

Examining Large-Scale Low Inertia Power System Stability

As inverter based resources displace power generation from conventional synchronous machines, power system transient dynamics evolve from being dominated by electromechanical and electromagnetic phenomena to also including human-engineered control loops embedded within power electronic converters. How will these new control loops change the way power system engineers assess and plan for power system stability? This talk seeks to provide some answers to these questions by re-examining some of the assumptions we typically make when evaluating power system stability. I'll discuss some of our recent work examining the role of line dynamics and dc-side converter modeling on power system stability, and discuss some paths forward for modeling and control design.