



APPMV at ISO-NE

A fully automated PPMV

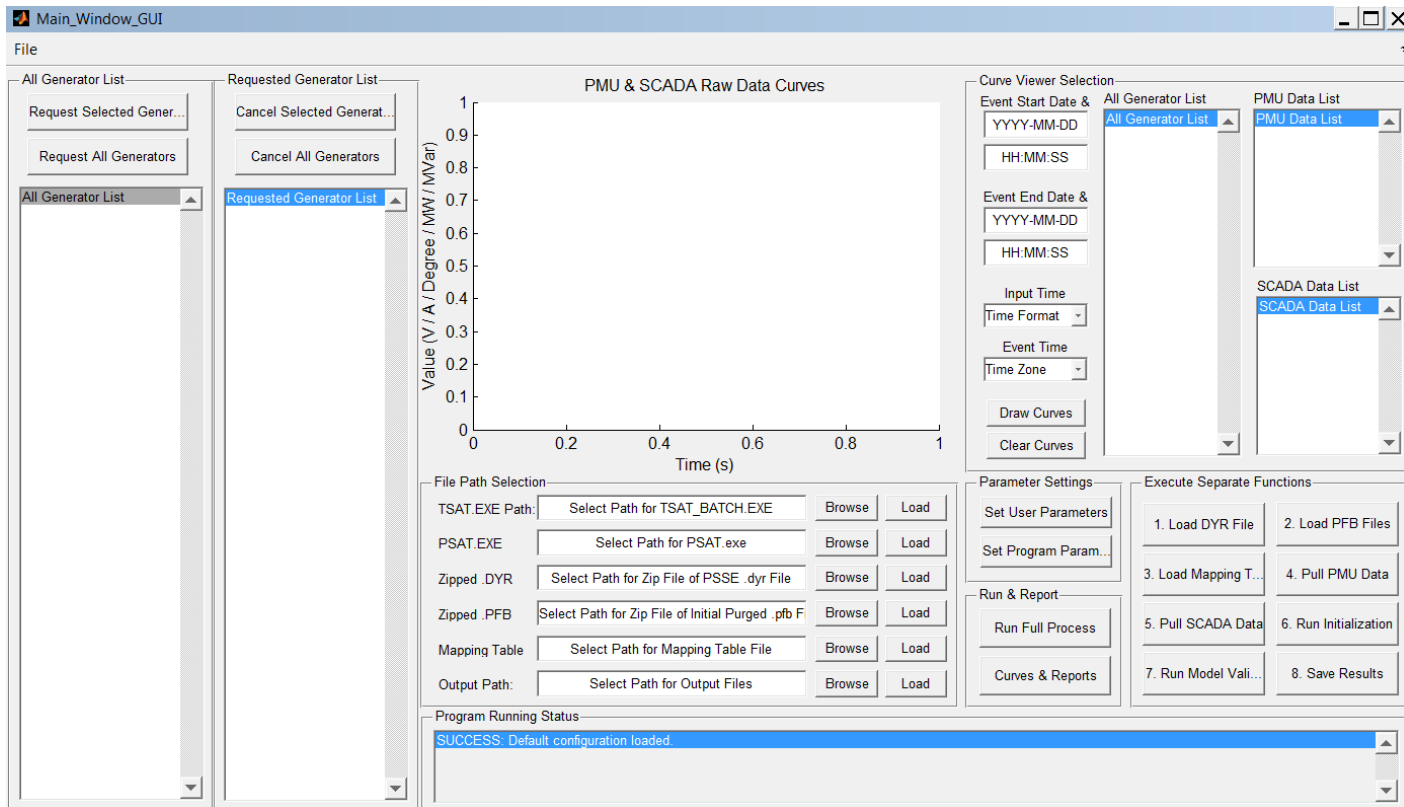
Qiang (Frankie) Zhang

SENIOR ANALYST



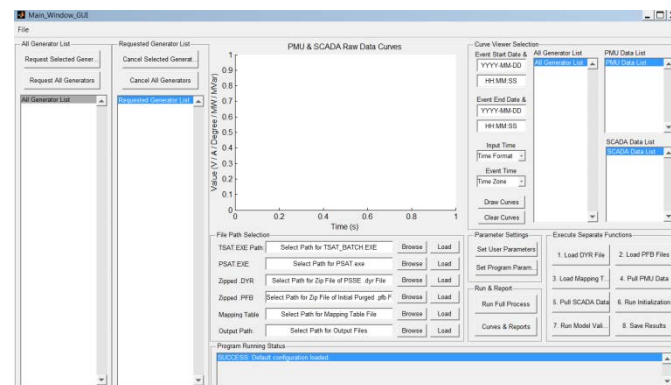
Batch Power Plant Model Verification (BPPMV)

- Verify 19 generators/plants with 1 click
 - A MATLAB tool that calls TSAT playback function



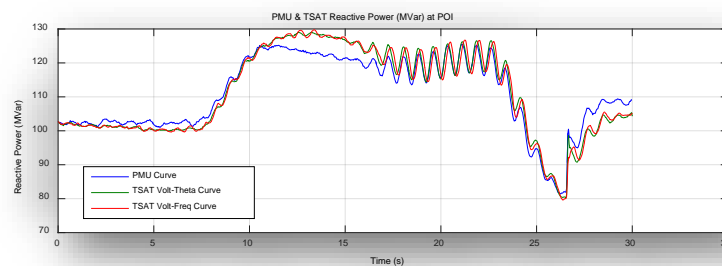
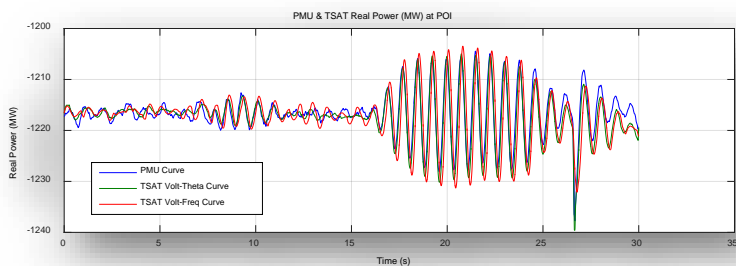
Major Functions

- Specify generators/plants to verify
- Specify event start/end time
- Optional: view PMU data in advance
- Set Initial Condition
 - Pull PMU/SCADA data
 - Run power flow in PSAT
- Run Playback Function
 - Time-domain Simulation in TSAT, driving by PMU data at POI
- Automated Result Analysis
 - Key engineering quantities comparison

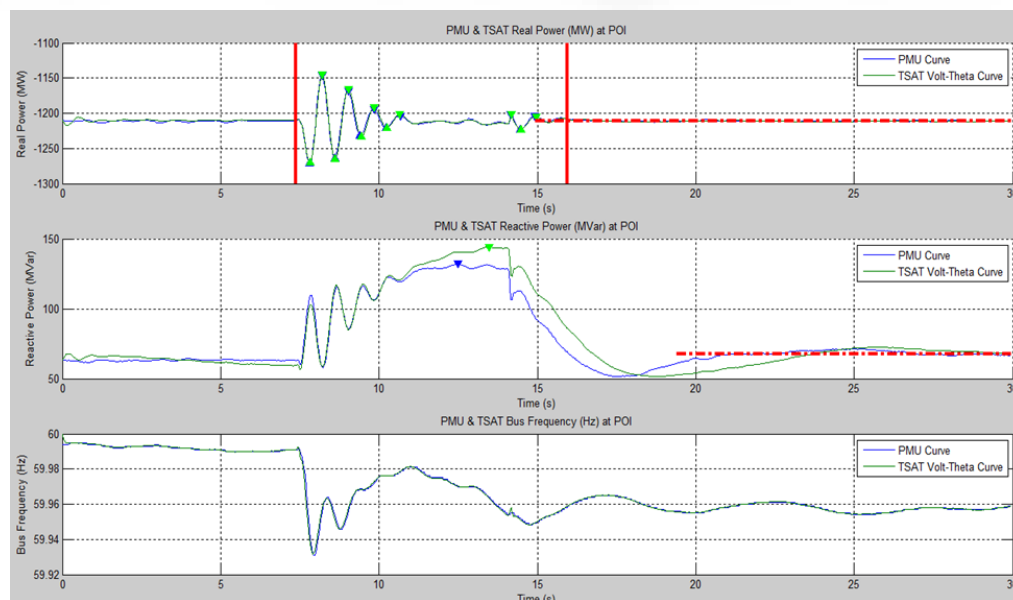


Results

- Visually view the differences



- Automated engineering analysis
 - Graph and data table



WHAT'S NEW

APPMV



APPMV – Fully Automated PPMV

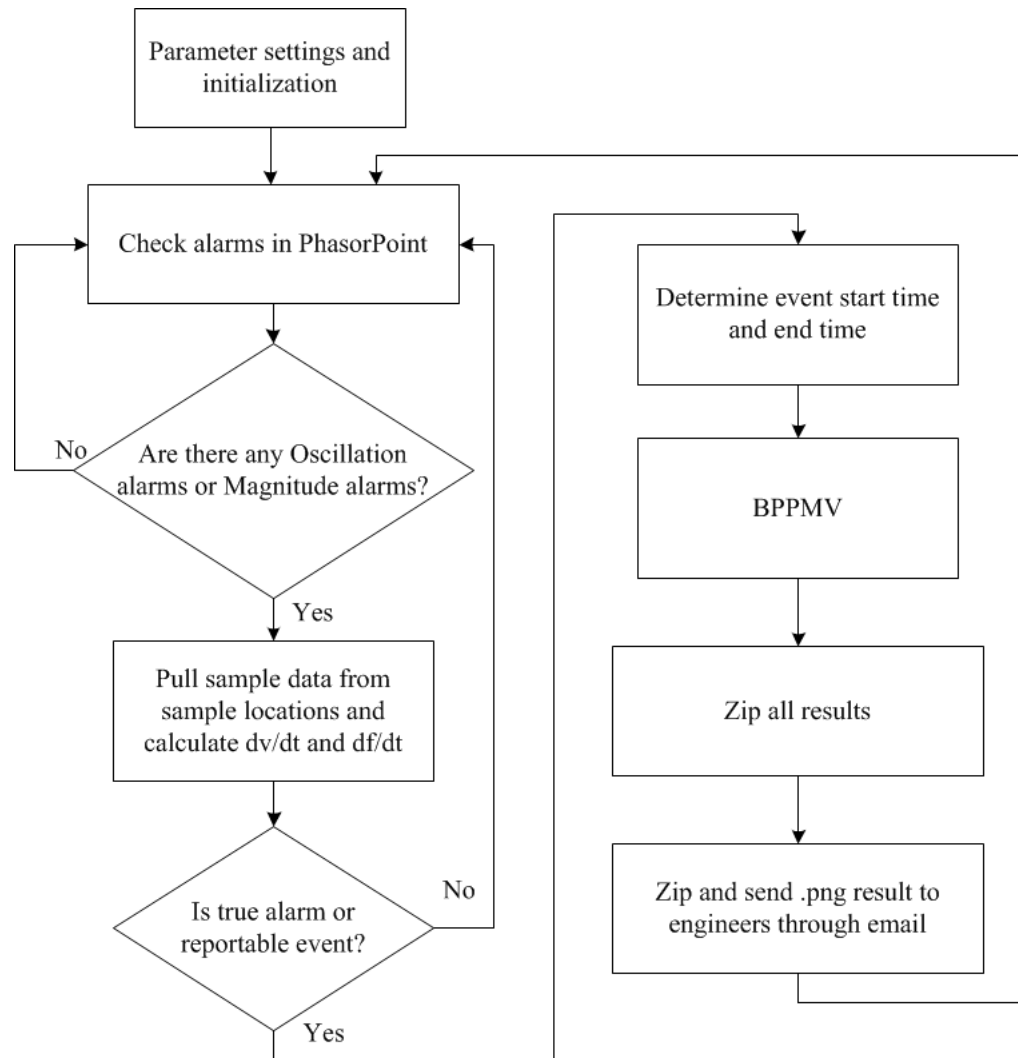
- Major constraints about PPMV
 - Time and effort
- BPPMV already automated most of the processes
 - Prepare the case, run the simulation, analyze the results
- APPMV puts another wrapper around BPPMV

Get event trigger
from
PhasorPoint

Call BPPMV and
run analysis

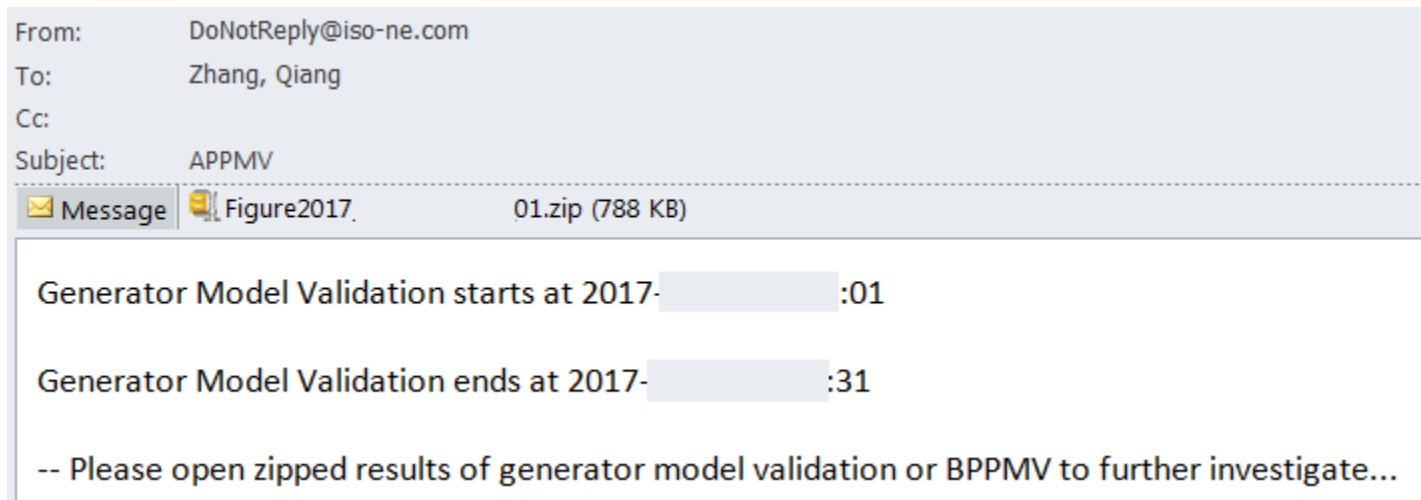
Send out results
in email

APPMV Flow Chart



APPMV Results

- Email with PPMV results attached
 - Only from sizable events and online generators



- All TSAT playback cases are stored on a server
 - User can modify the case and investigate in further detail



GREAT INTERN WORK!

Meng Wu, Ph.D. student from TAMU, now faculty at ASU

Weihong Huang, Ph.D. student from UTK

Questions

