Recent Progress:

1. Stajcar and Trudnowski code acquired. Modified to run from repository folders

2. New example cases verified as working:

   - nothing new...

3. octaveComp created - Automatically runs from s_simu_Batch if Octave is detected. Handles execution of compatibility commands and package loadings.

4. Cases verified as working in Octave:

   - OneMacInfBus fault
   - genModelTest
   - PSTexample system line fault
   - pwrmod-Pinjection (Example1)
   - pwrmod-Iinjection (Example2)
   - ivmmod- (Example1)

5. GitHub created and updated:
   `https://github.com/thadhaines/MT-Tech-SETO`

Coding Thoughts:

1. Condense ≈340 globals into ≈18 based on category

2. Enable 'objects' (structure of arrays), but include functions to interact with condensed globals so vectorized operations are still possible.
   This would probably entail more thought on passing data by reference using handles.

3. Separate total system calculation of derivatives into scripts/functions to allow for easier changing of integration method.

4. Rework how switching/perturbance events are handled into a more flexible and general format.

5. Generate something similar to unit test cases to verify functional changes don't break everything during refactor.

6. Generate comparison scripts to verify simulated results match after code changes.

Current Tasks:

1. Look at Trudnowski code for 'structured array, functionalized' approach.

2. Look at Stajcar code for basic transient stability simulation flow.

3. Work on understanding PST

4. Document findings of PST functionality

5. Investigate Octave compatibility

6. Create modulation case ramp/step/noise

7. Add logging of loads

8. Continue to work on data plots

9. Continue to collect example cases

Current Questions:

1. Minimum requirements for system case?

   - Load flow solver
   - Network solver
   - Machine models
   - Governor model
   - Exciter models
   - pwrmod models
   - ivmmod model
   - load modulation models
   - ...

2. PST modeling of transformers?

3. PST modeling of faults?
   Uses alternate Y matrices?
   Creates fault bus?

Possible Future Tasks:

1. Investigate Sandia integrator stability methods.

2. See if the modified PST used by Sandia in 2015 paper exists for an example of how they implemented different integration routines.