

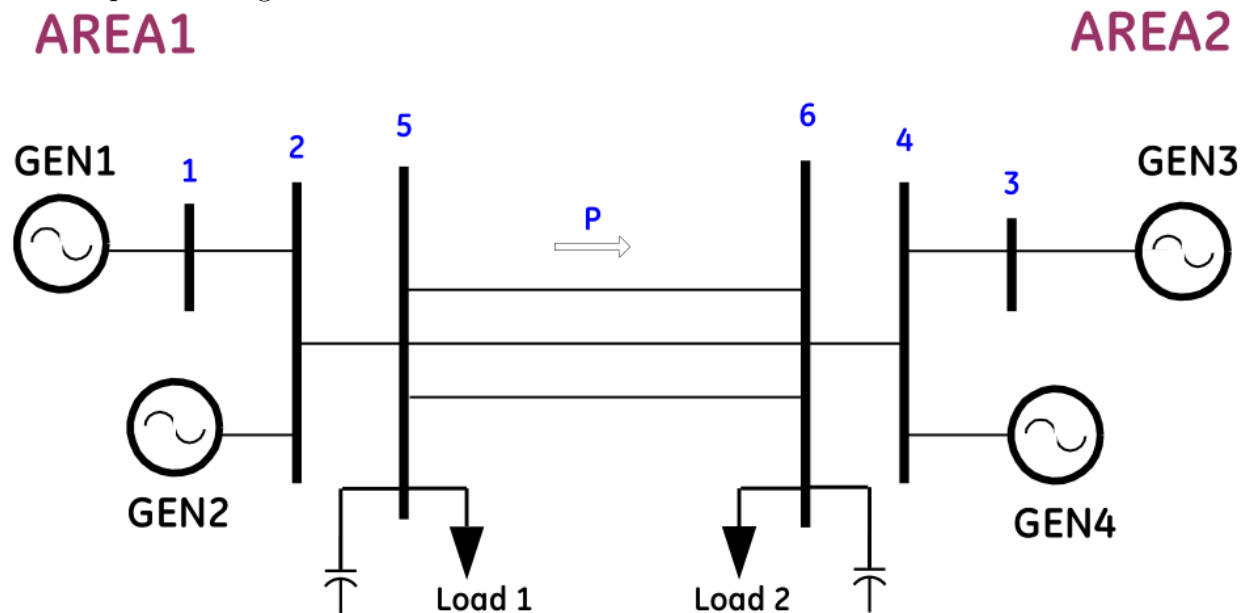
**Recent Progress:**

1. Committee presentation second draft completed. (for 02/05/19)
2. Verification of Frequency response revisited with corrected Adams-Bashforth method.
3. `fileDirectory` added to simulation parameters for data output.
4. If system 'crashes' data arrays are cleaned of 'void' data
5. Handling of setting  $P_e$  for power flow corrected
6. GitHub repository updated:

[https://github.com/thadhaines/LTD\\_sim](https://github.com/thadhaines/LTD_sim)

**Current Tasks:**

1. Start experimenting with a different model:



2. Investigate line current data (add branch section agents to model)
3. Package code into library (think of a nice name):  
Power System Long-Term Dynamic Simulation → PSLTDSim
4. Refine data output - Dictionary structure, variable naming, functionality, meta...

**Future Tasks:** (Little to No Progress since last time / Things coming down the pipe)

1. Add Ramp perturbation Agent
2. Ironpython ODE solver (.NET library?)
3. Investigate Runge-Kutta integration

$$\mathbf{x}_{n+1} = \mathbf{x}_n + h(1/6) [ \mathbf{k}_1 + 2\mathbf{k}_2 + 2\mathbf{k}_3 + \mathbf{k}_4 ]$$

**Fourth-order  
Runge-Kutta  
method**

$$\begin{aligned}\mathbf{k}_1 &= \mathbf{f}(\mathbf{x}_n) \\ \mathbf{k}_2 &= \mathbf{f}[\mathbf{x}_n + (h/2) \mathbf{k}_1] \\ \mathbf{k}_3 &= \mathbf{f}[\mathbf{x}_n + (h/2) \mathbf{k}_2] \\ \mathbf{k}_4 &= \mathbf{f}(\mathbf{x}_n + h \mathbf{k}_3)\end{aligned}$$

4. Enable multiple dyd files to overwrite / replace previously defined agents/parameters
5. Find option to suppress PSLF terminal output.
6. Basic plotting templates/functions for MATLAB and python3 (will change if dictionary structure changes)
7. An agent for every object: Shunt, SVD, Branch, Transformer, Power Plant, ...
8. Identify System Slack bus programmatically

**Current Questions:**

1. Overview of planned PSLF scenarios? → General MiniWecc event descriptions?
2. Is there any available/relevant event data that may help us to verify simulations of specific instances (wind ramps or other behavior) that the novel research will focus on?  
(Same as last time)