Research Update

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2016 Oscillation Event in the East

FNET Data Display [6/17/2016 Sustained Oscillation]
Time: 7:12:9.9 UTC  60.0207 Hz
2019 Oscillation Event in Europe
• Variations in tie-line power-flows leading to lower damping levels of inter-area modes (0.1 Hz to 0.8 Hz)
• Forced oscillations interacting with inter-area modes causing interconnection-wide oscillations
• Subsynchronous oscillations (5 Hz to 20 Hz) related to power electronic controls of IBRs
• Operator tools for RTE, France, PSERC and RTE
• Source location, SEL, 2020-2022
• Visualization and source location, SDG&E, 2019-2022
Synchrophasor Analytics

• Line parameter estimation, Generator model validation, SDG&E, 2019-2022
• Power plant model validation, Renewable model impact, Online model estimation for adaptive control design, RTE and PSERC, 2021-2023