

Oscillations Research Agenda

Mark O'Malley, Imperial College London

Research list technical and process

- Back to the basics - we must understand these oscillations
 - Exactly how they are happening
 - Being able to model them
 - You can now ask the right question
- Data
 - sampling rate of PMU measurement may not be enough
- Analysis and tools
 - Models and how they are developed, shared
- Operations
 - Is there a general method of oscillation tracing that works for all oscillation mechanisms
 - methods to deal with widely varying operating point (avoiding exhaustive exploration of all cases, robust control etc.)
 - reliable operation tools to determine the actions for system operator in real time operation to remove the oscillation
- Planning
 - Avoid it happening in the first place (the north star)
 - oscillation monitoring, identify operation patterns which lead to oscillation or improve damping. you could use AI to make it trendy
 - screening tools to identify system conditions for potential oscillation risk

List technical and process (contd.)

- Solutions
 - Can we get robust and generic solutions
 - PODS
 - Etc.
- Codes standards
 - if something that was compliant earlier , is no longer - what processes and incentives should be in place to make a plant "compliant"
 - can we generate a set of standards that are a good balance between stability and performance

We also need to bring in other “team members”

