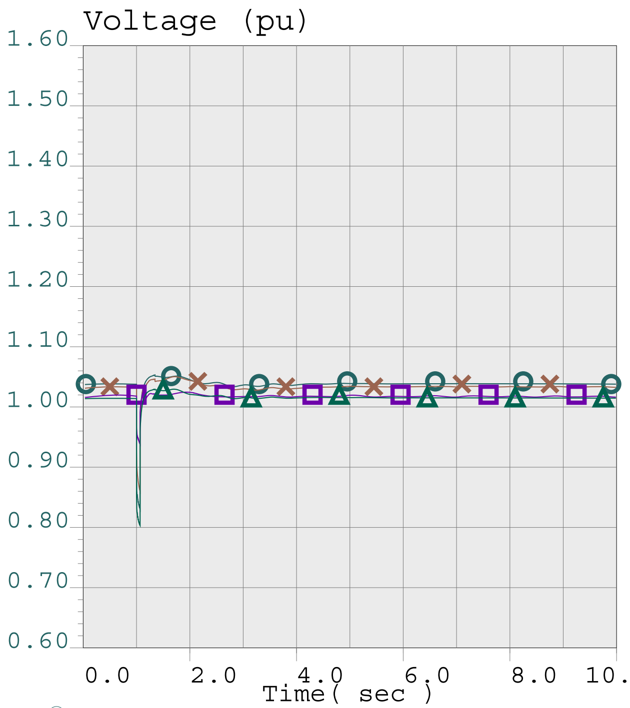

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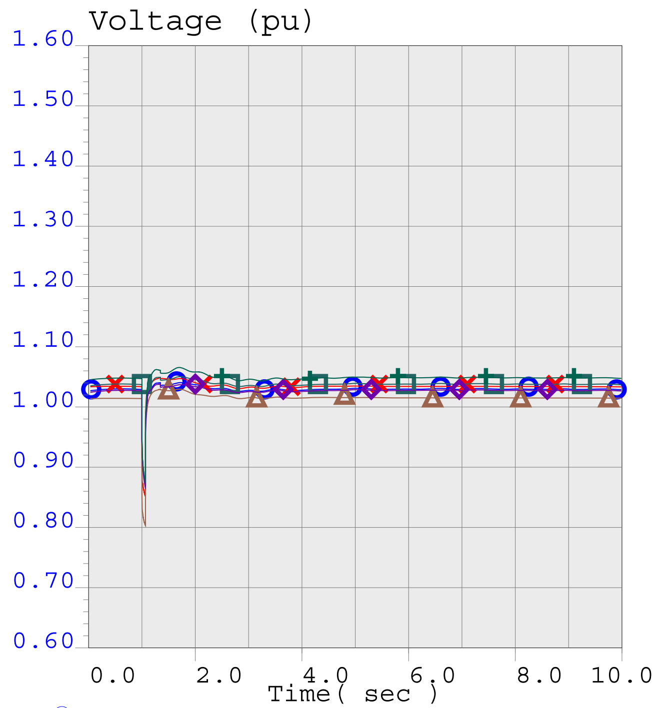

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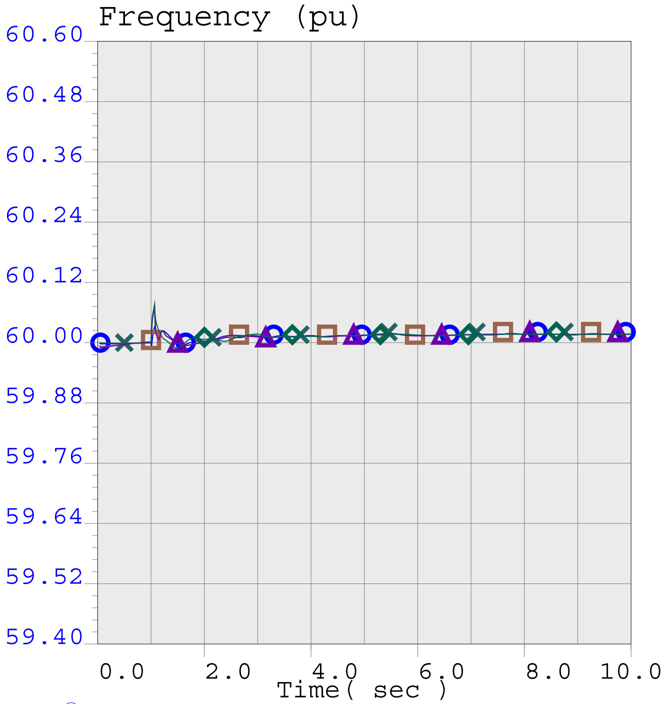
Fri Aug 26 09:18:53 2022

SYSTEM IMPACT STUDY (Frequency)



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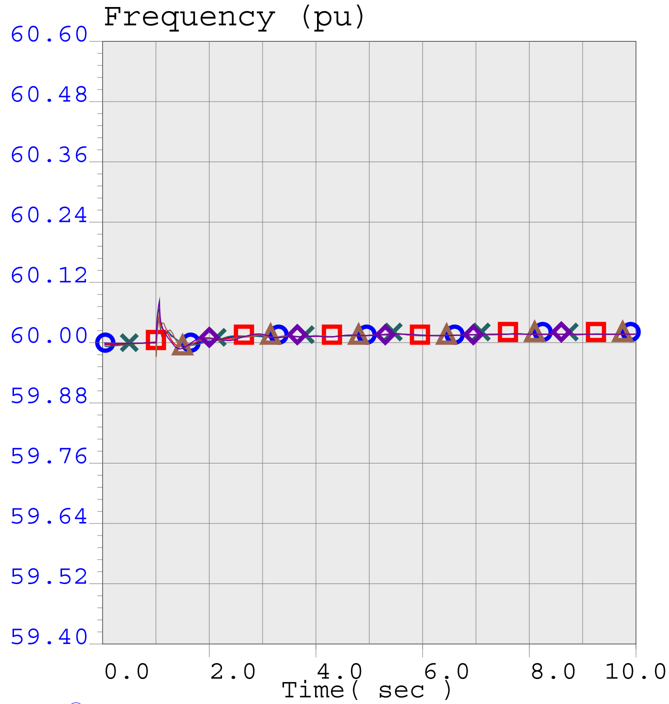

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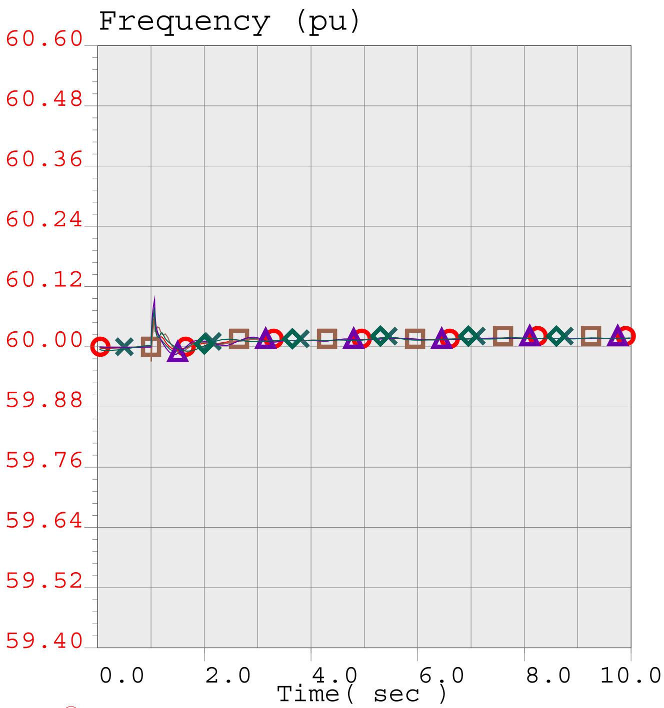

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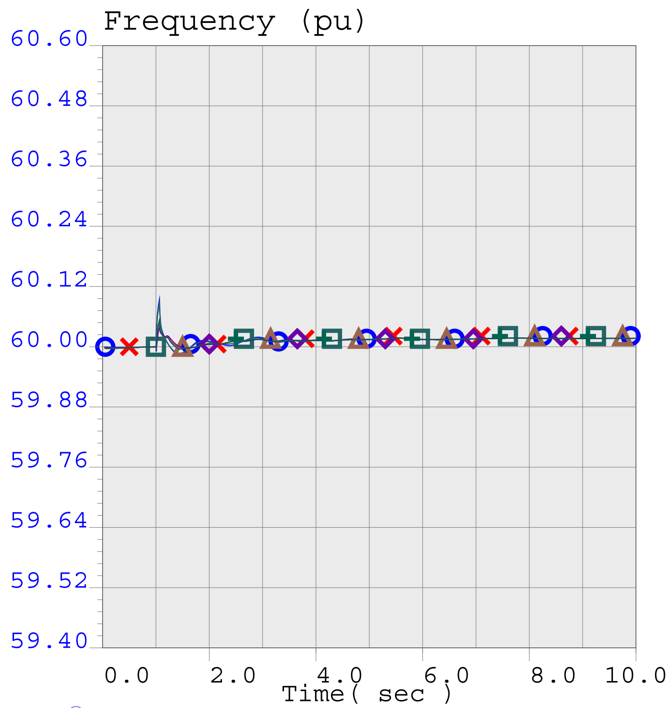

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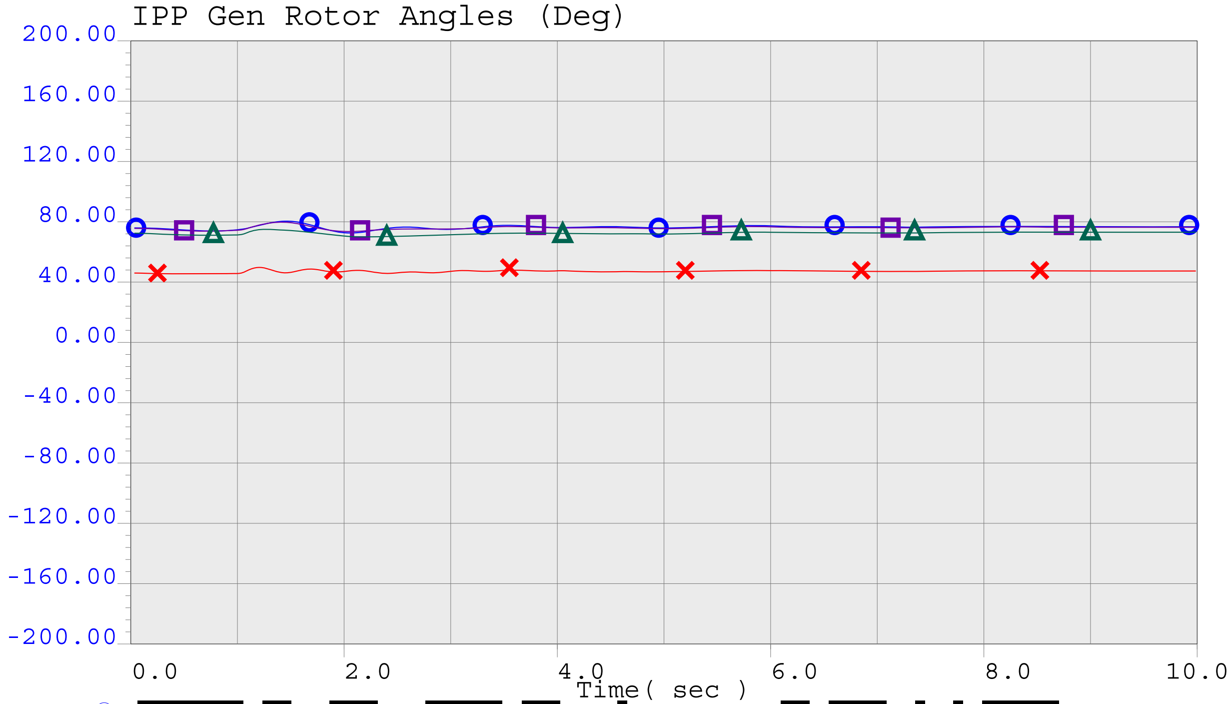
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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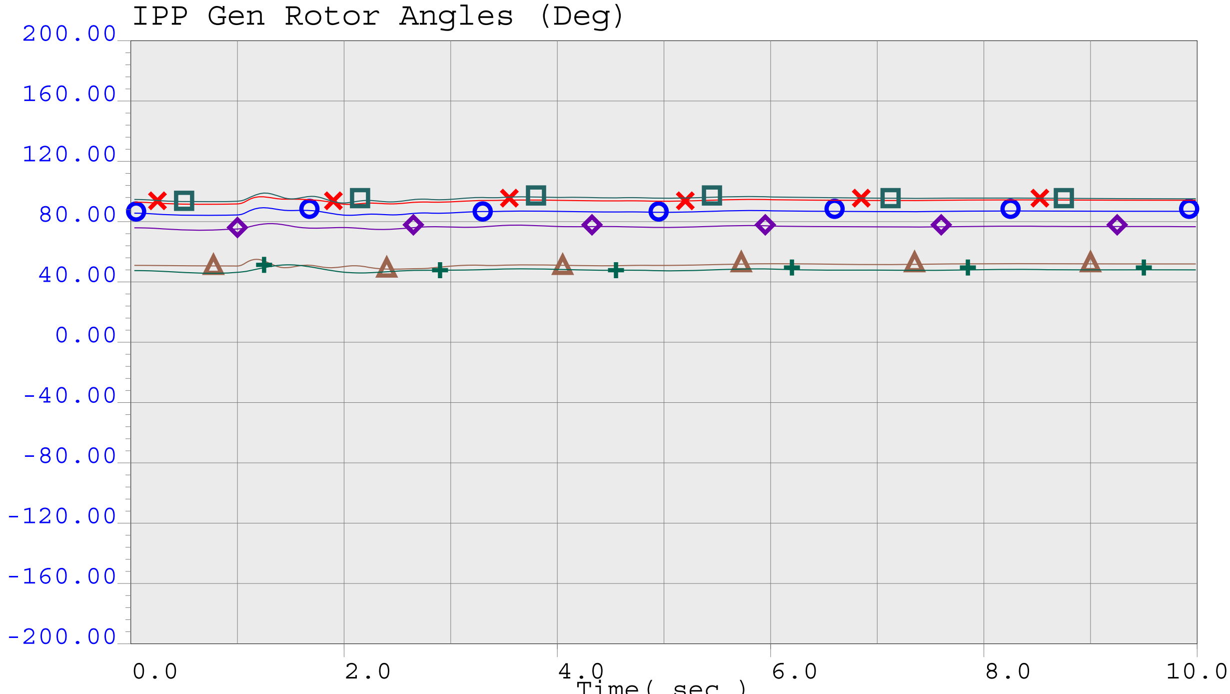
IPP Gen Rotor Angles (Deg)



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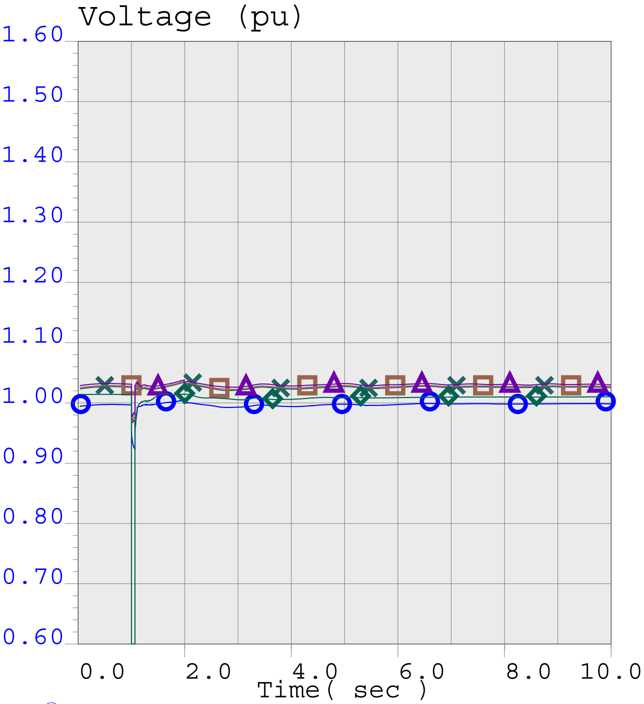
SYSTEM IMPACT STUDY (Voltage)



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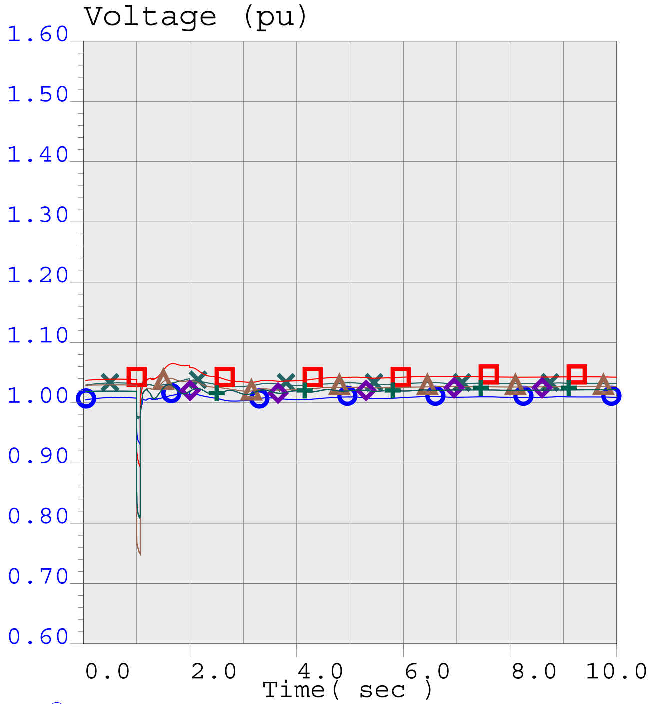

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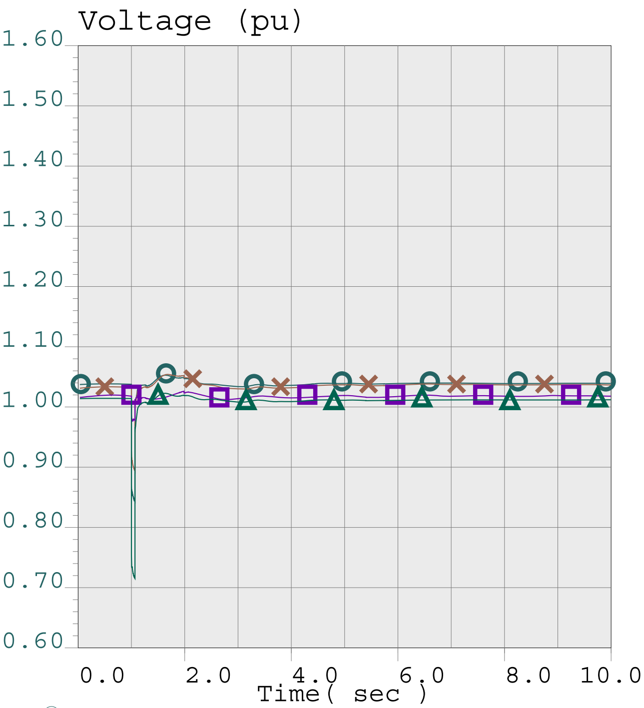

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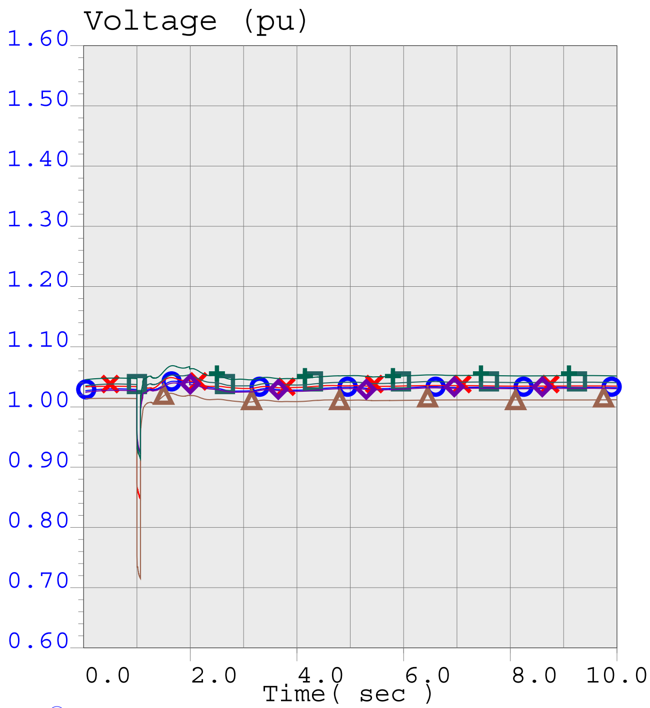

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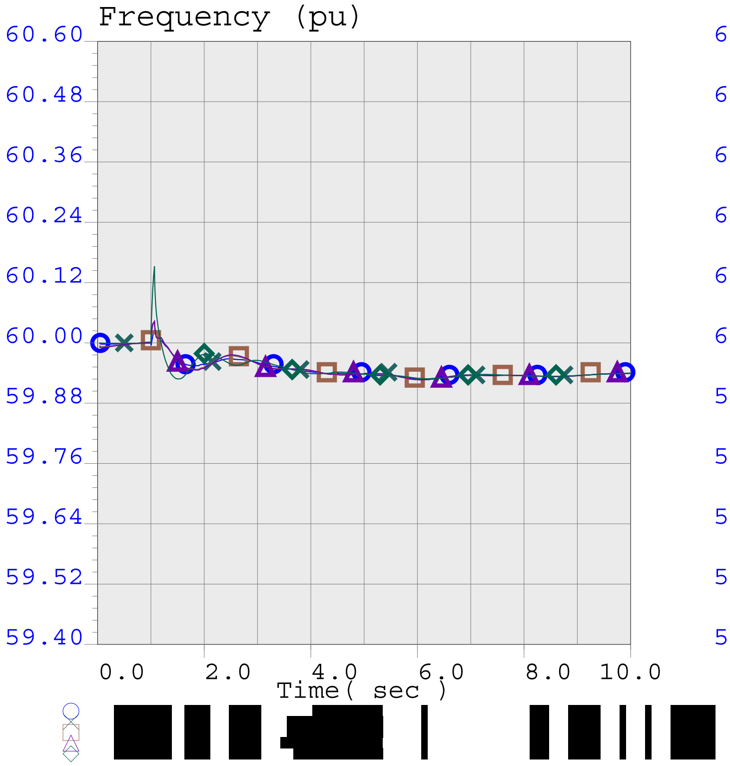
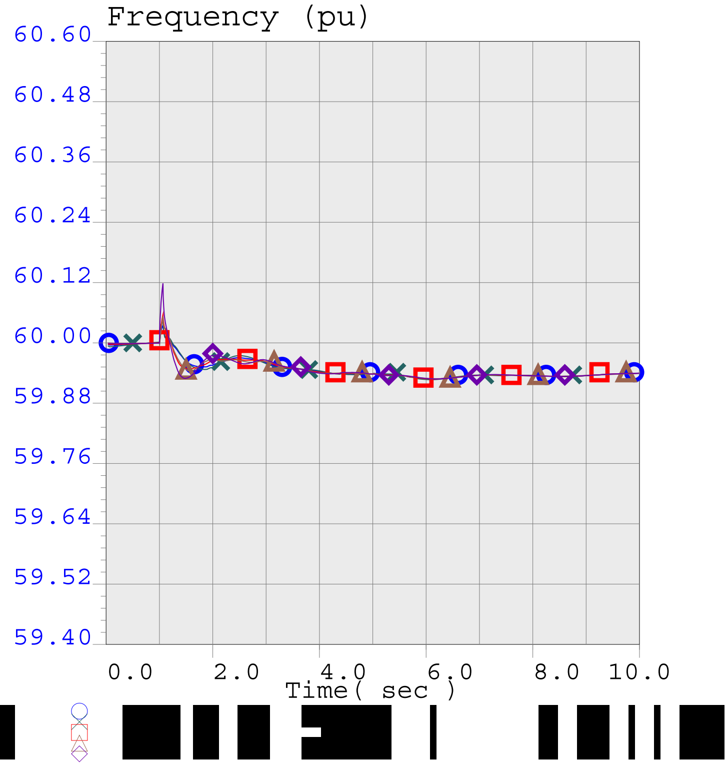
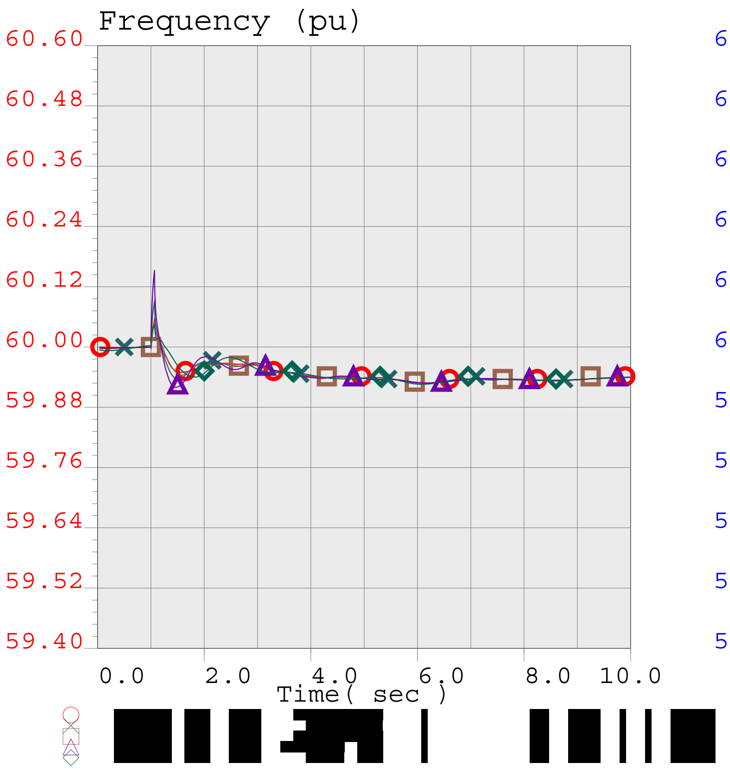
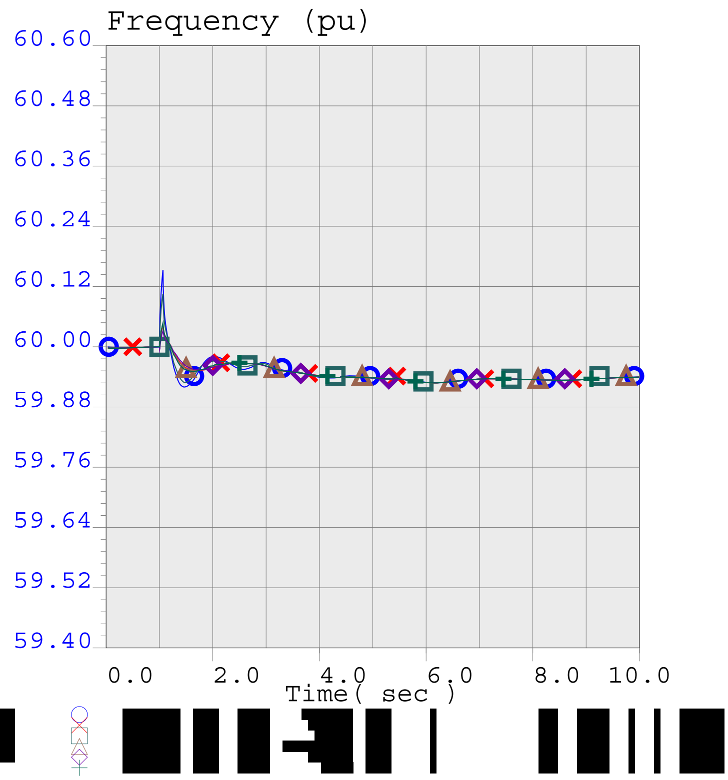
Fri Aug 26 09:18:56 2022

SYSTEM IMPACT STUDY (Frequency)









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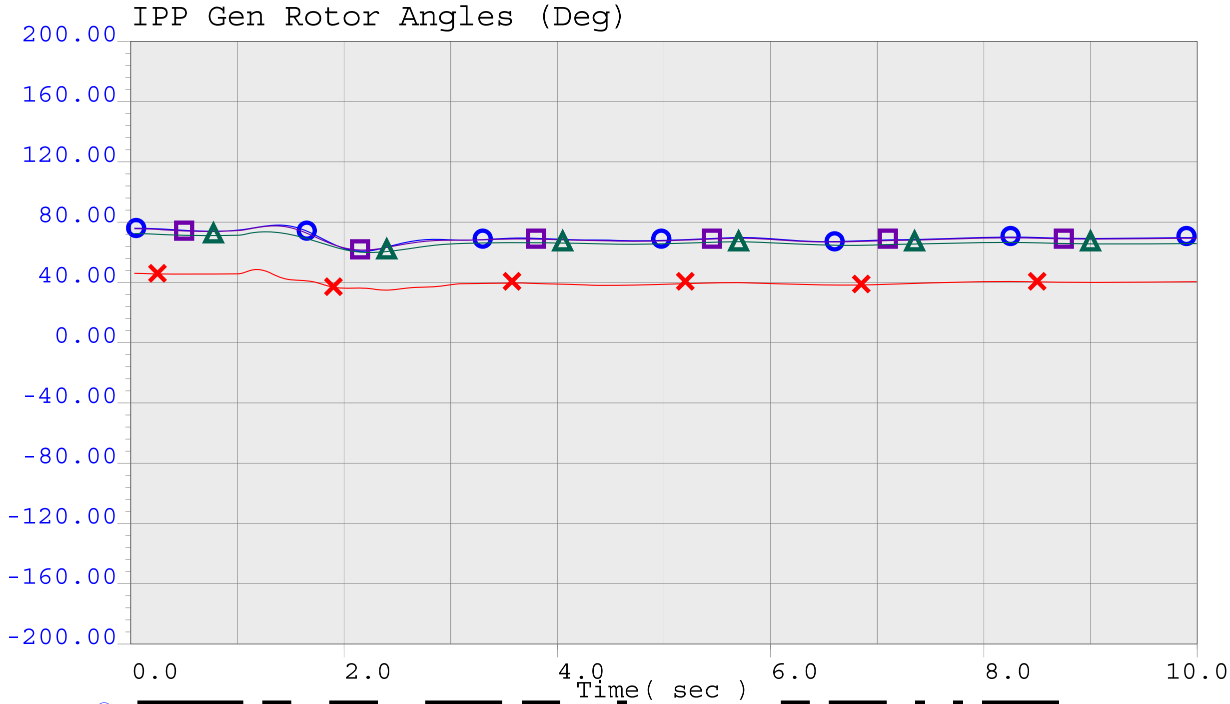
Fri Aug 26 09:18:56 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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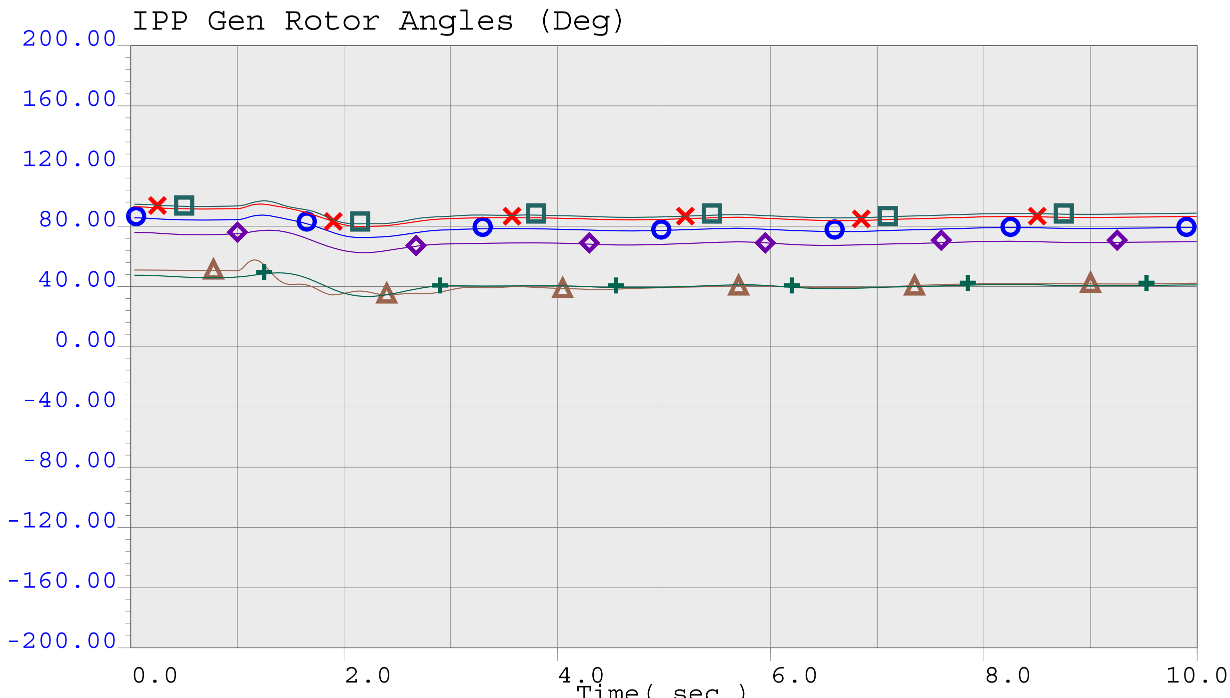

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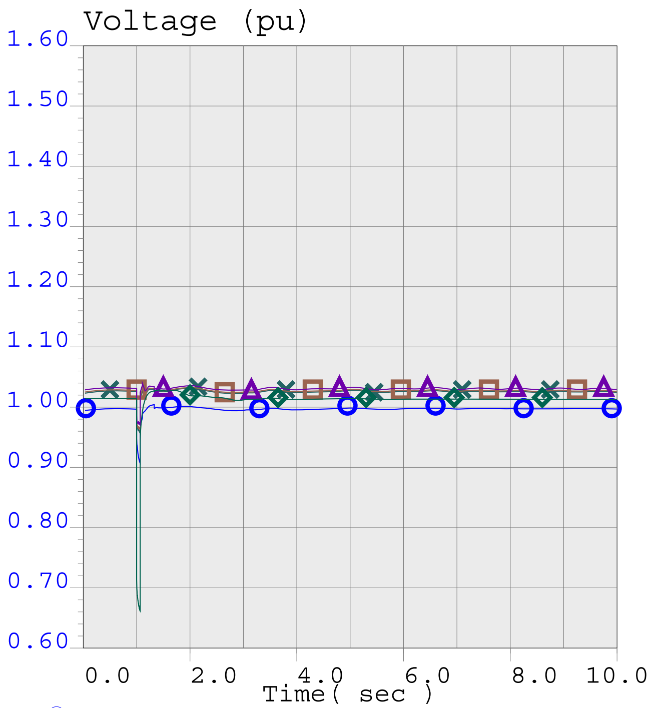
Fri Aug 26 09:18:56 2022

SYSTEM IMPACT STUDY (Voltage)



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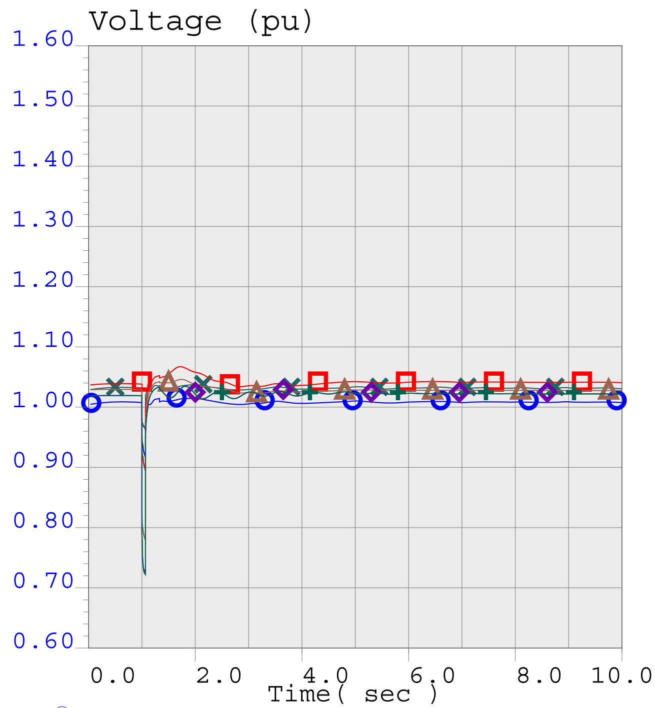

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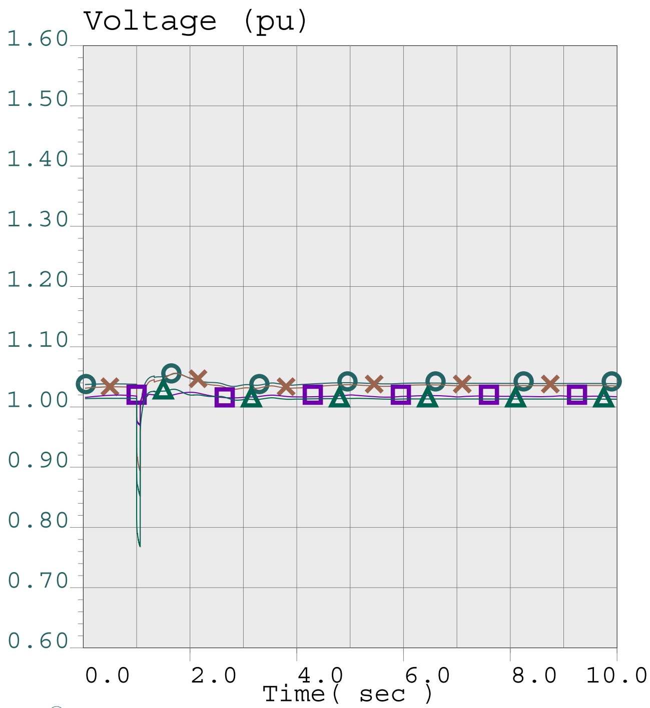

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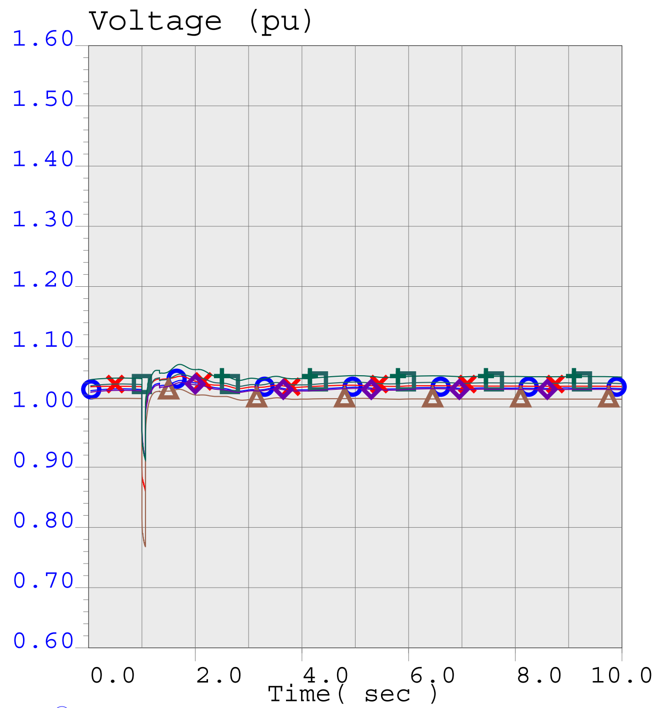

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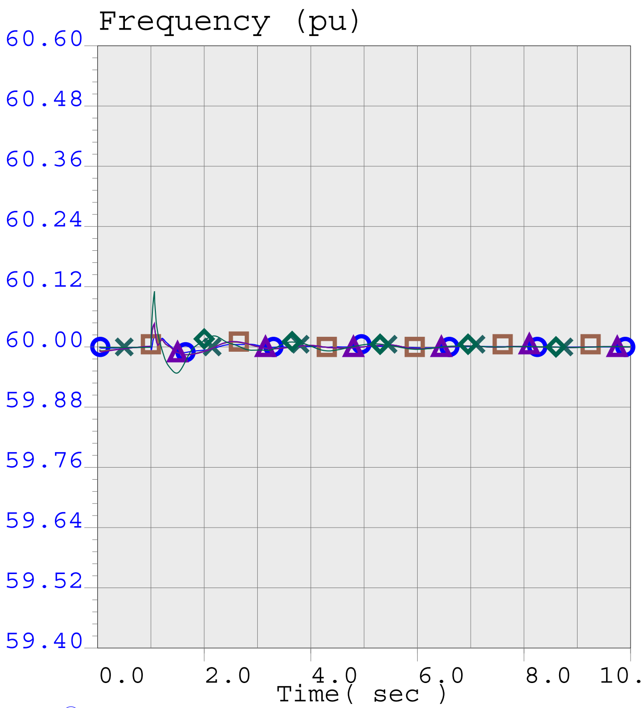

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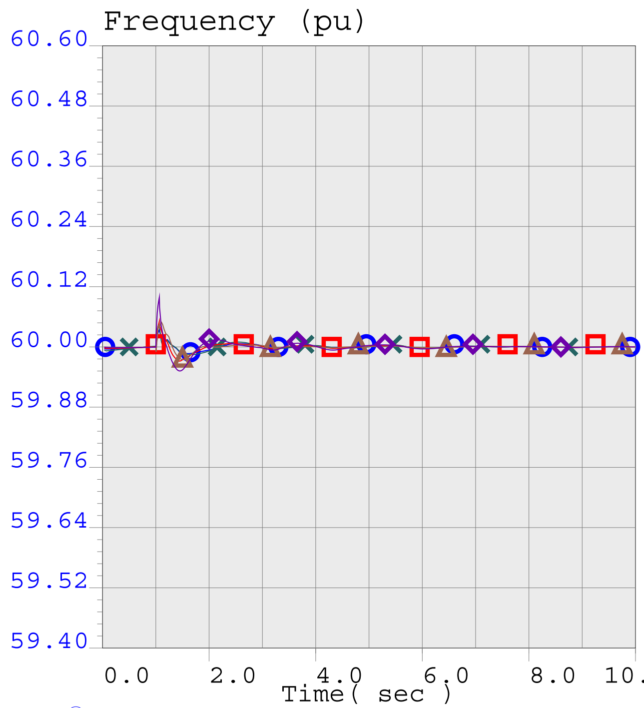

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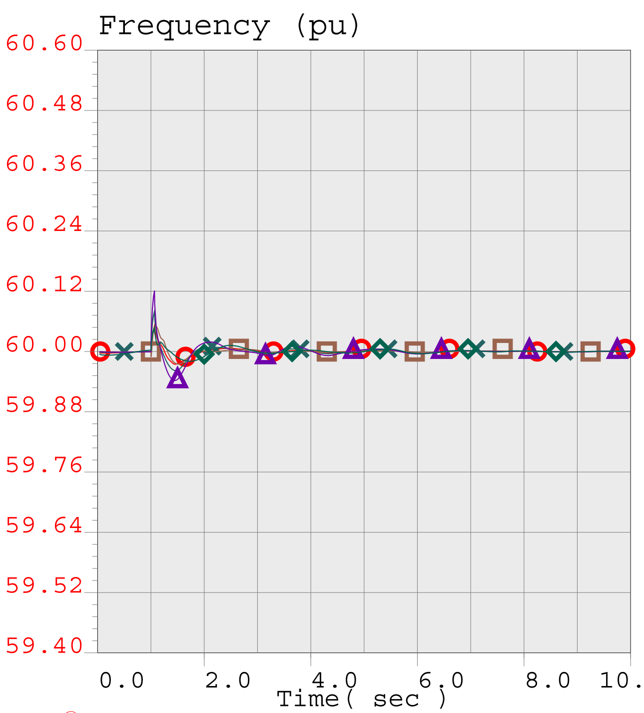

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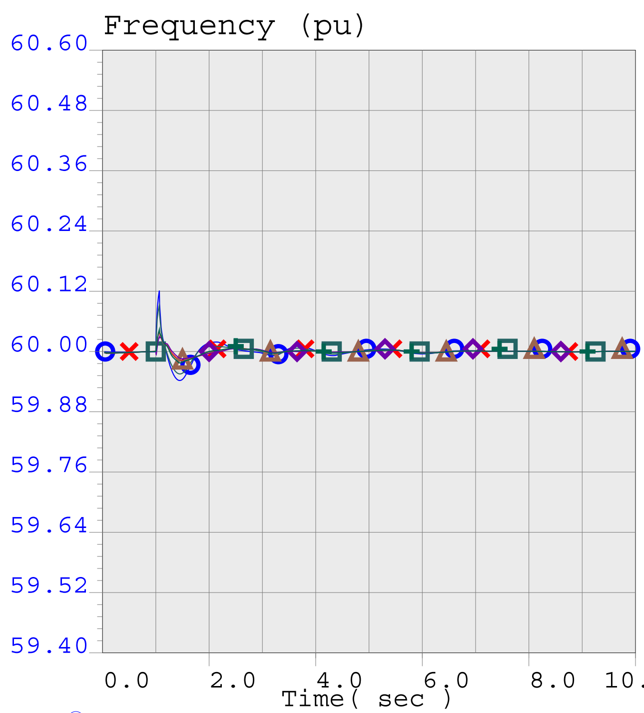

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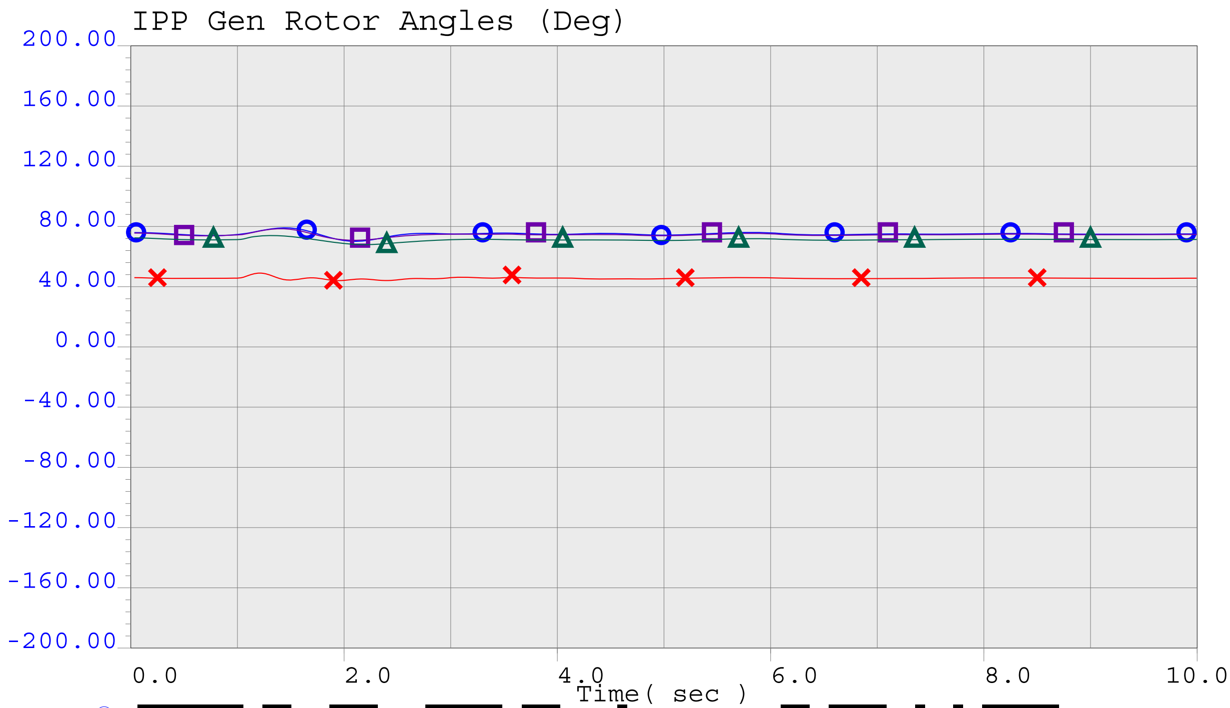
Fri Aug 26 09:18:58 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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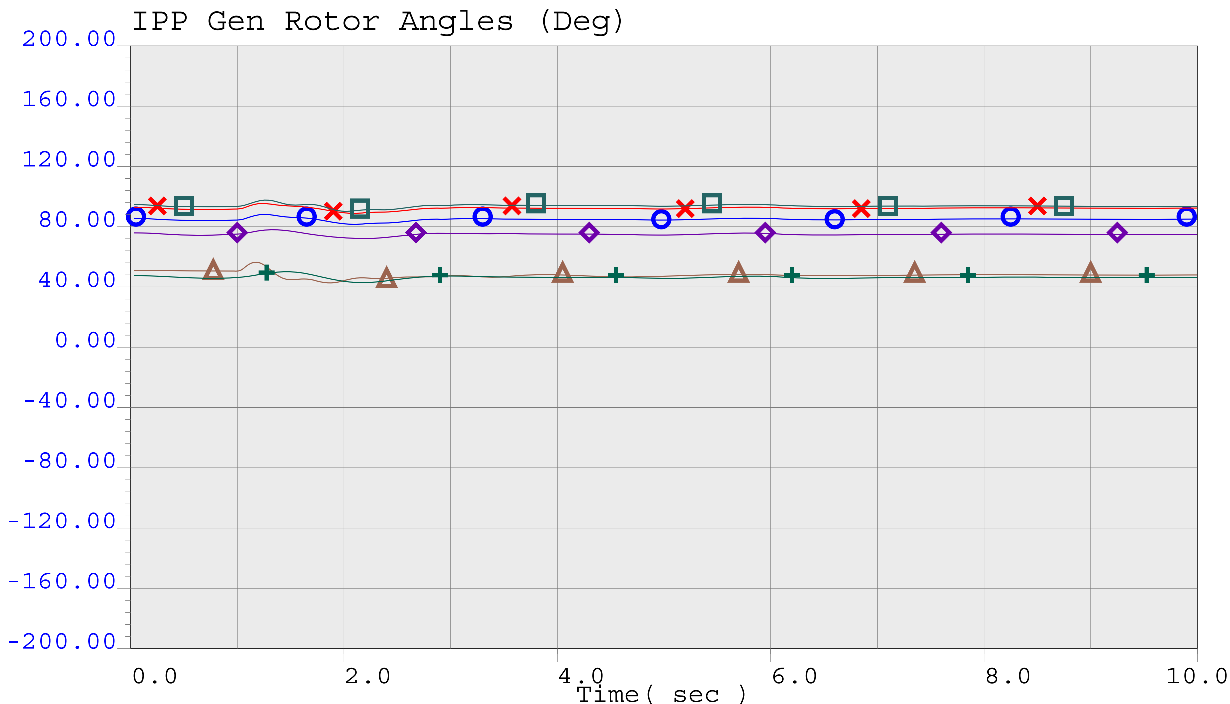

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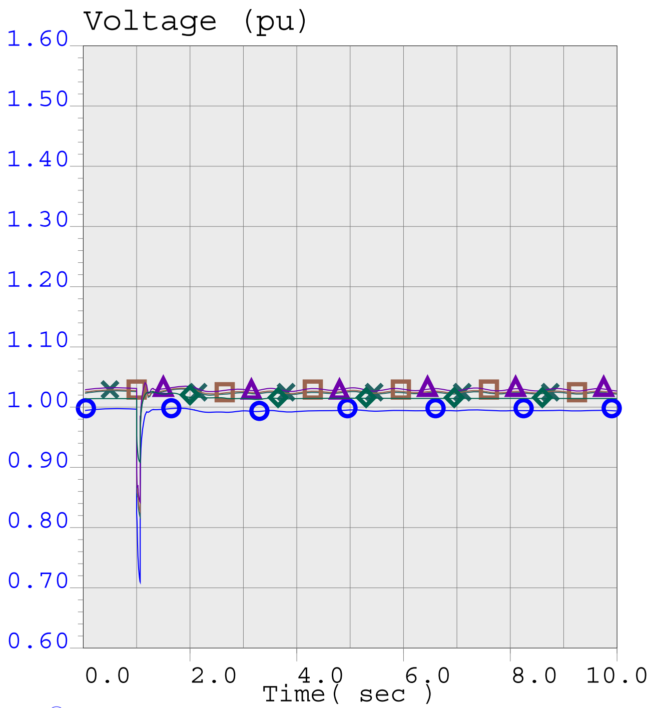
Fri Aug 26 09:18:58 2022

SYSTEM IMPACT STUDY (Voltage)



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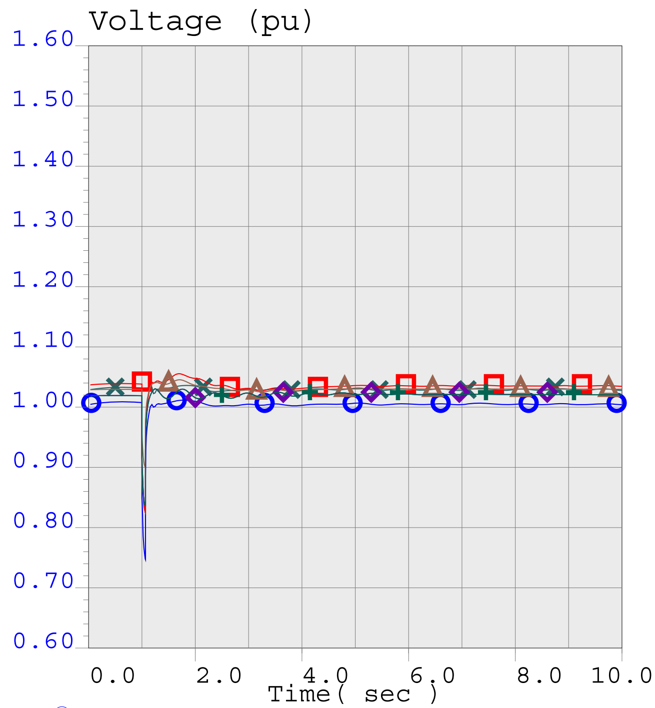

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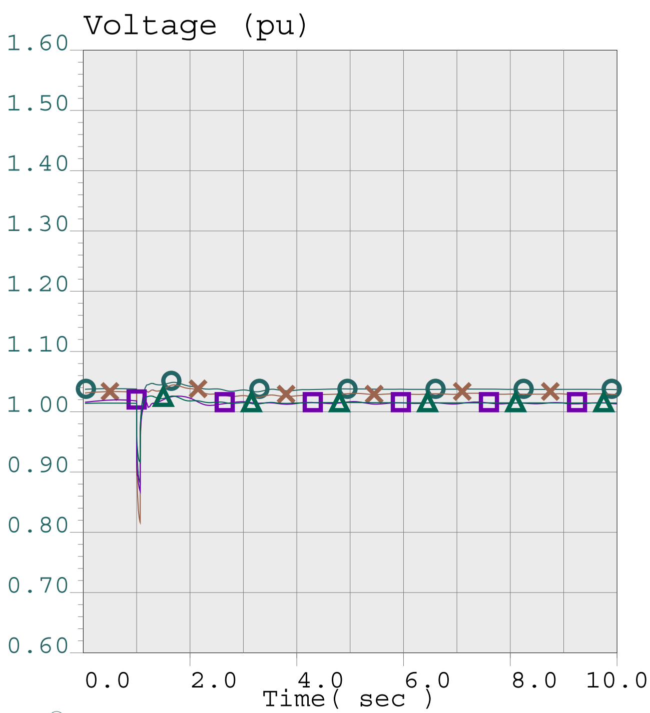

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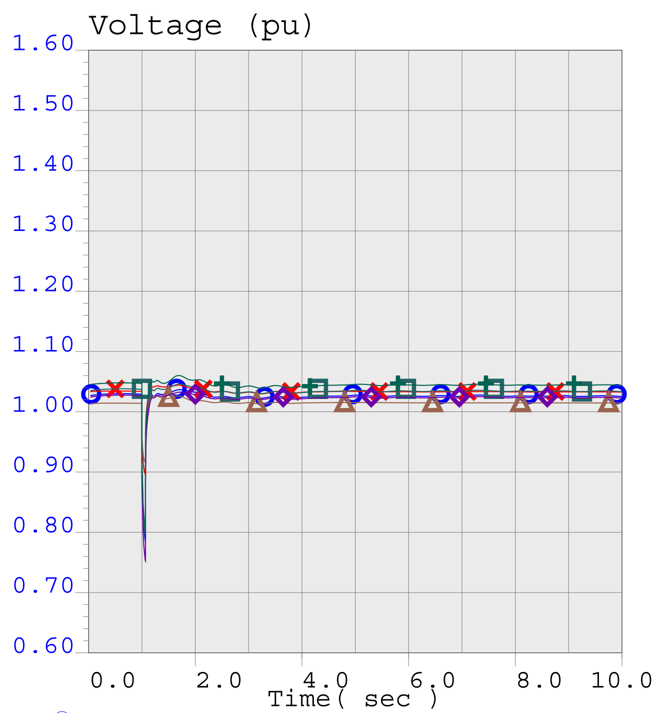

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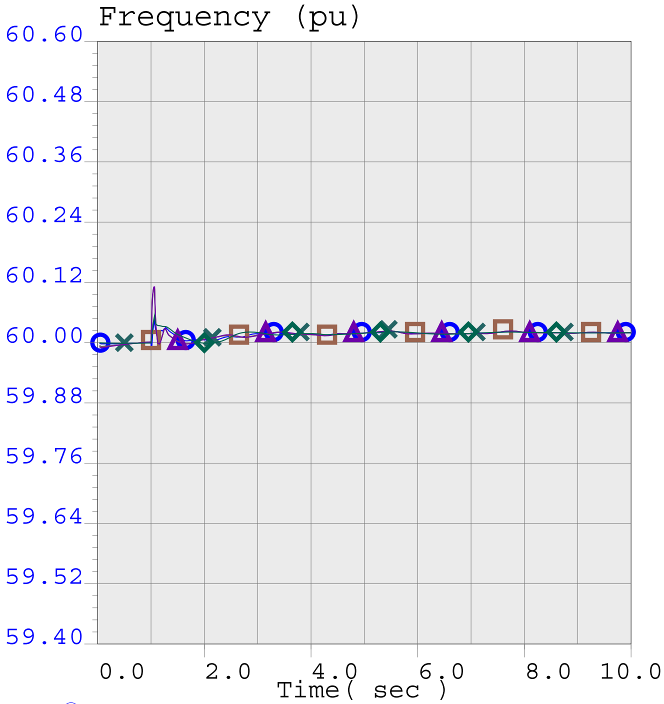
Fri Aug 26 09:19:00 2022

SYSTEM IMPACT STUDY (Frequency)



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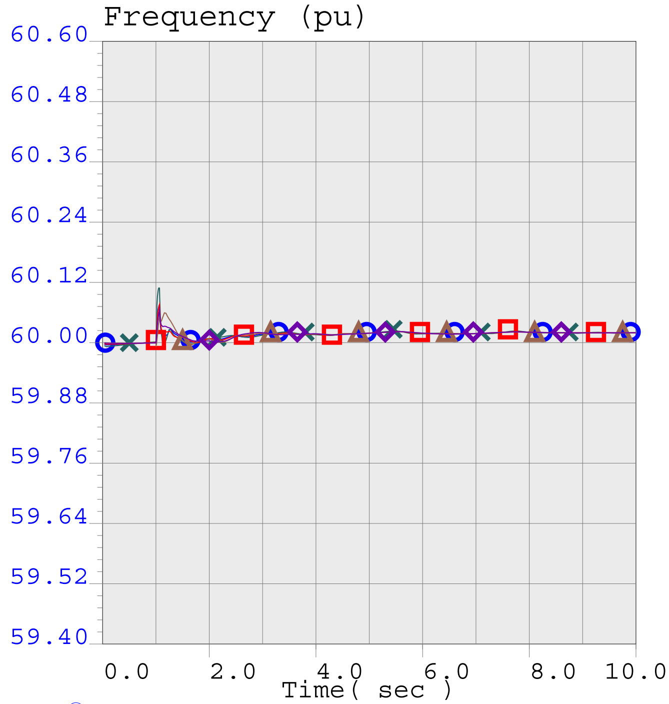

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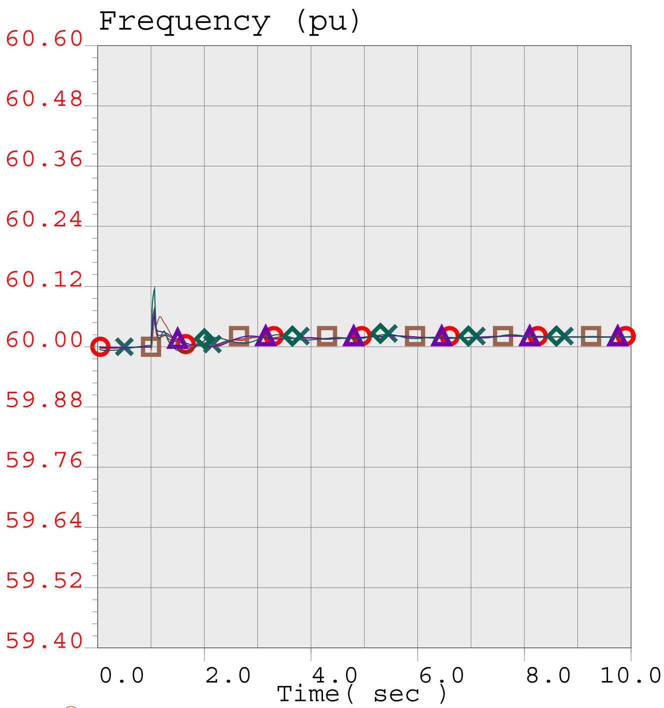

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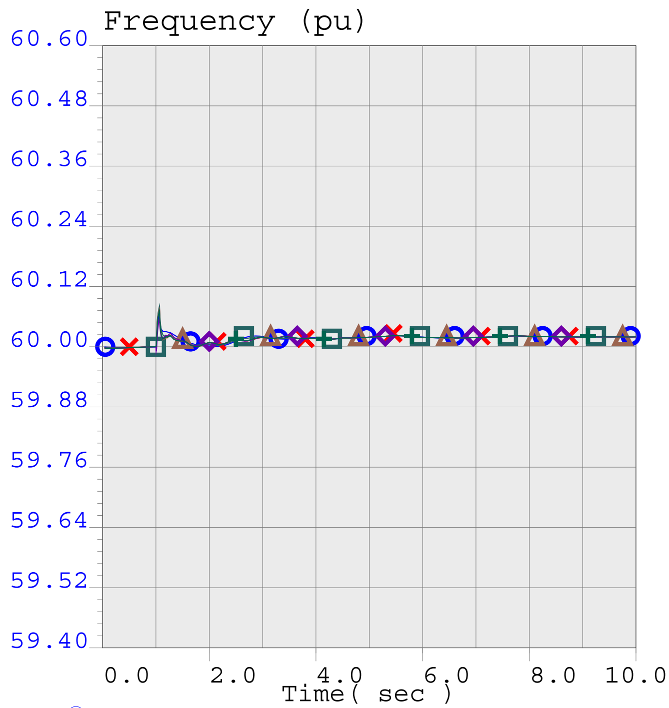

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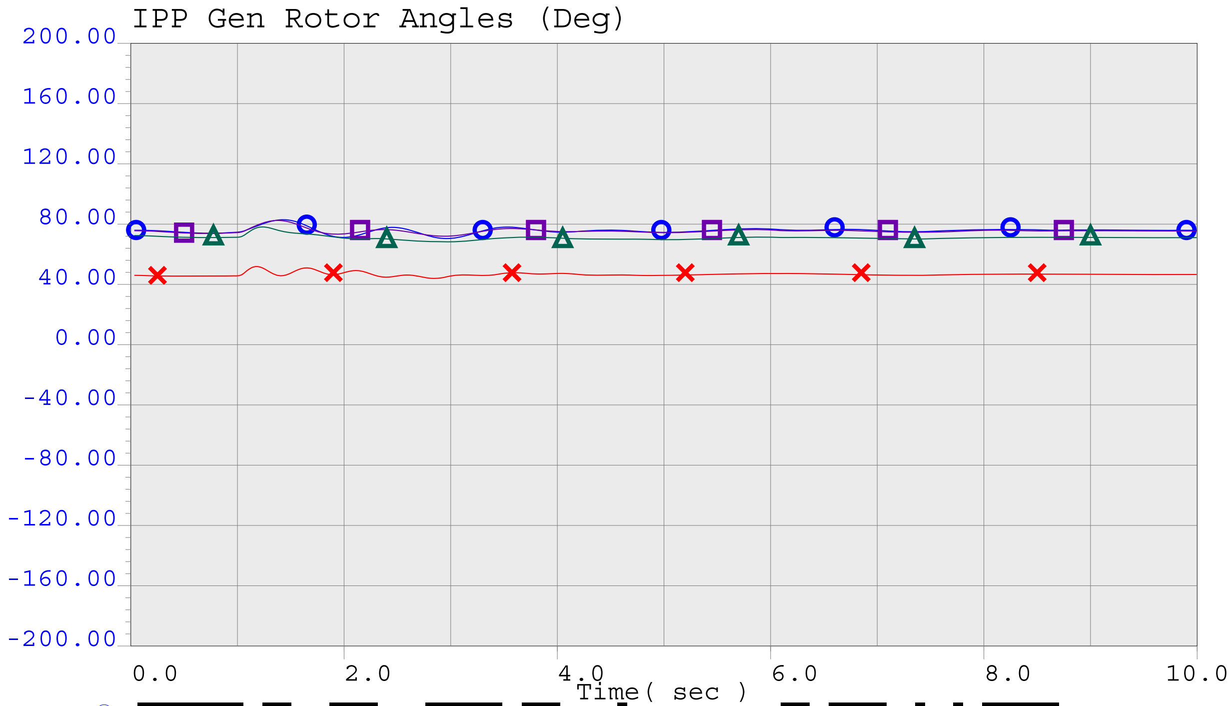
Fri Aug 26 09:19:00 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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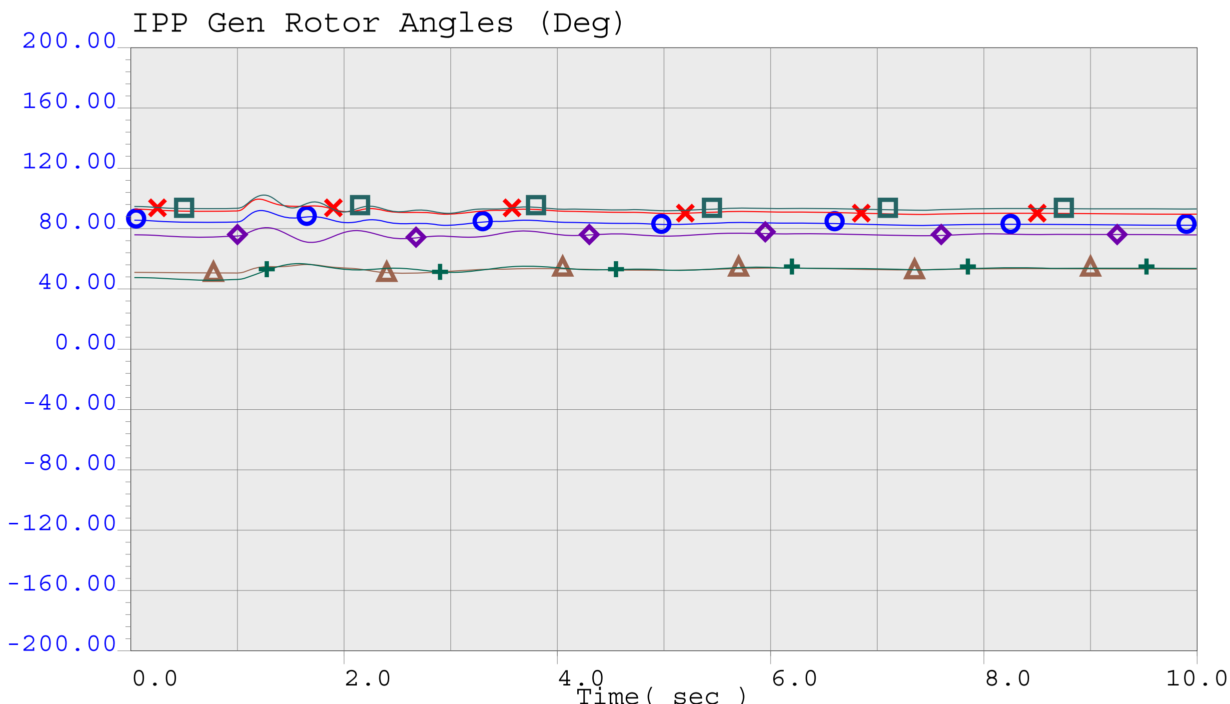

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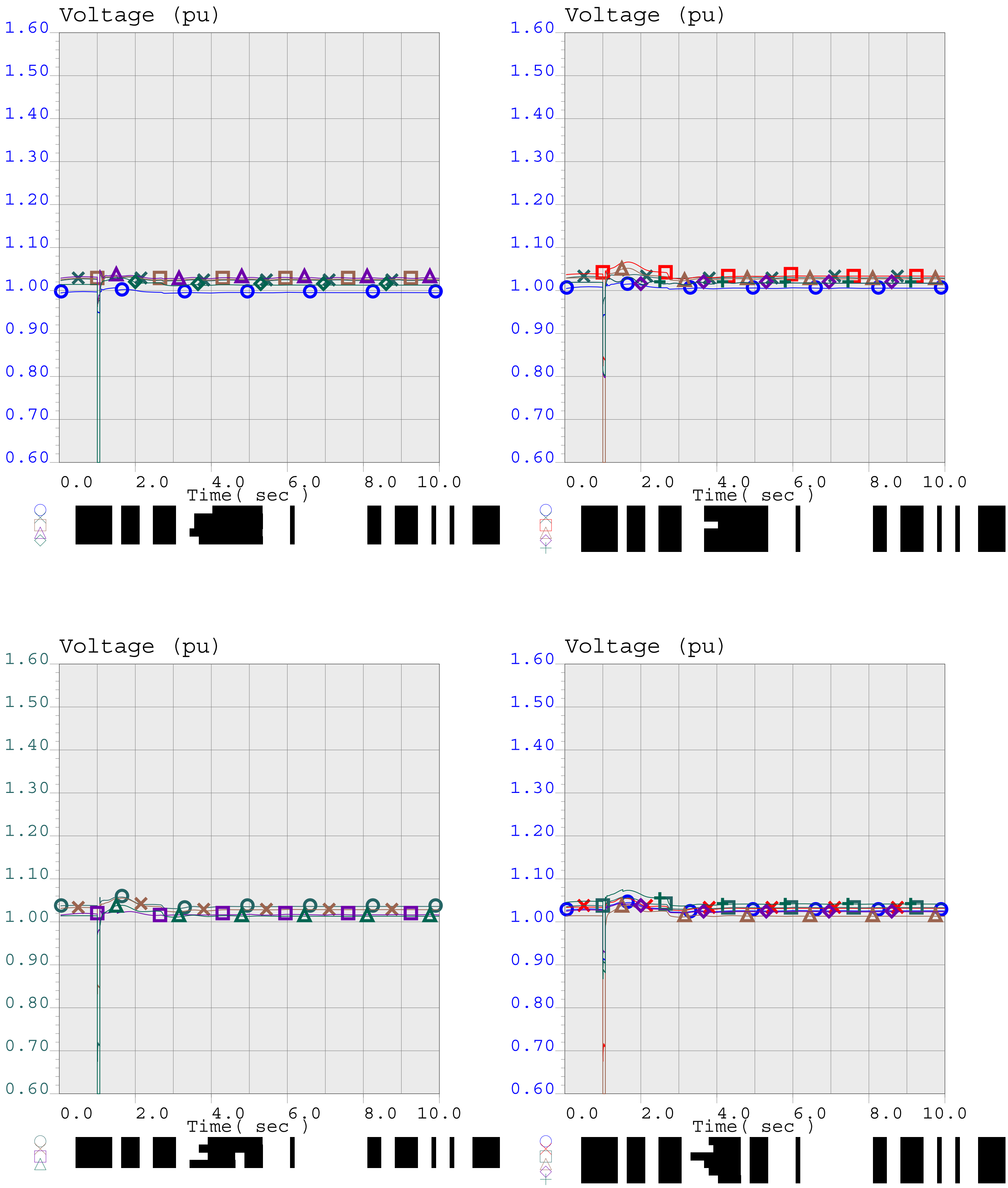

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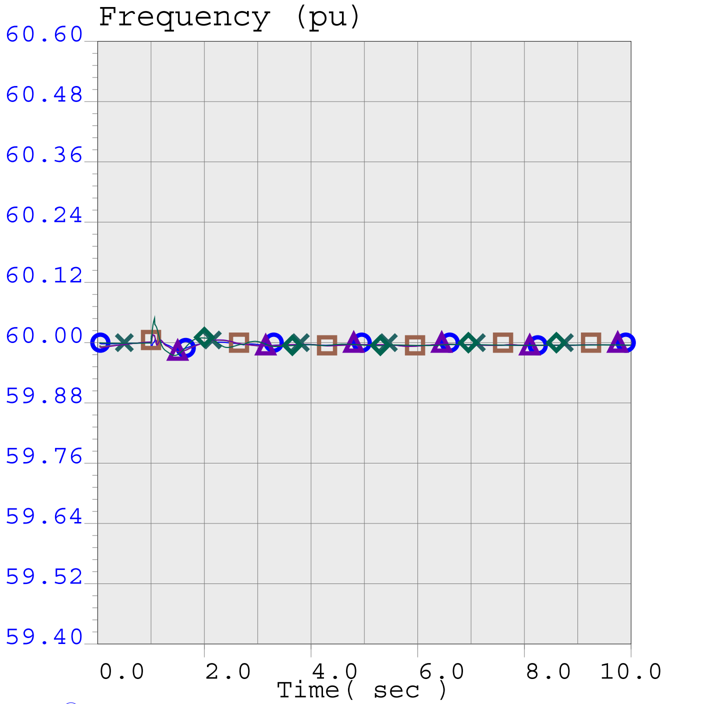
Fri Aug 26 09:19:02 2022

SYSTEM IMPACT STUDY (Frequency)



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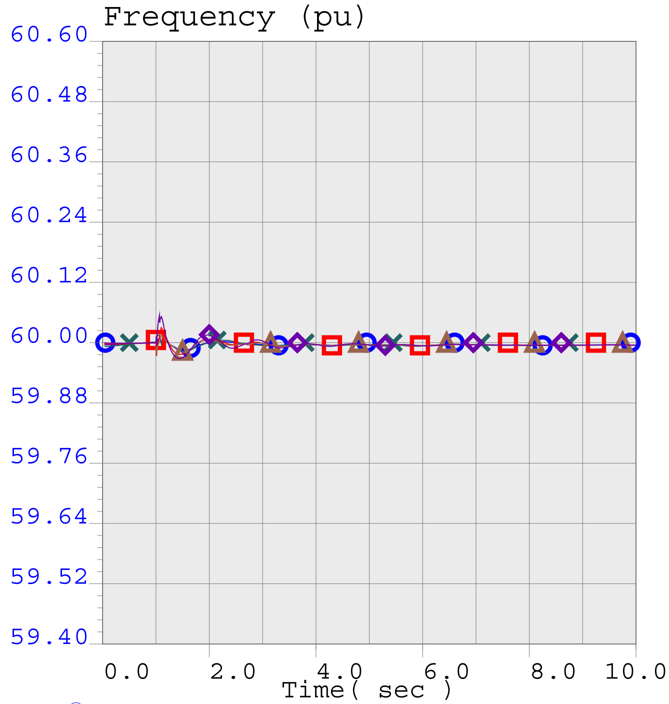

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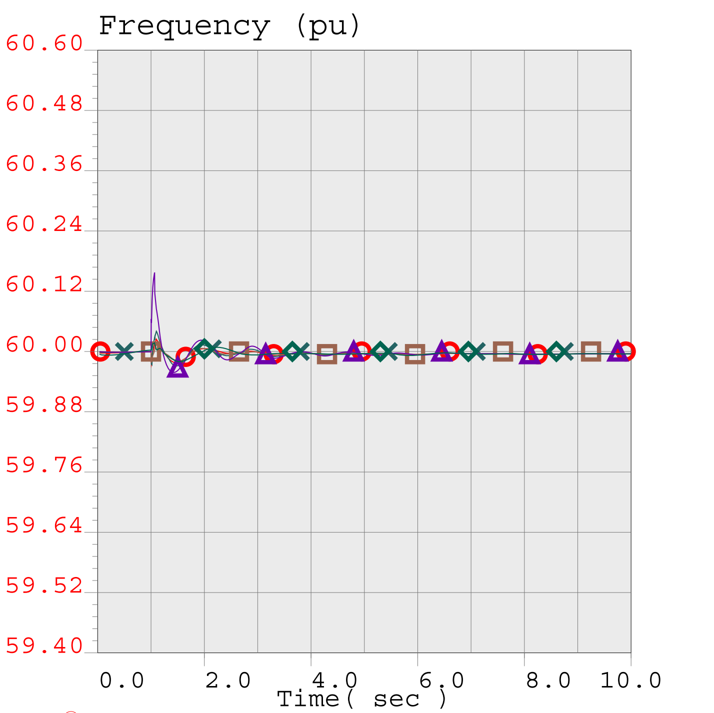

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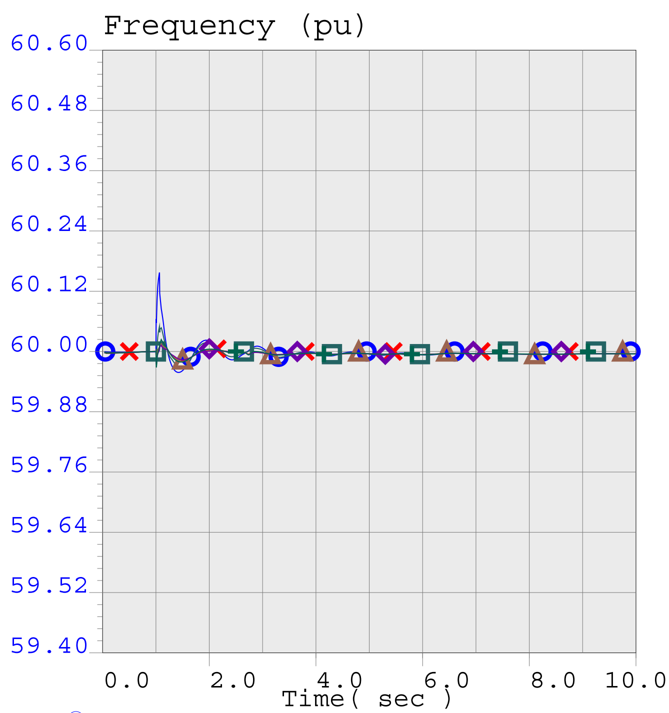

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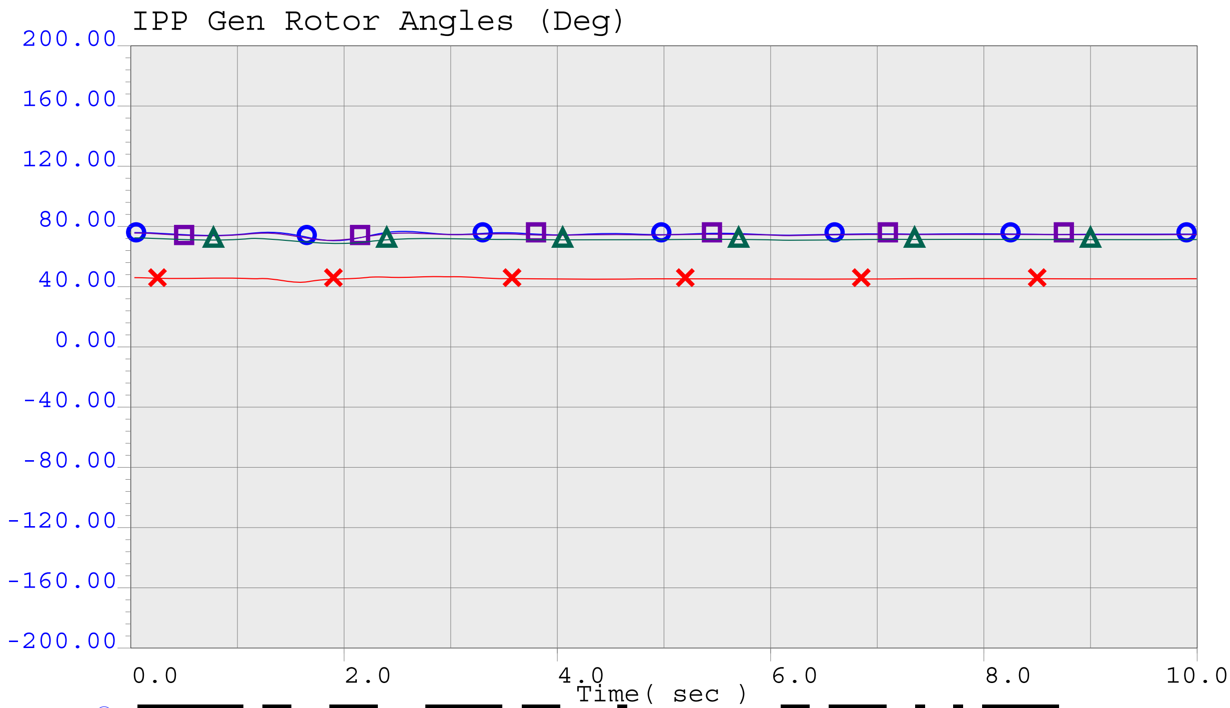
Fri Aug 26 09:19:02 2022

SYSTEM IMPACT STUDY (Rotor Angles)



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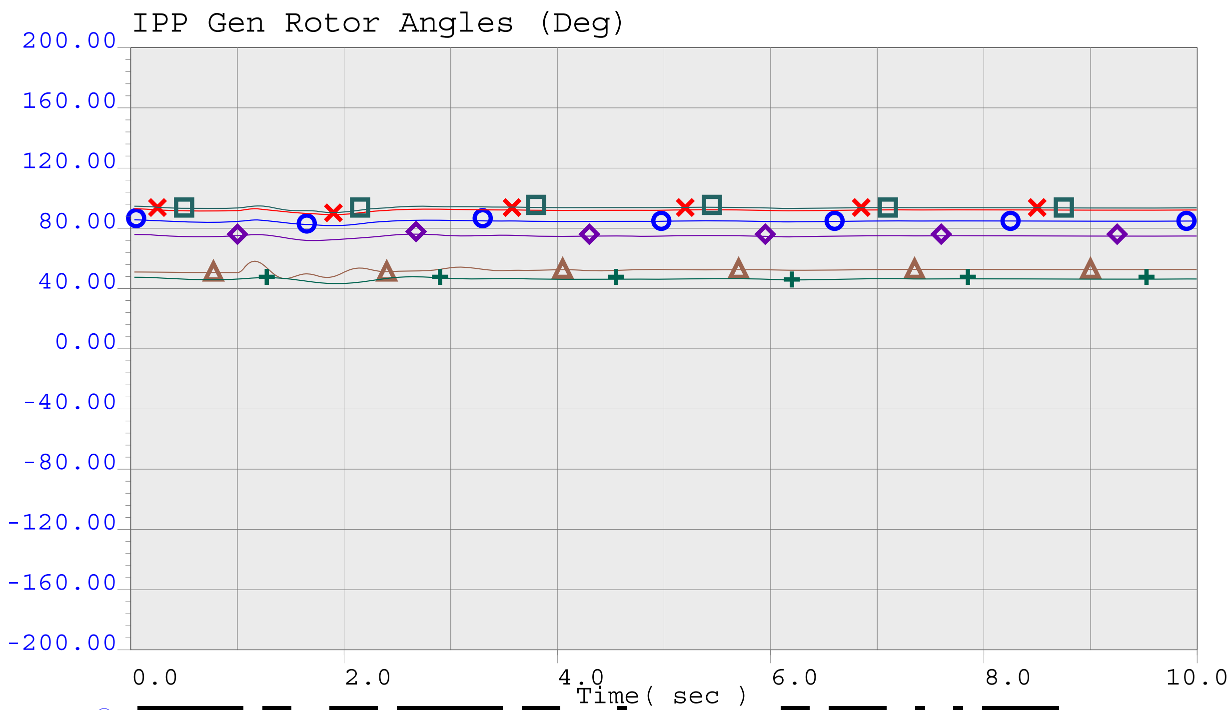

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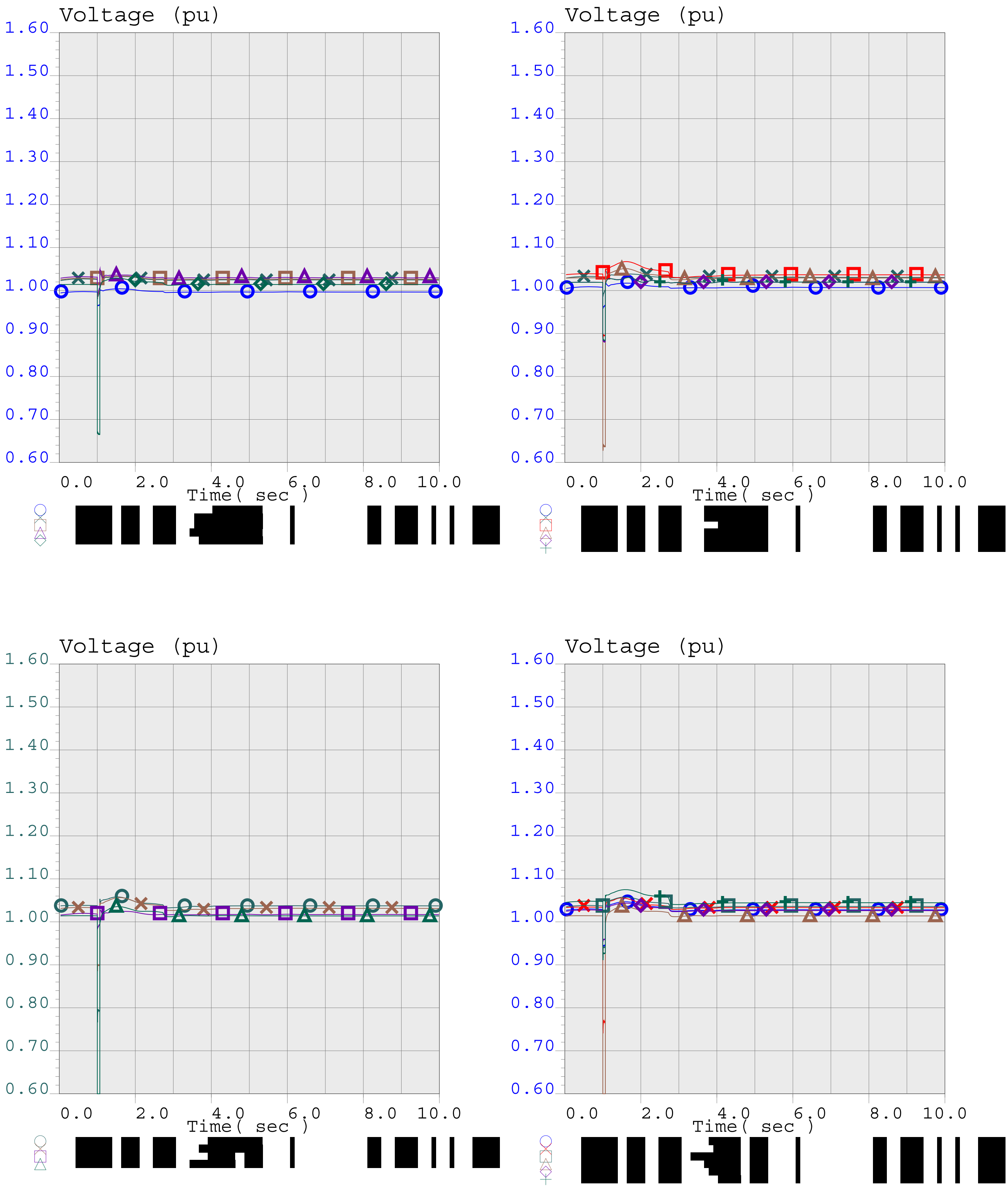
SYSTEM IMPACT STUDY (Voltage)



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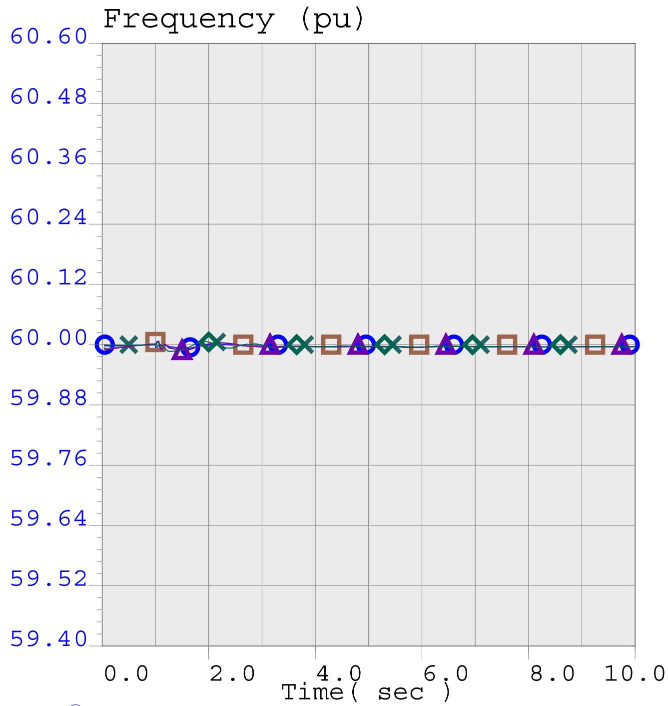
Fri Aug 26 09:19:05 2022

SYSTEM IMPACT STUDY (Frequency)



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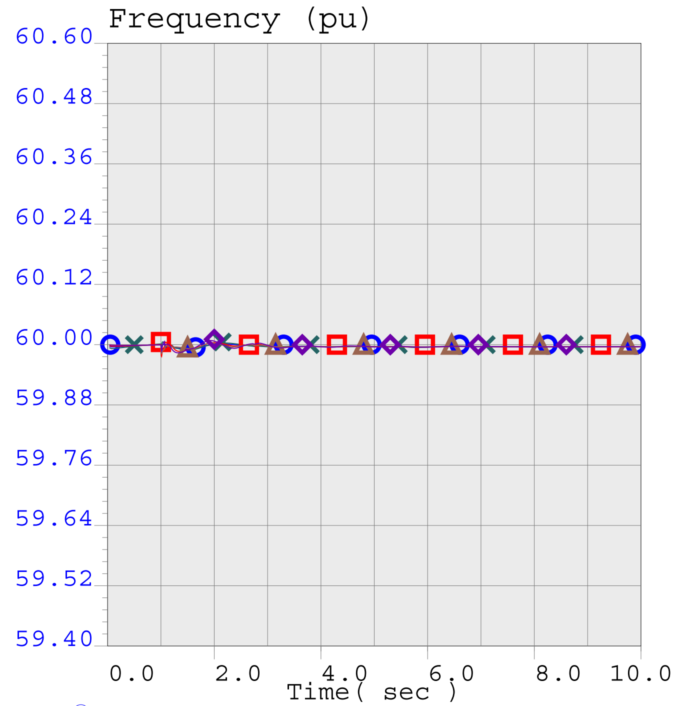

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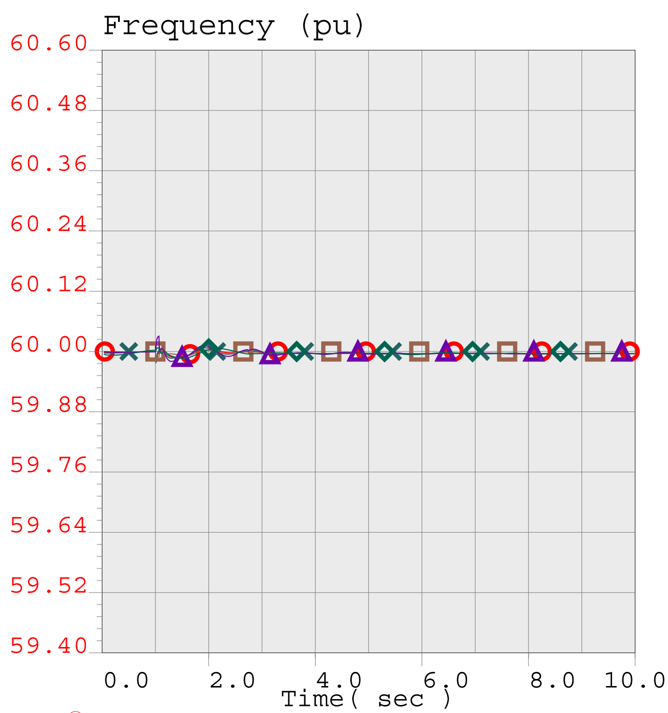

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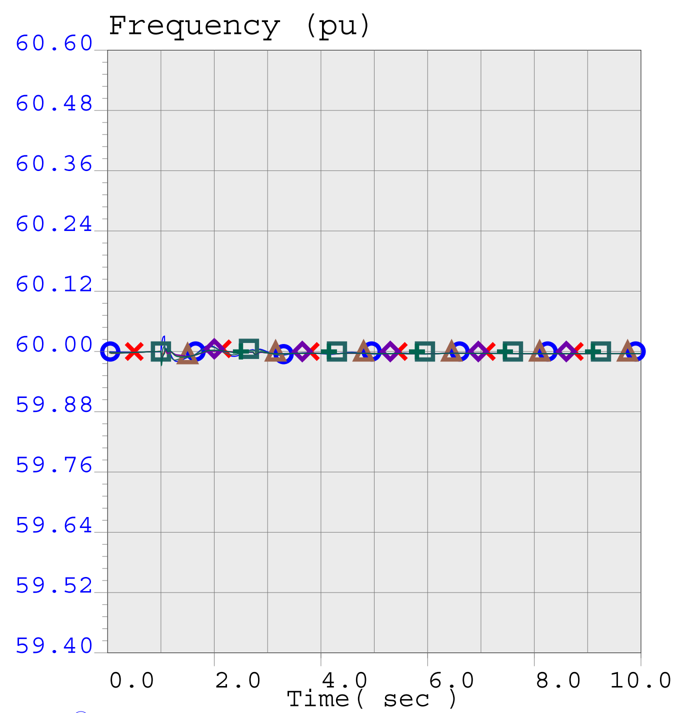

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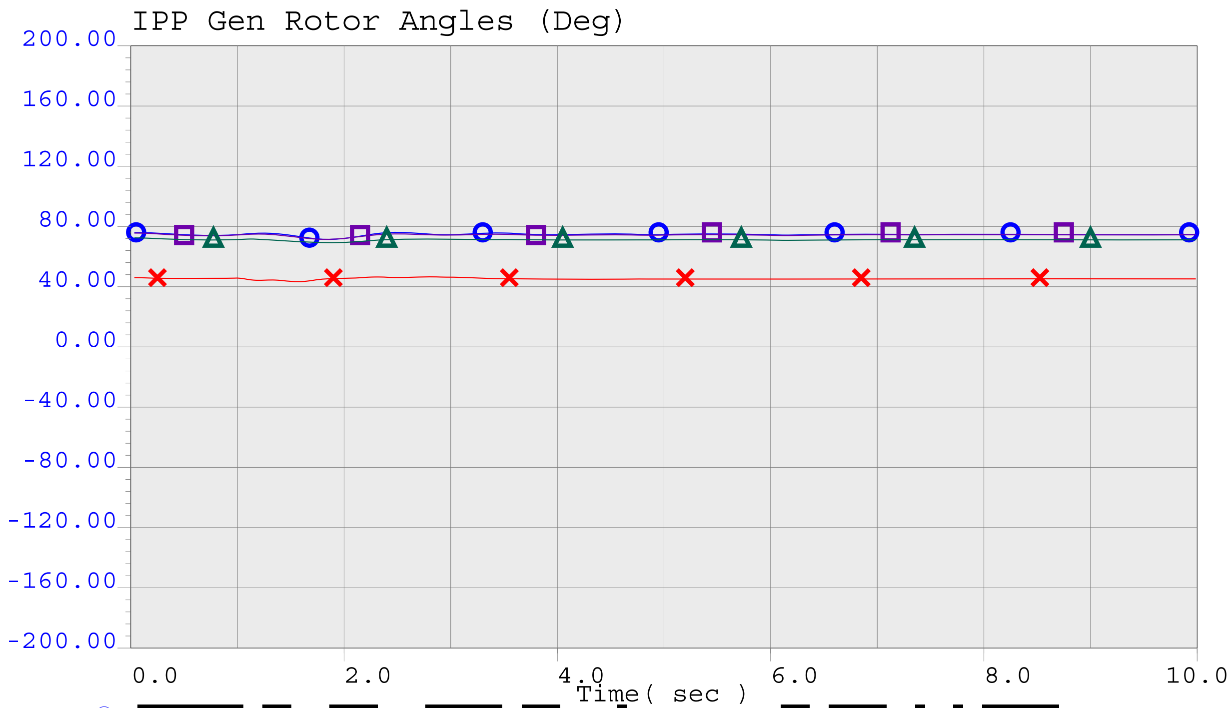

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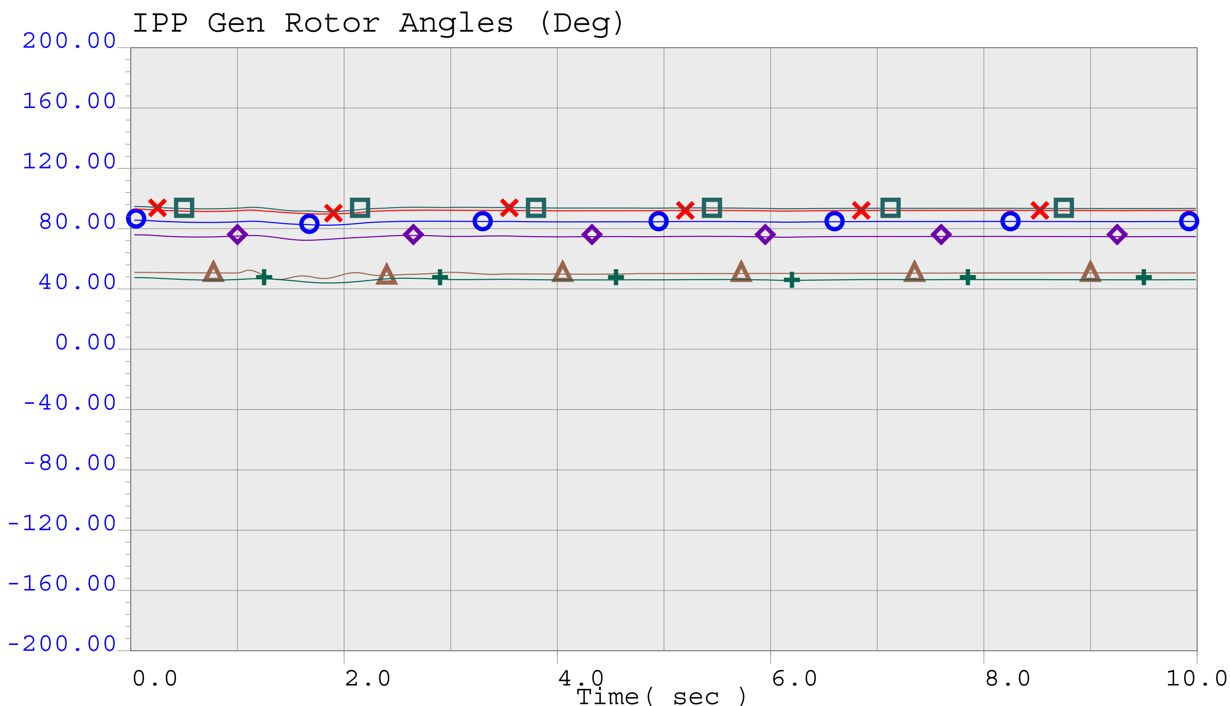

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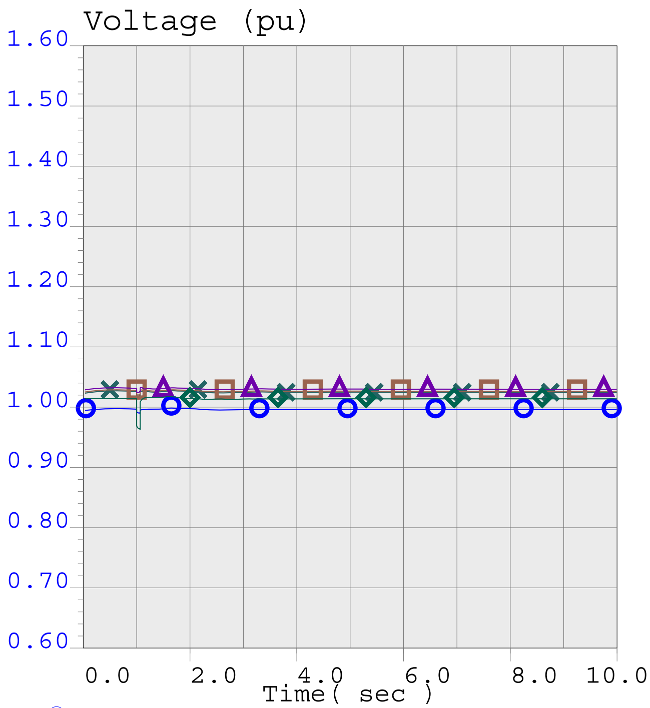

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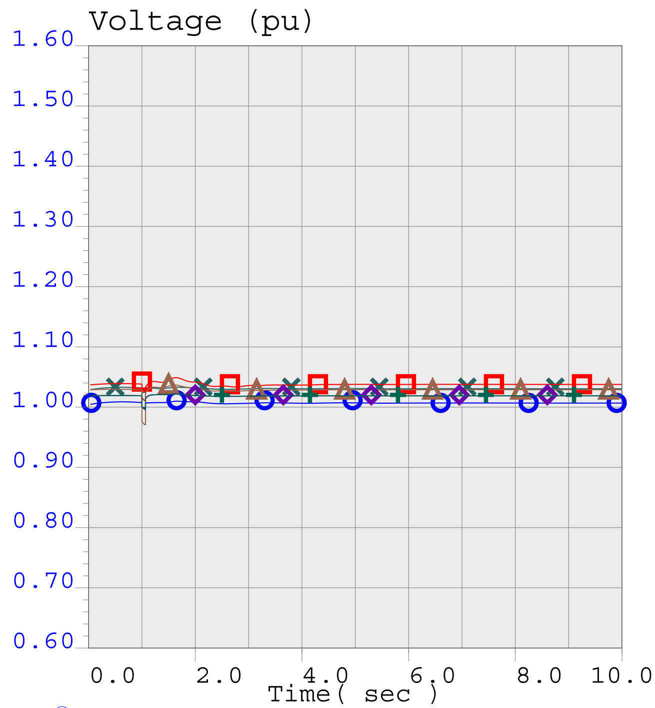

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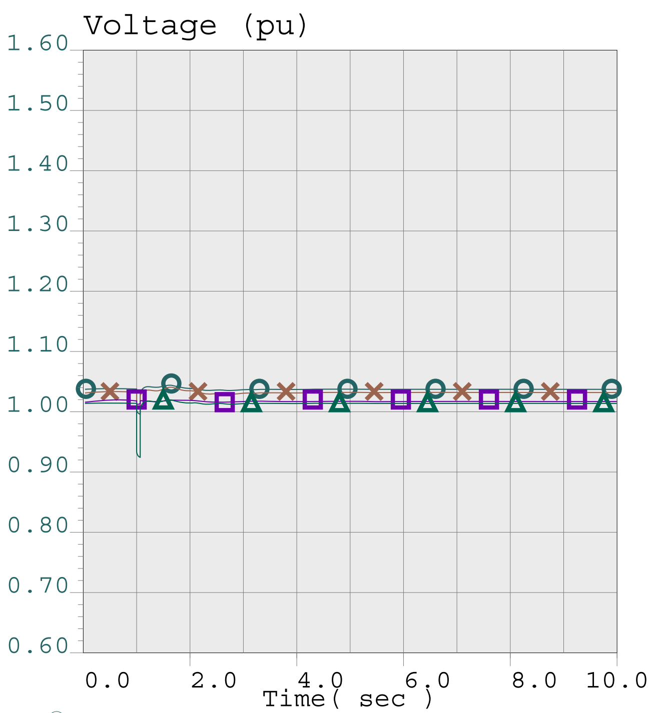

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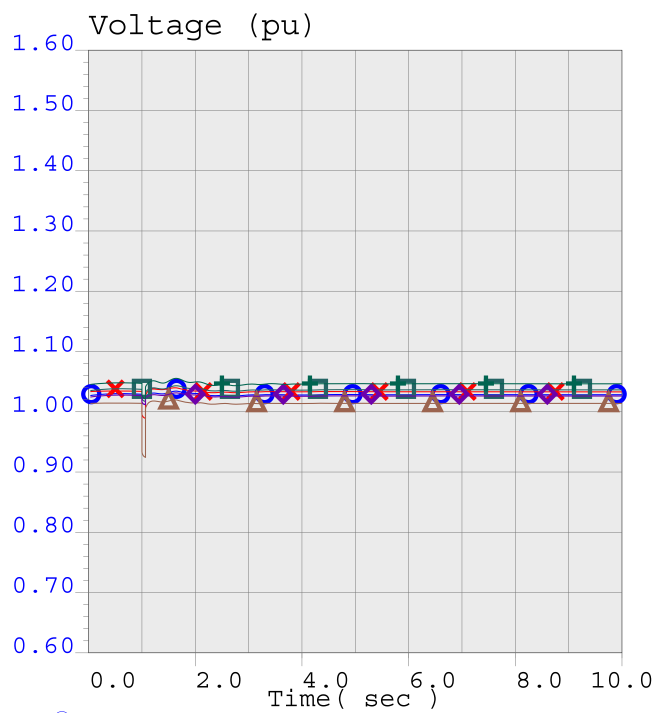

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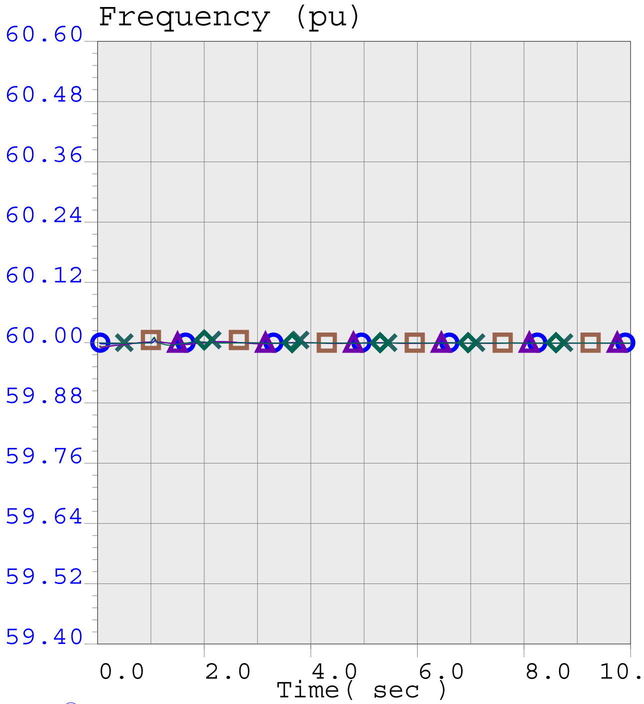

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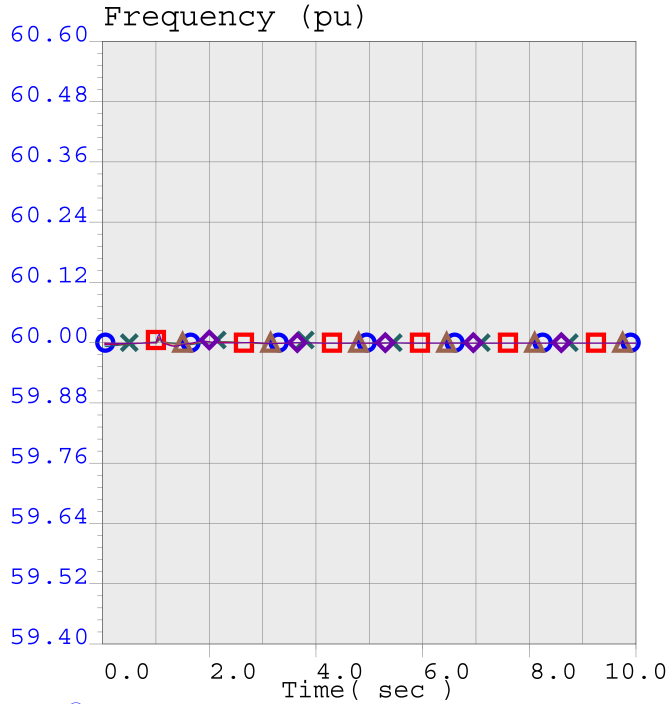

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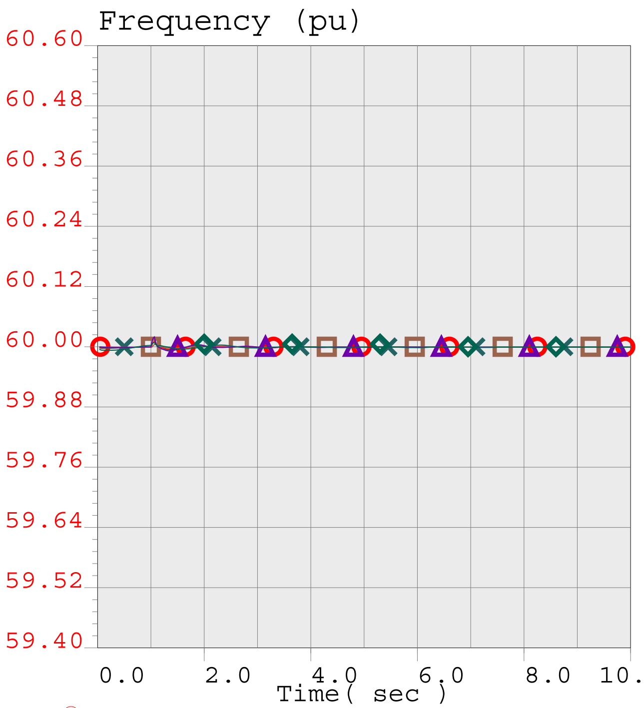

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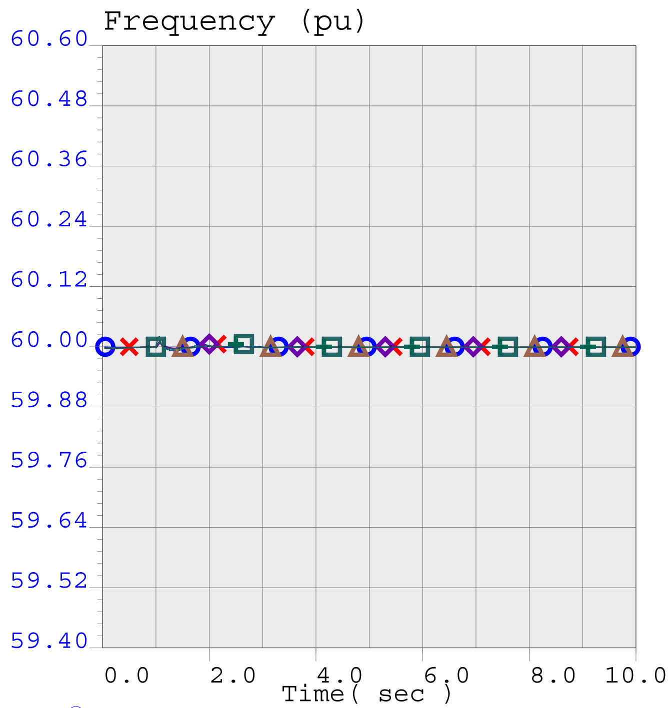

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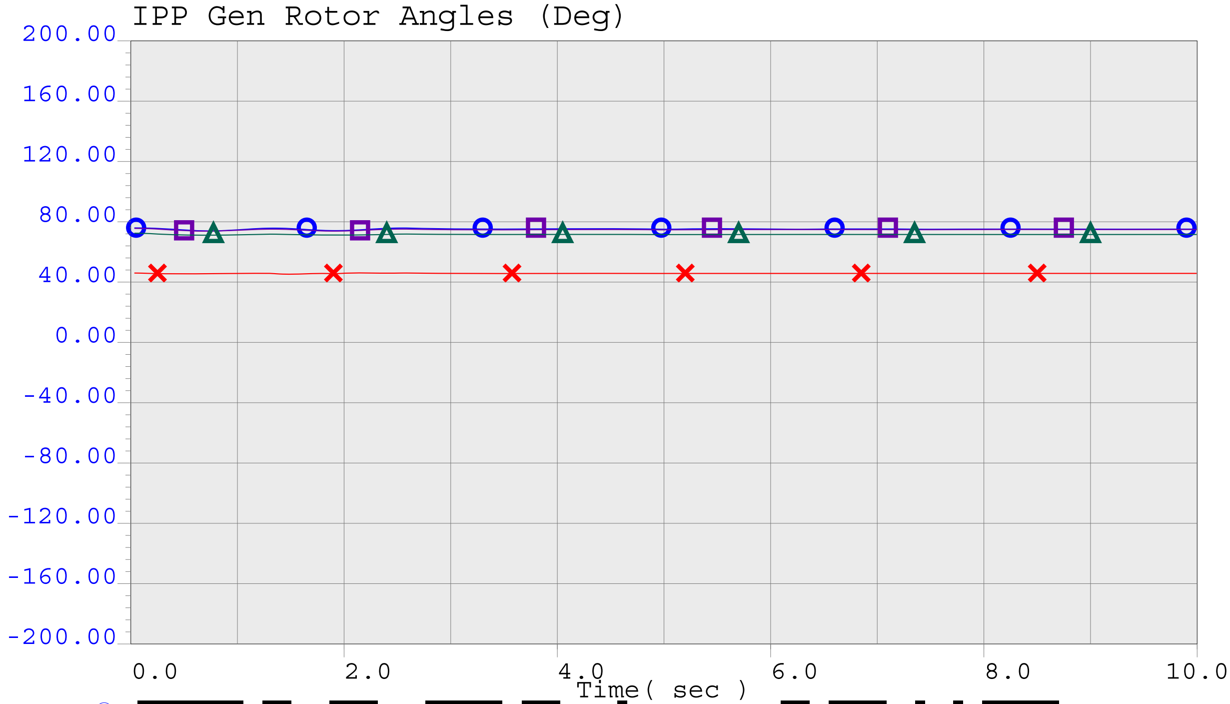
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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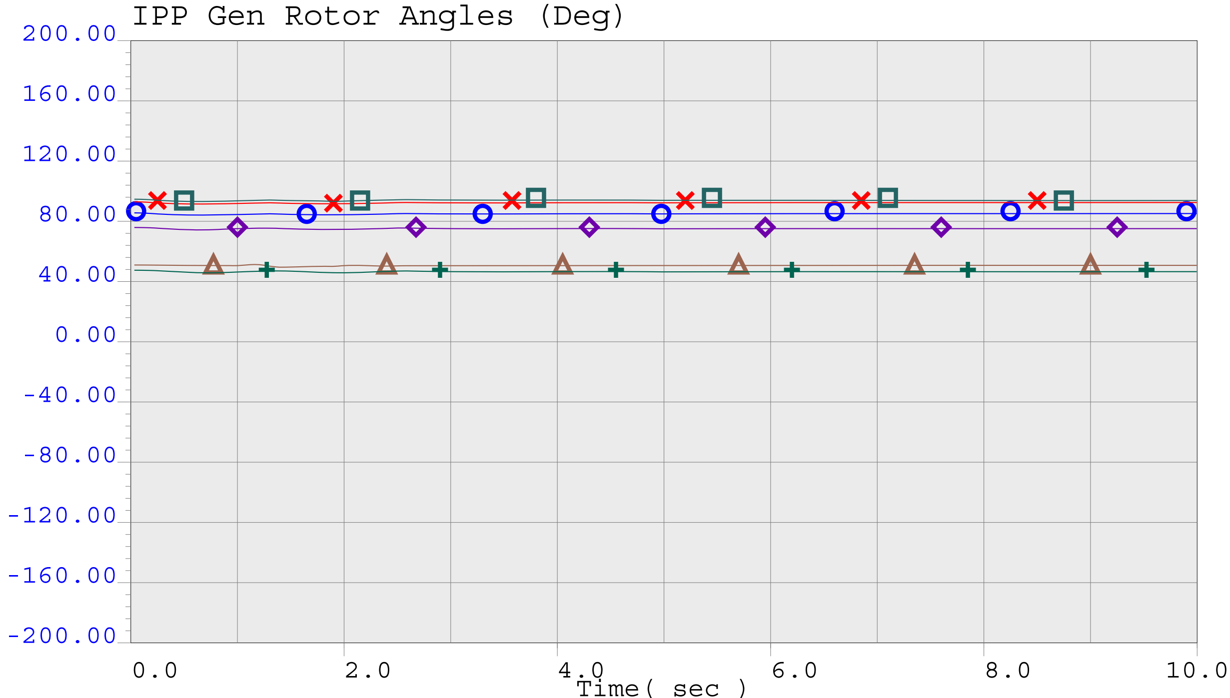
IPP Gen Rotor Angles (Deg)



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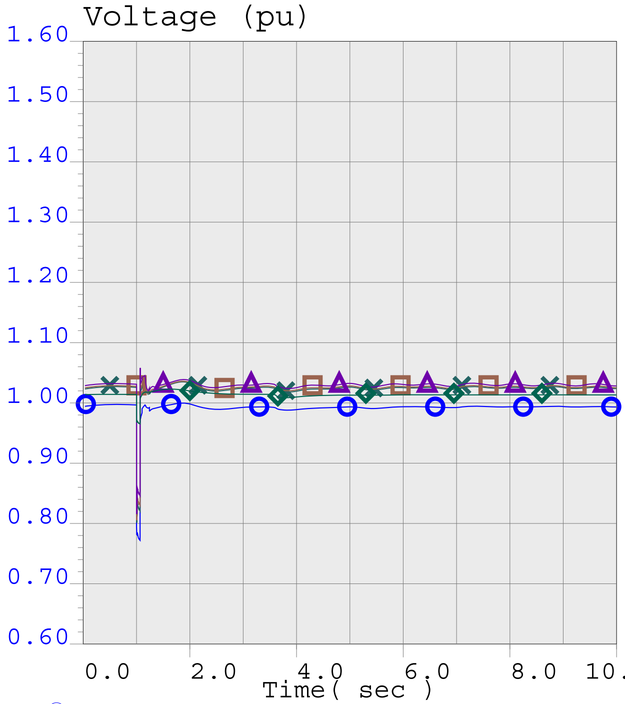

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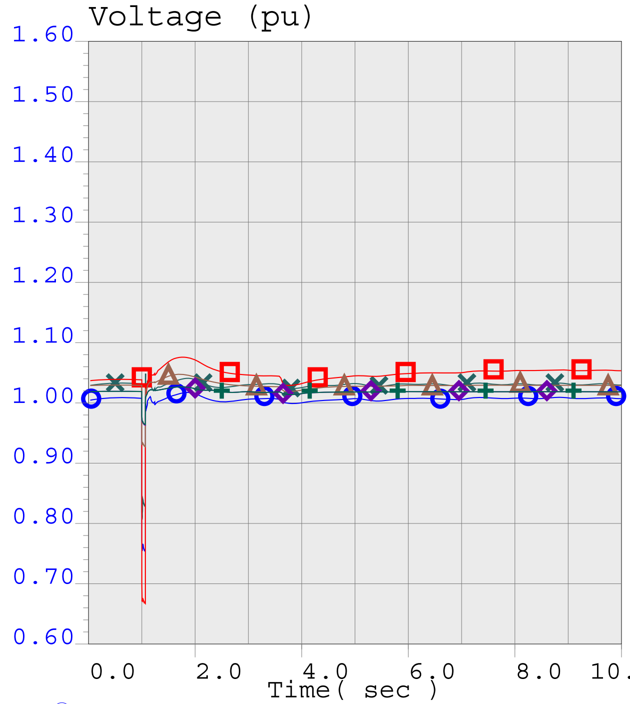

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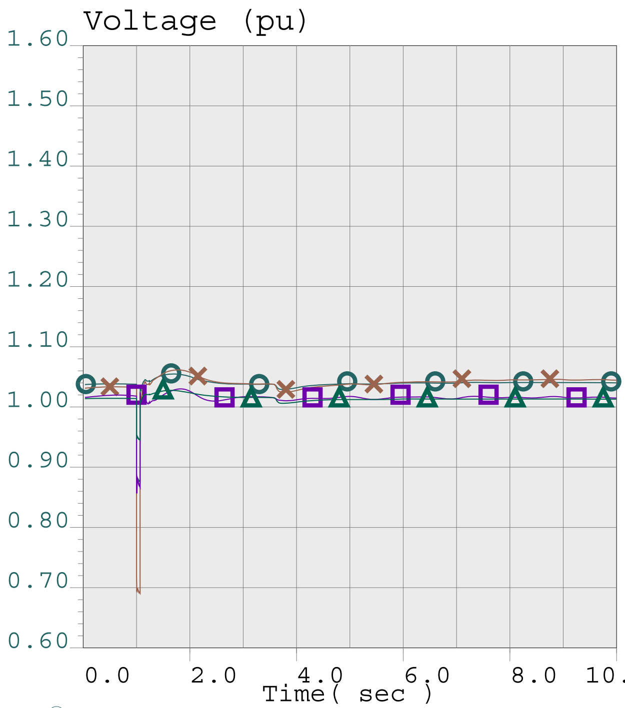

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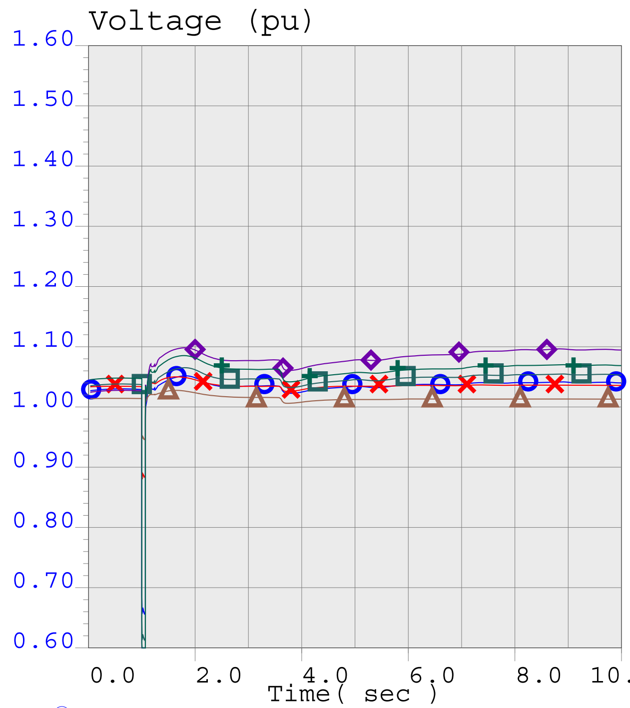

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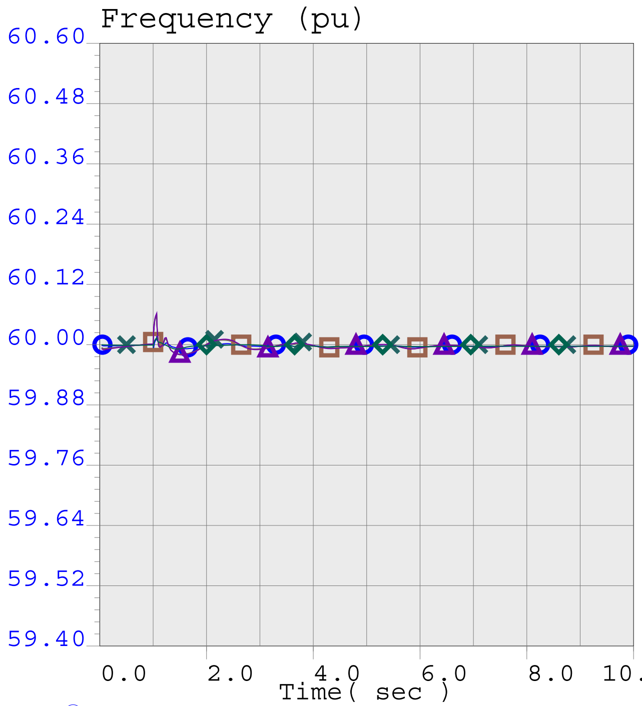
SYSTEM IMPACT STUDY (Frequency)



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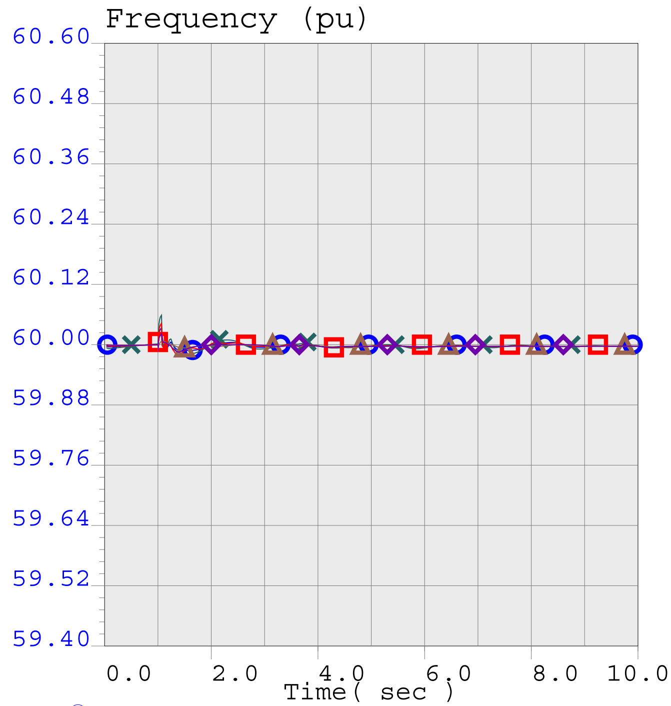

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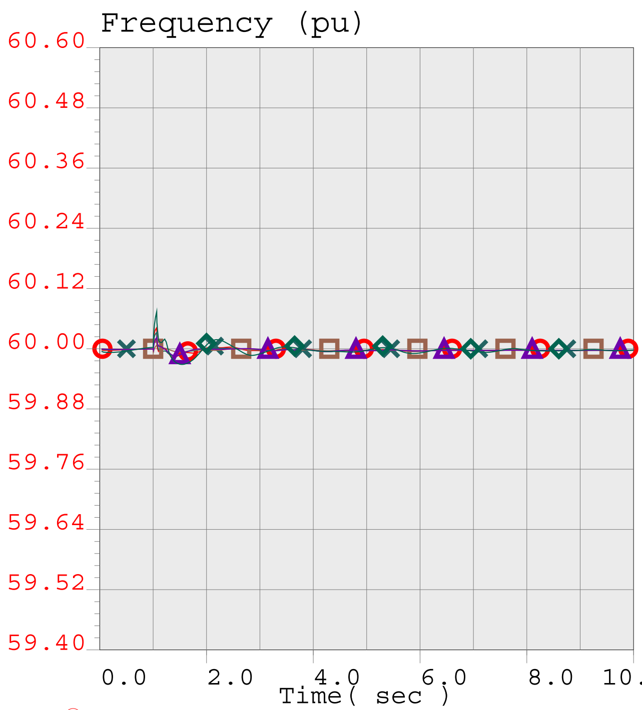

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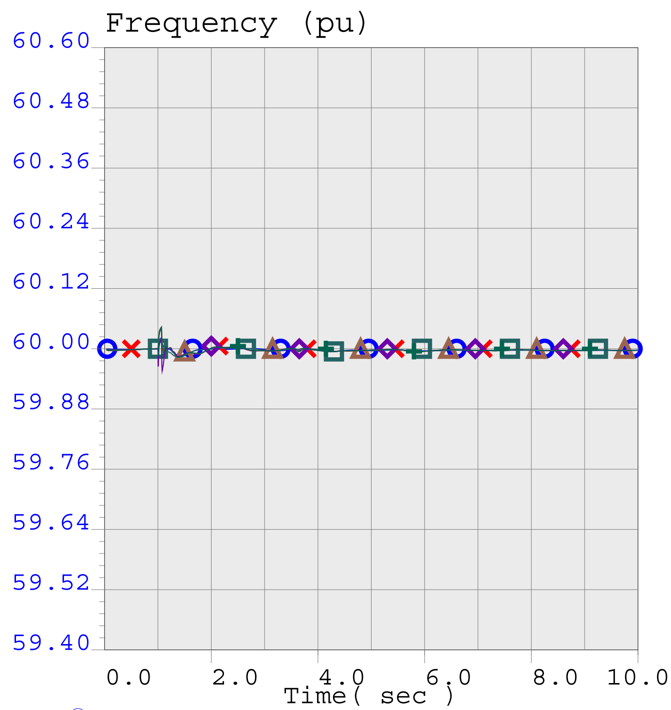

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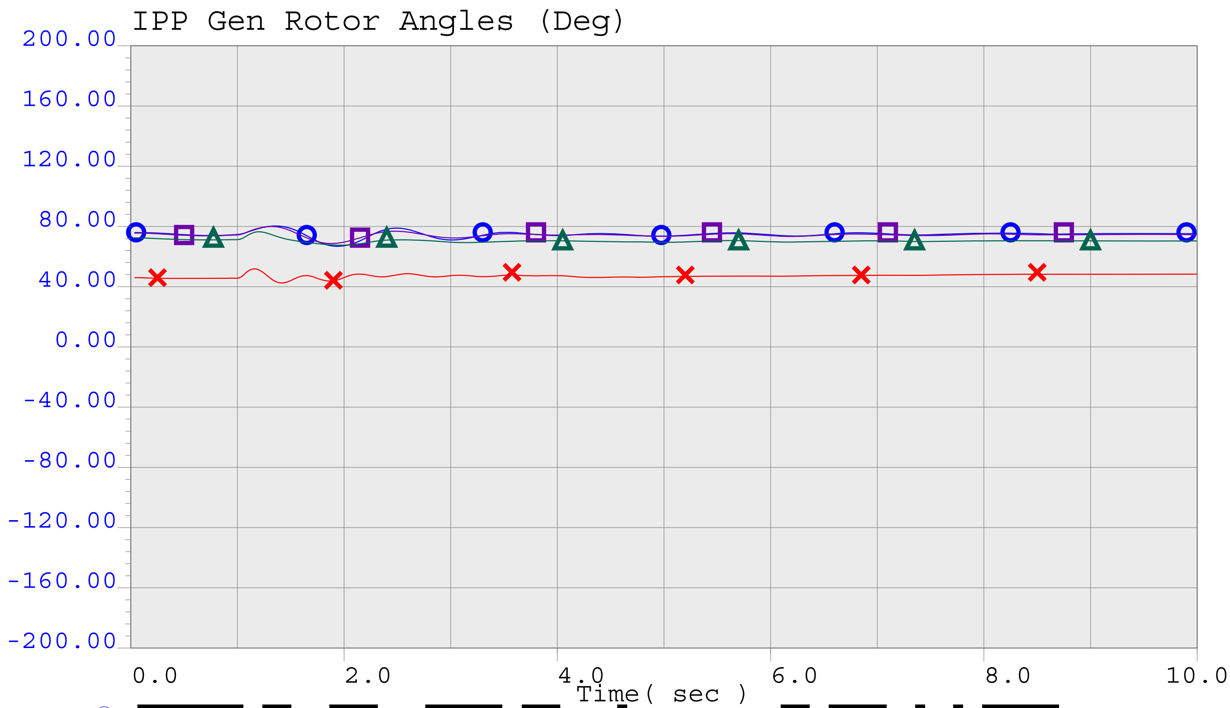
SYSTEM IMPACT STUDY (Rotor Angles)



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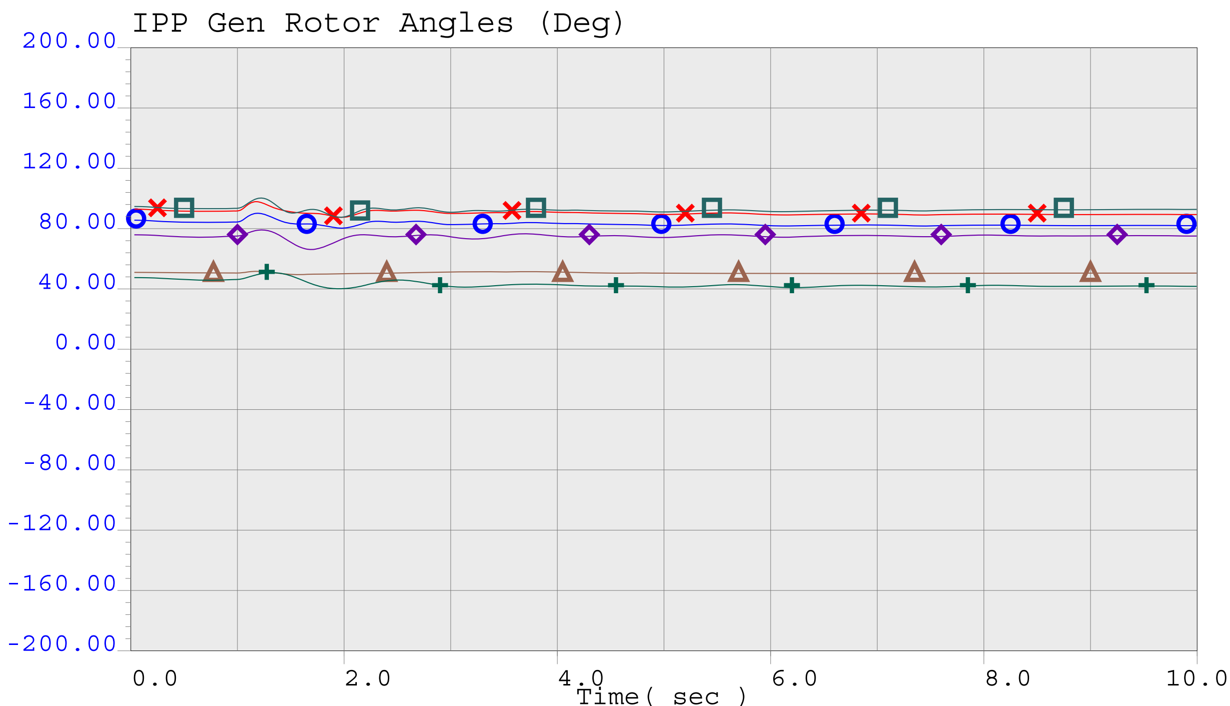

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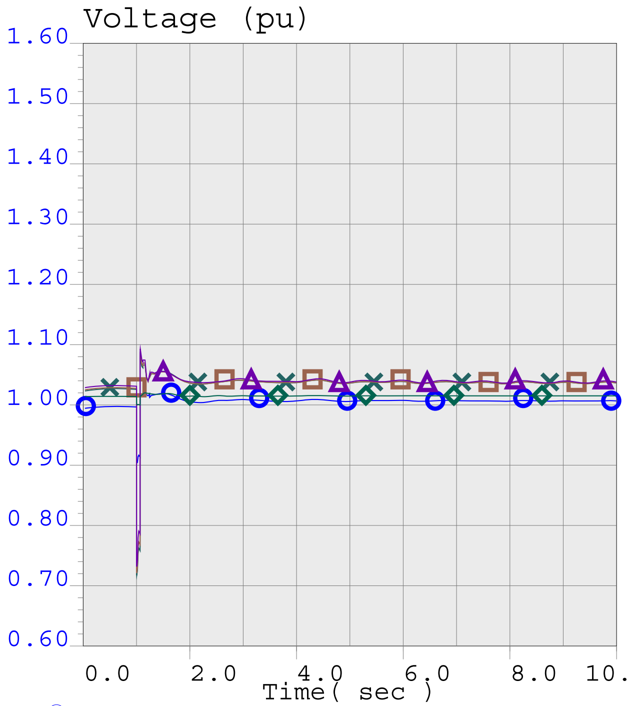
SYSTEM IMPACT STUDY (Voltage)



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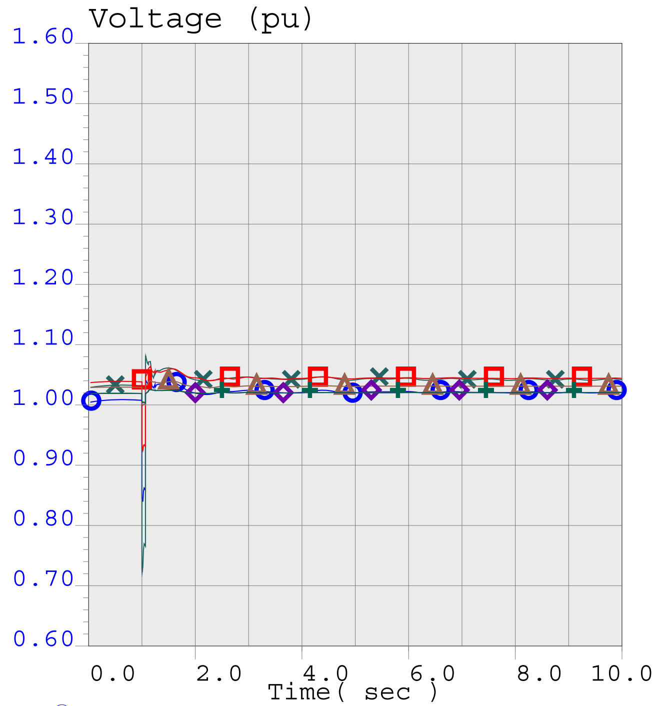

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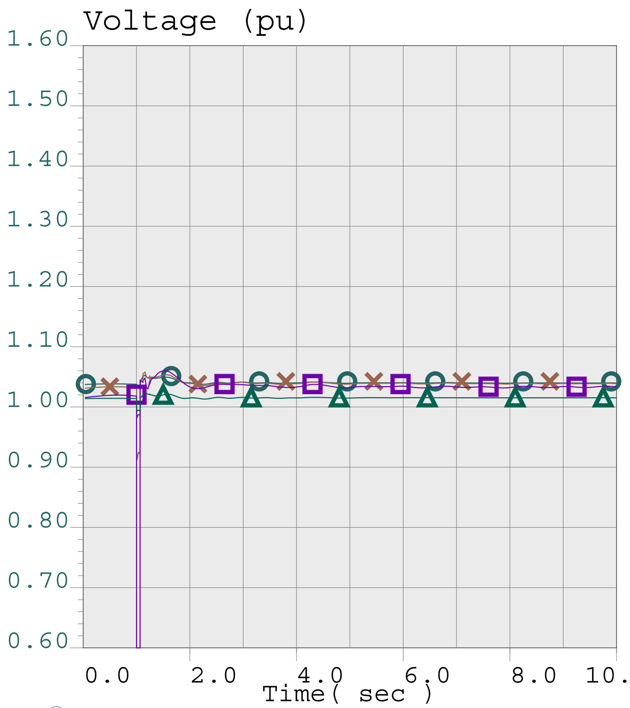

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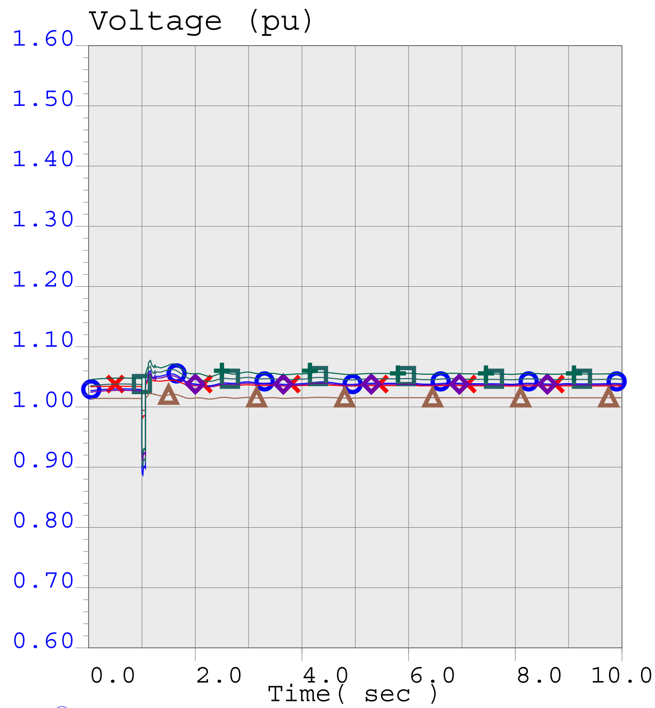

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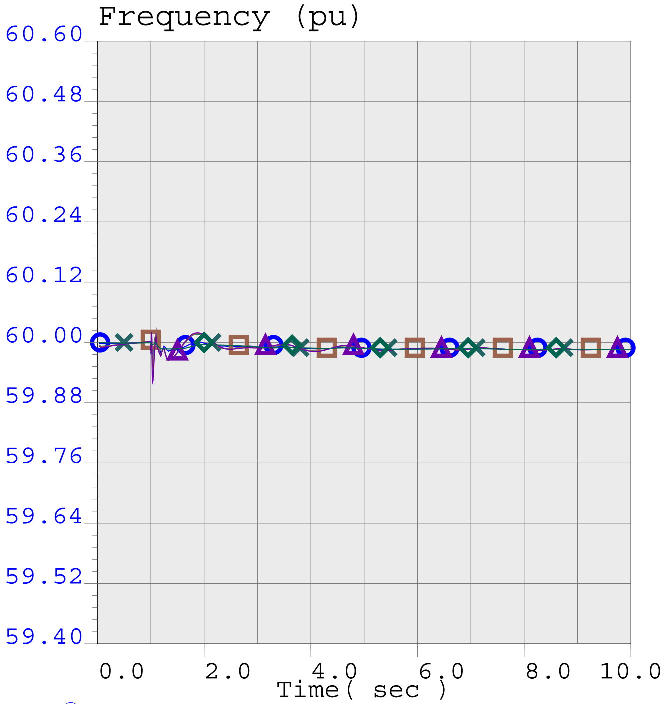

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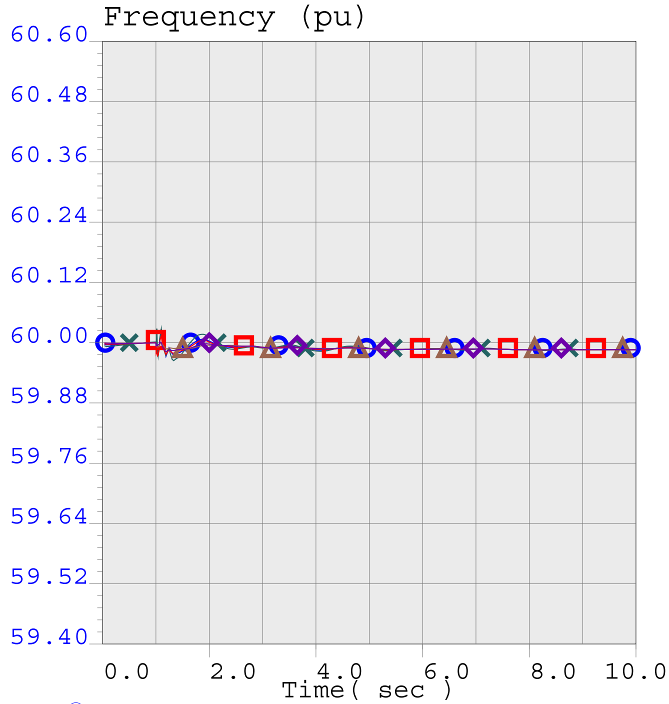

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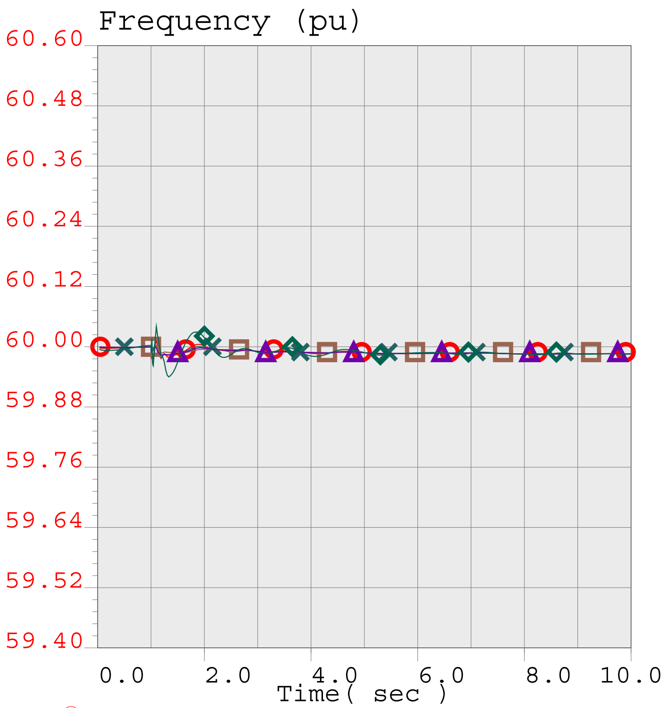

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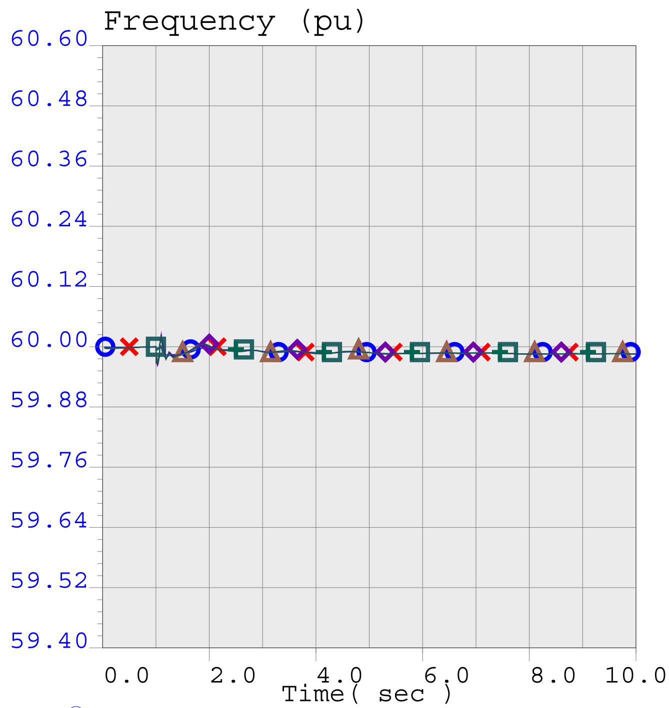

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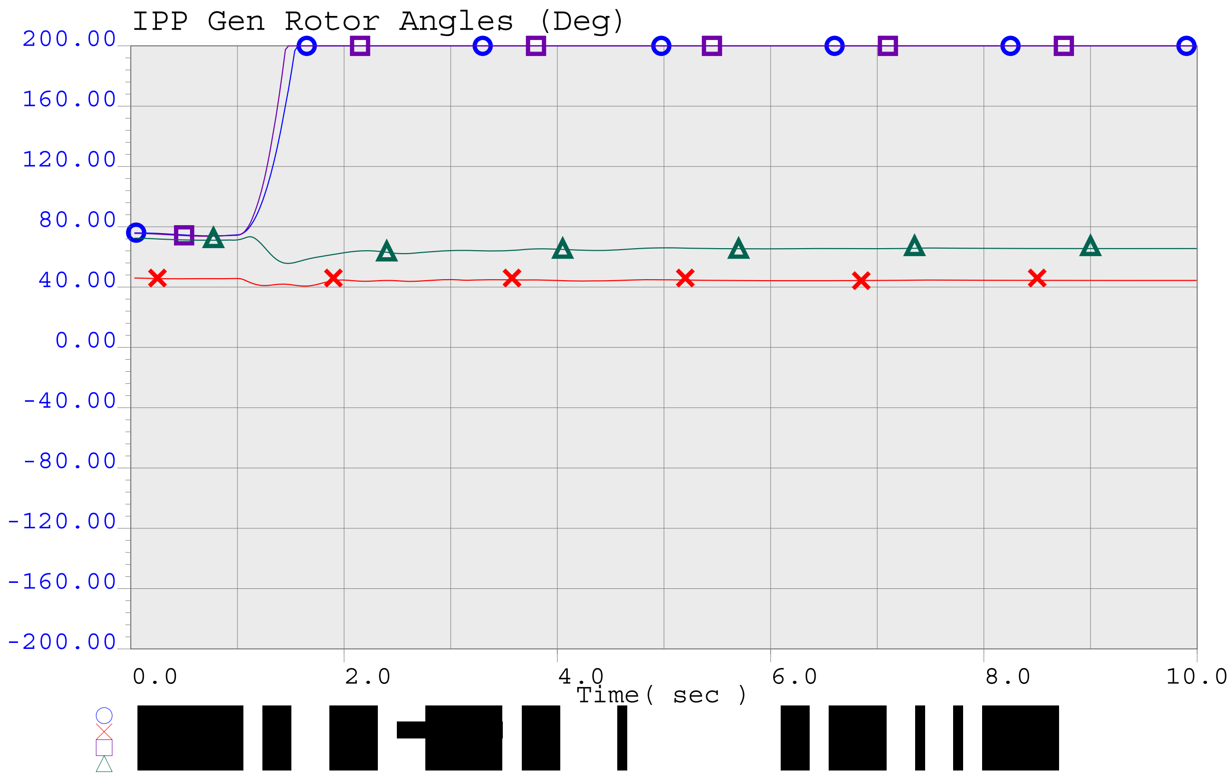
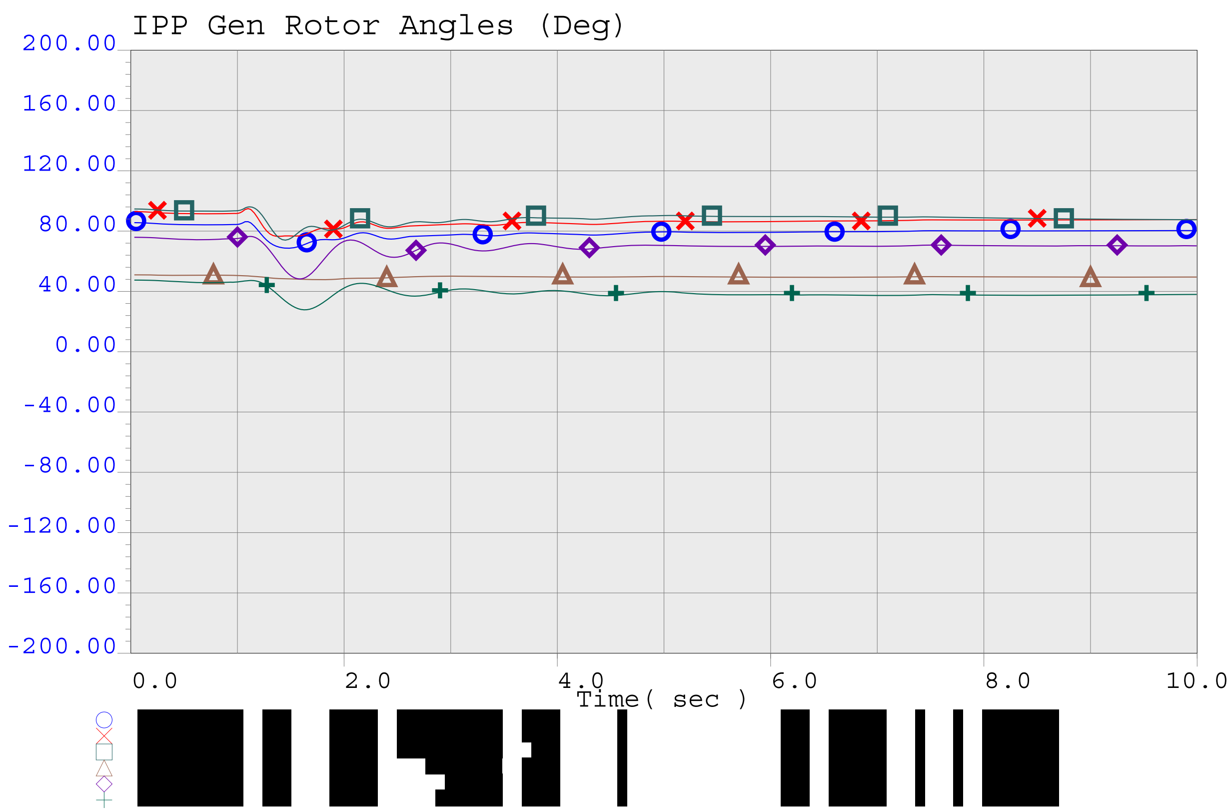
SYSTEM IMPACT STUDY (Rotor Angles)





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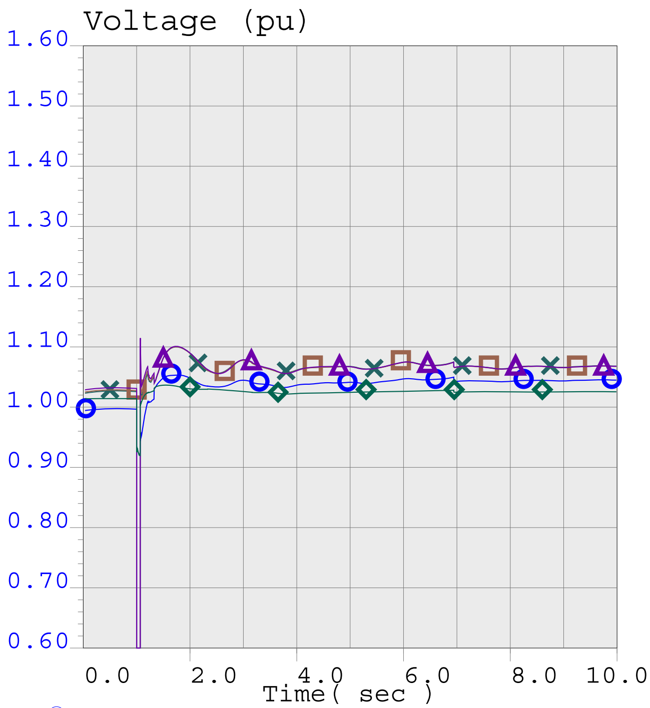

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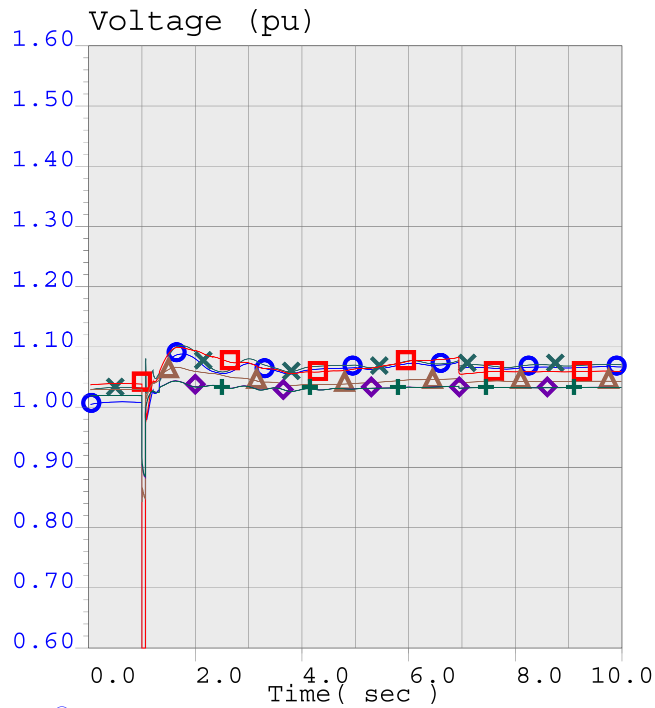

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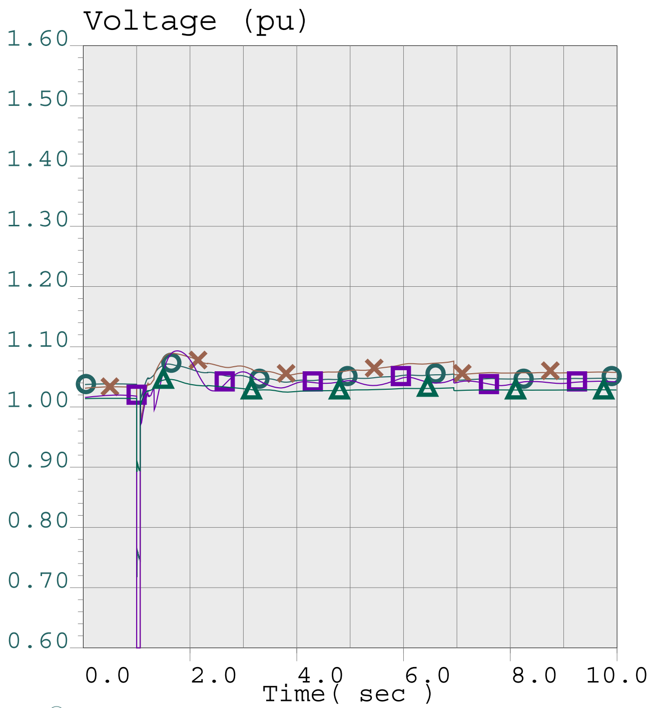

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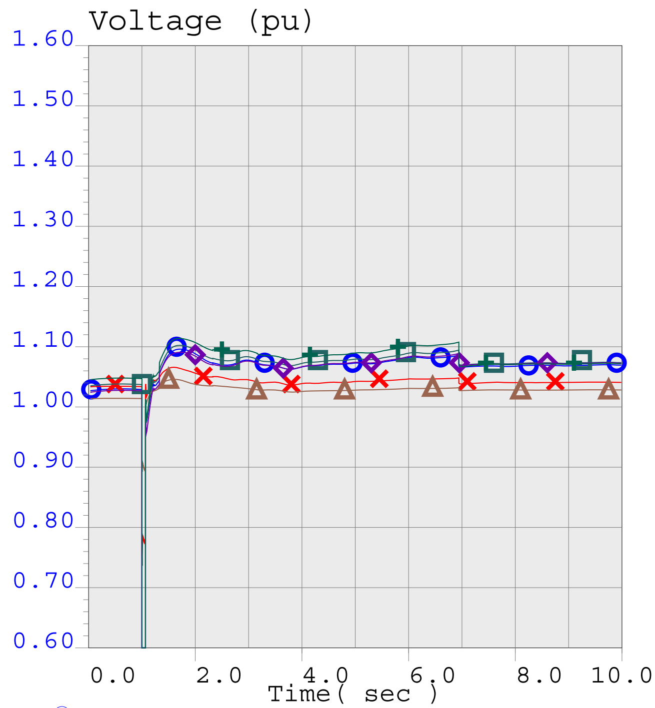

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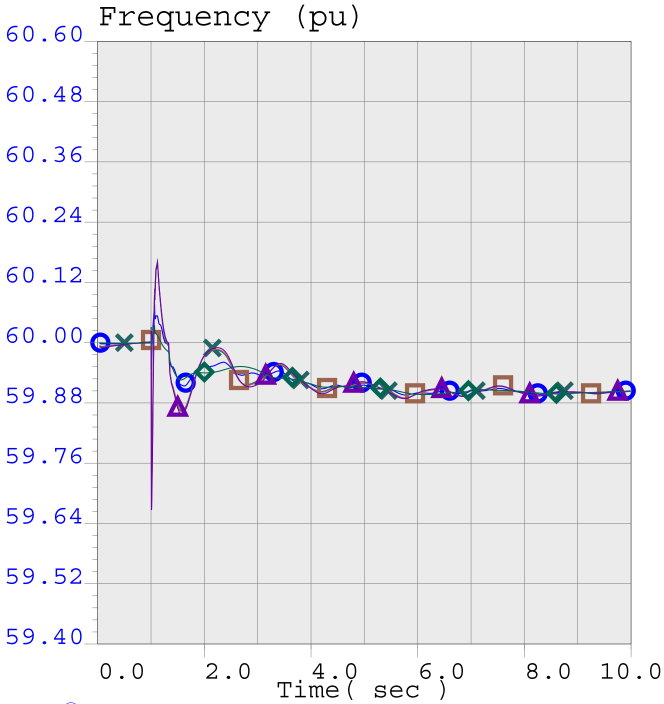

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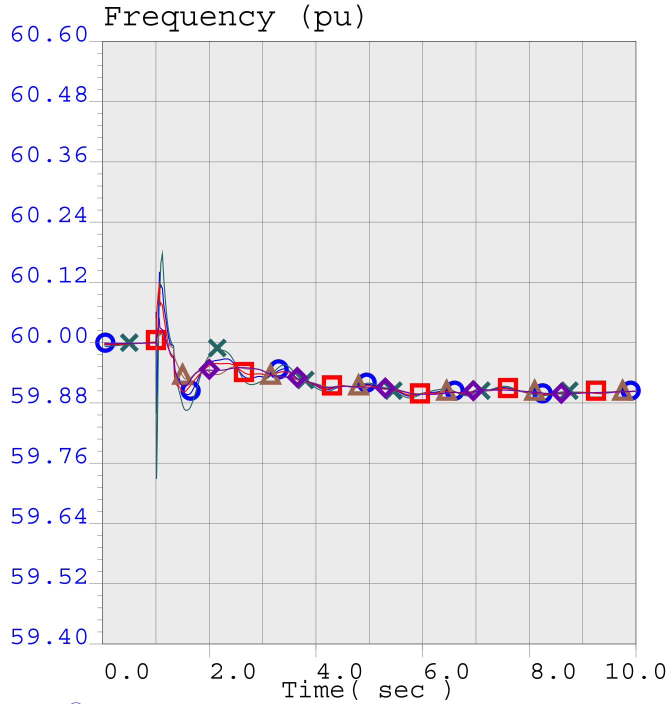

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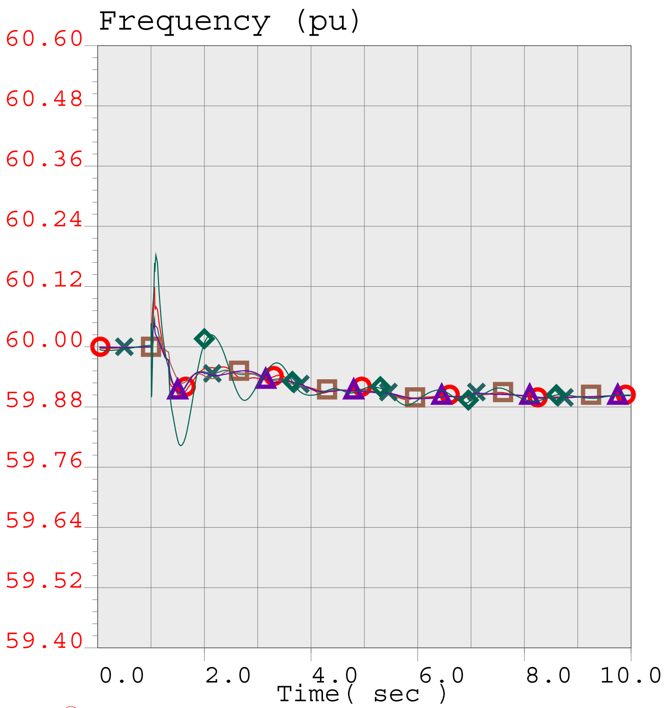

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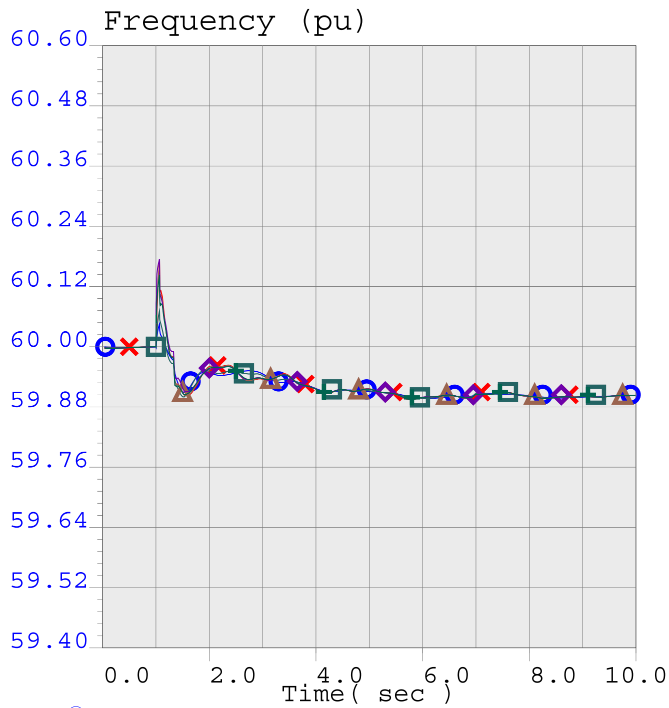

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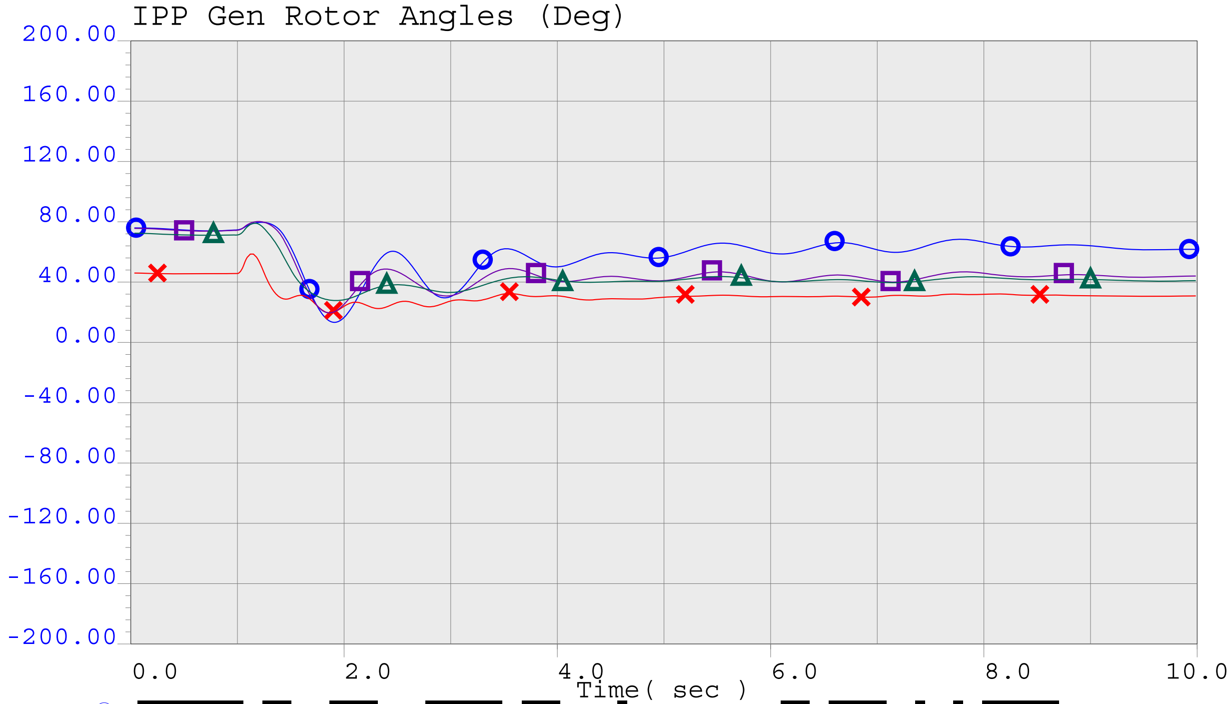
SYSTEM IMPACT STUDY (Rotor Angles)

IPP Gen Rotor Angles (Deg)



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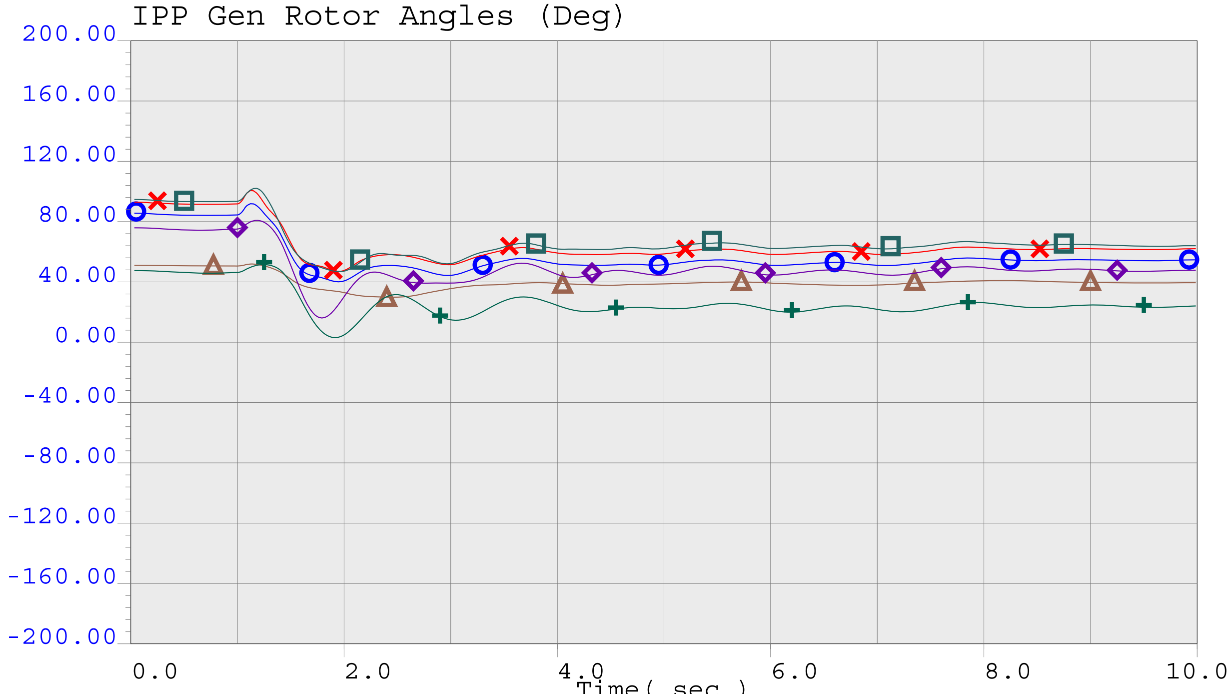
IPP Gen Rotor Angles (Deg)



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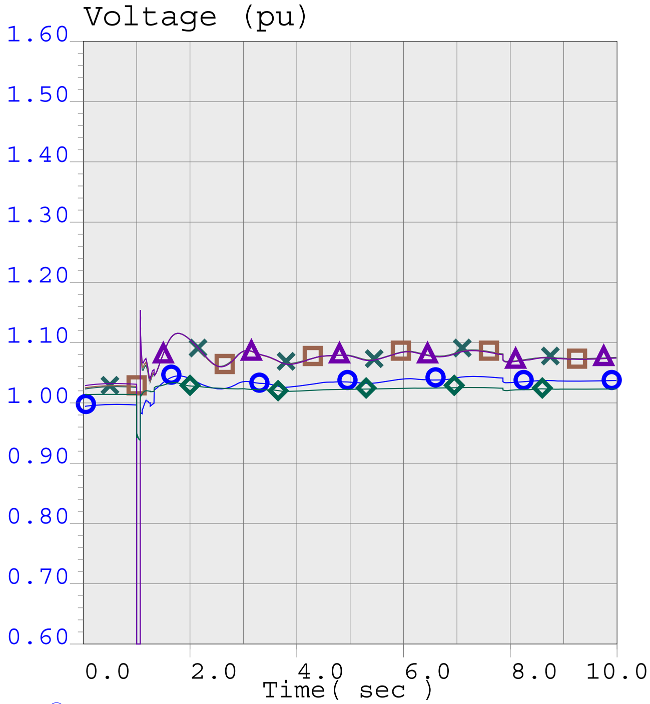
Fri Aug 26 09:19:13 2022

SYSTEM IMPACT STUDY (Voltage)



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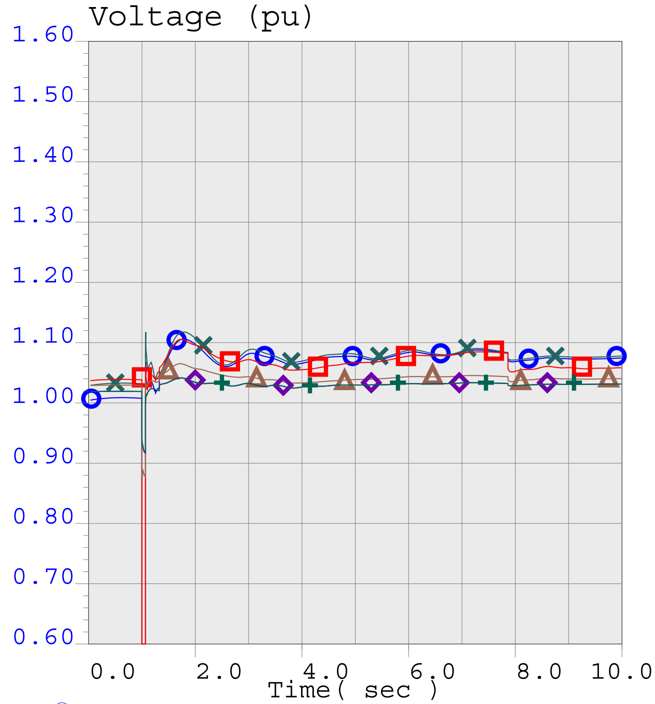

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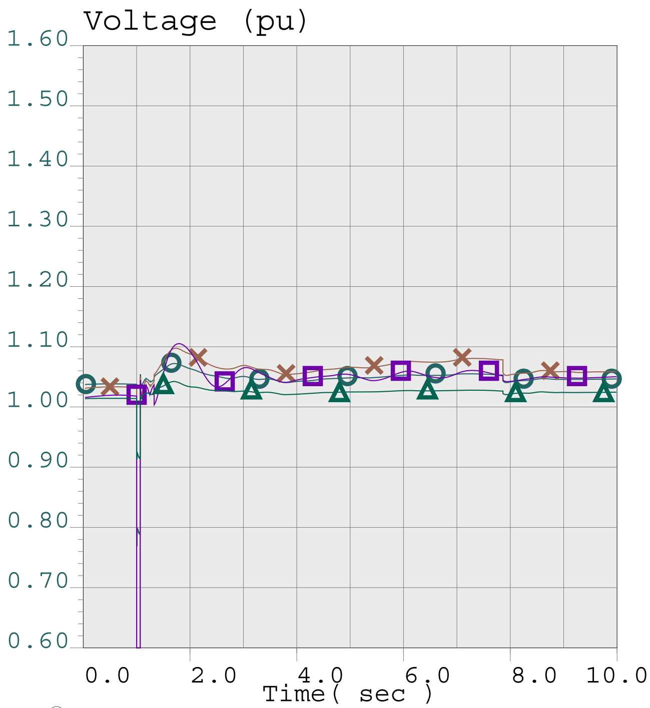

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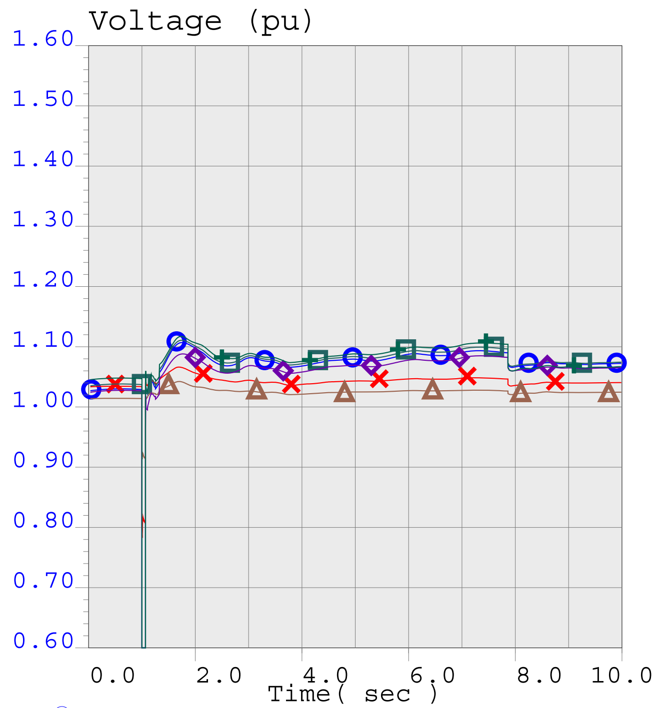

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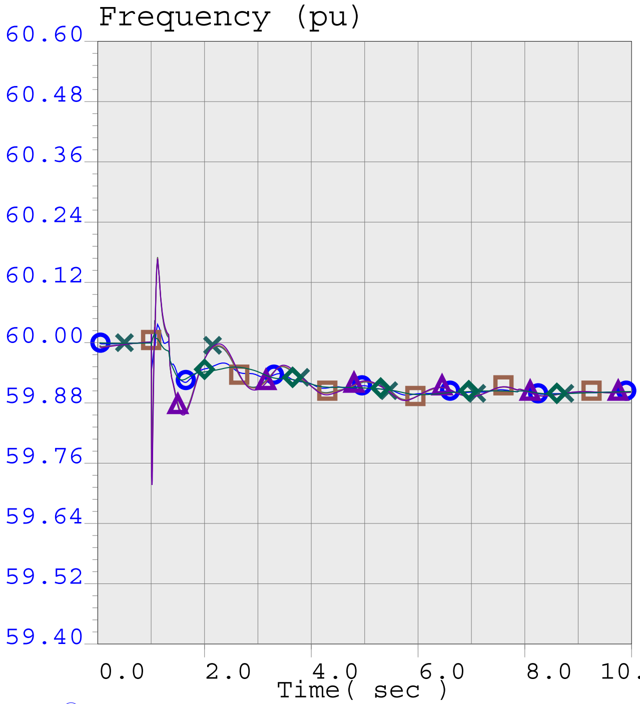

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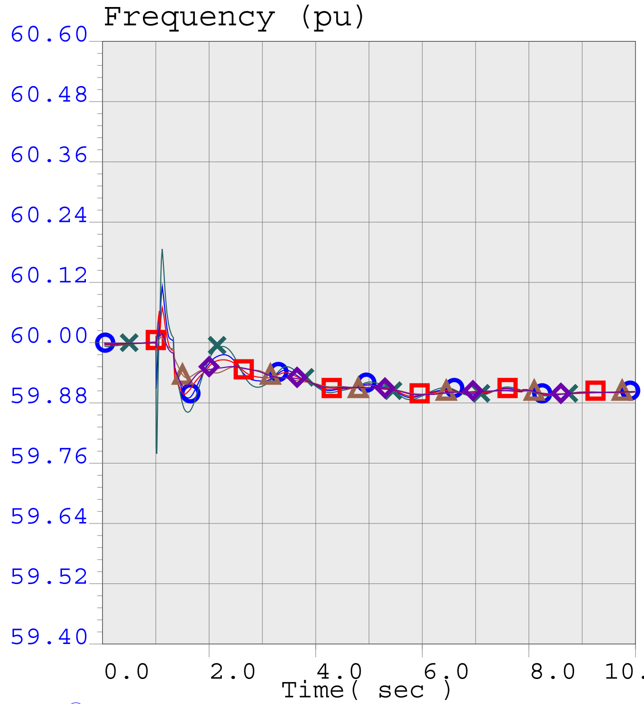

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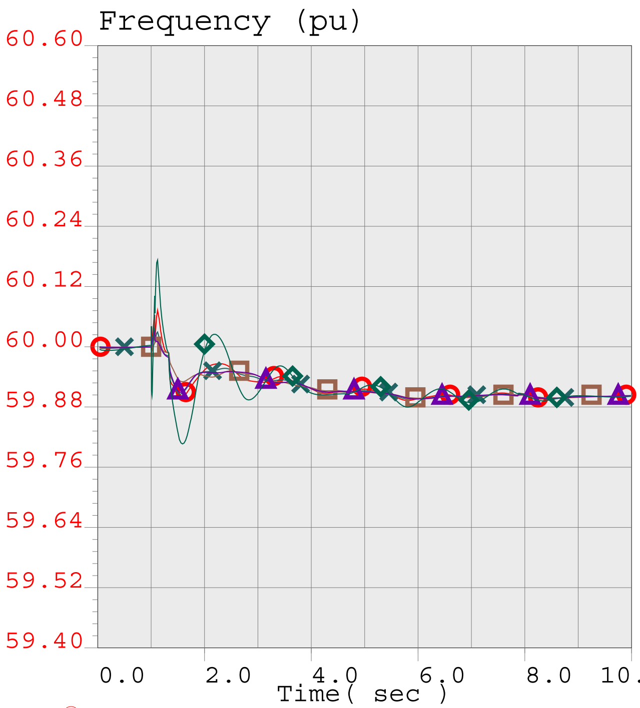

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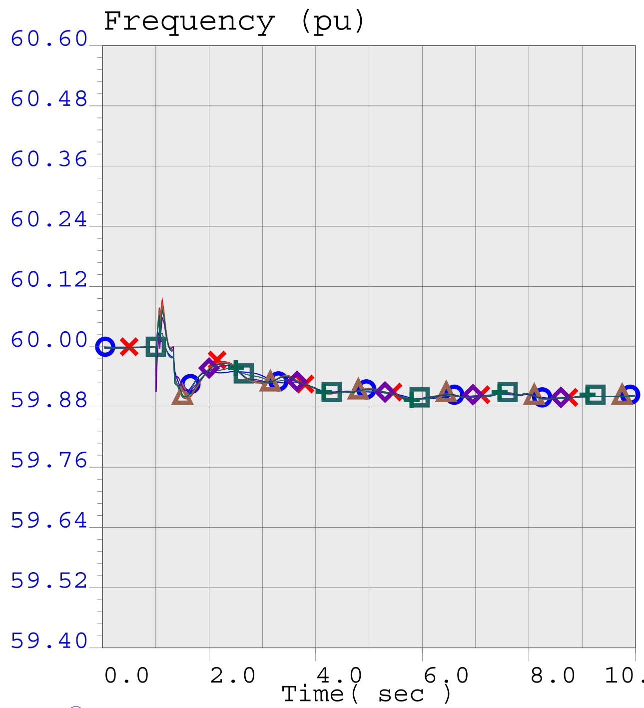

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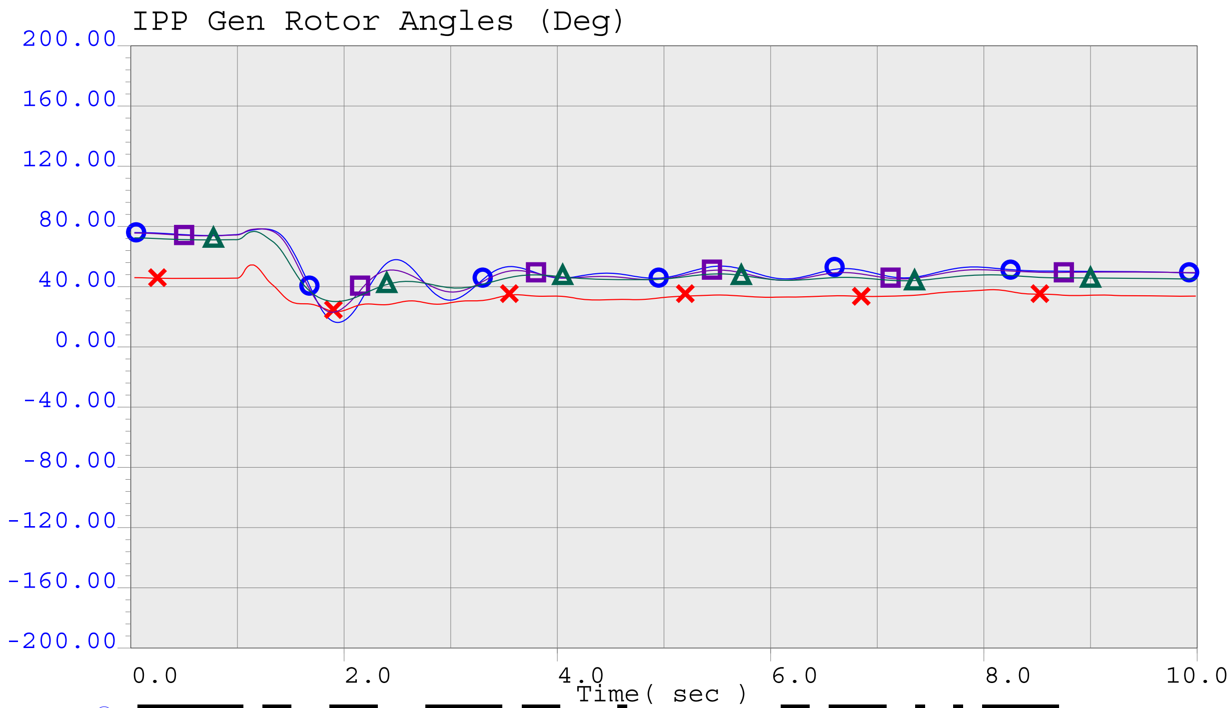
SYSTEM IMPACT STUDY (Rotor Angles)



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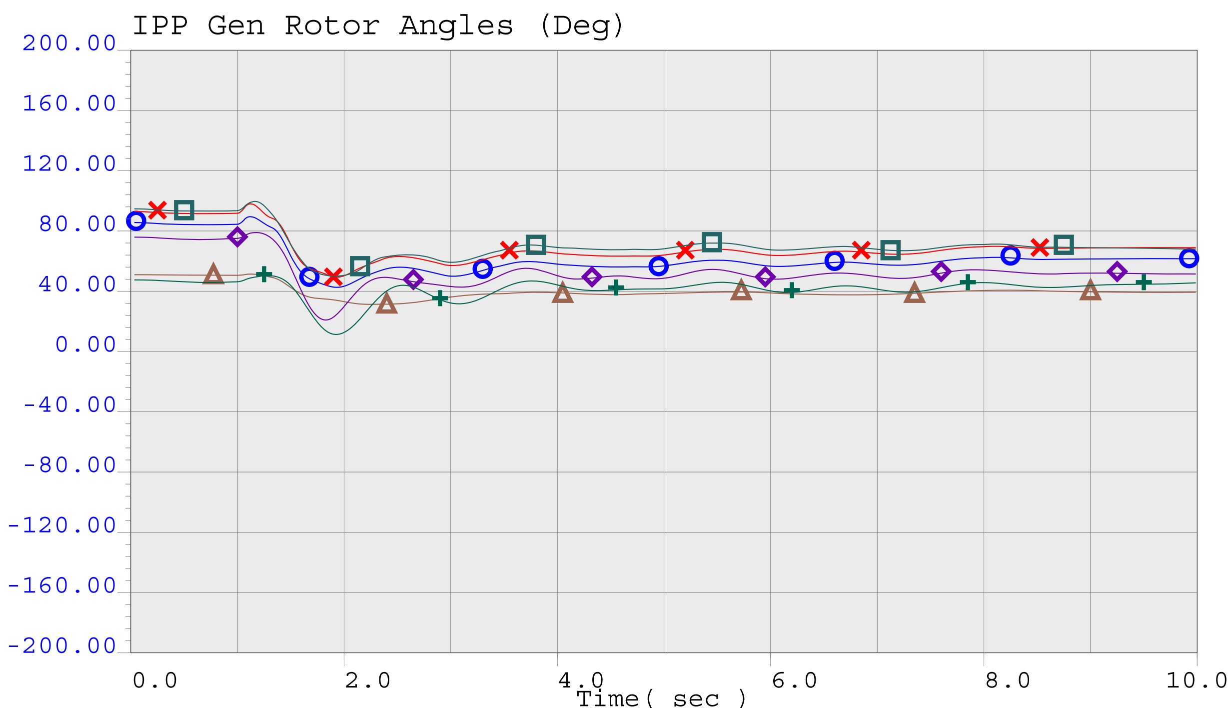

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