

**Recent Progress:**

1. Global g, linear & non-linear functionality for:
  - system variables
  - non-conforming loads
  - Simulation control
  - PSS
2. ODE test for variable time step
3. Created and tested `pssGainFix` for pss model differences between version 2 and 3 based on manual and Ryan info.
4. Fixed corrector integration in `s_simu_Batch` of dpw states
5. created MATLAB plot functions to compare PST data
6. GitHub updated:  
<https://github.com/thadhaines/MT-Tech-SETO>

**Sandia Action Items:**

- Continue development of `pwrmod` and `ivmmod` models and their implementation in PST.
- Decide on PST base version (3.1  $\rightarrow$  SETO)
- Plan for variable time step methods
- Investigate power electronics-based models (REGC - Matt)

**Current Questions:**

1. Requirements for variable step methods
2. PST modeling of transformers?
3. Deadlines of any sort?

**Current Tasks:**

1. Continue to cast globals to structured g
  - IVM
  - SVC
  - TCSC
  - HVDC
  - pss design
  - Induction motor
  - Induction Generator
  - delta P omega filter
2. Test models in both non-linear and linear simulations
3. Explore/Create example cases
4. Get code/cases from Ryan
5. Think about AGC implementation.
6. Think about using standard ODE solvers
7. think about cleaning up or flowcharting `svm_mgen_Batch`
8. Work on understanding PST operation
9. Document findings of PST functionality
10. Investigate Octave compatibility

**Coding Thoughts:**

1. Condense  $\approx 340$  globals into 1 structured array with  $\approx 18$  fields based on category.
2. Create new `s_simu_Batch` style script that functionalizes the newtork and dynamic calculations so that standard MATLAB ODE solvers may be used.
3. Rework how switching & perturbation events are handled into a more flexible and general format. (use flags)
4. Generate something similar to unit test cases to verify code changes don't break everything during refactor.
5. Generate comparison scripts to verify simulated results match after code changes.