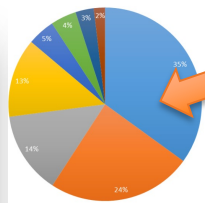
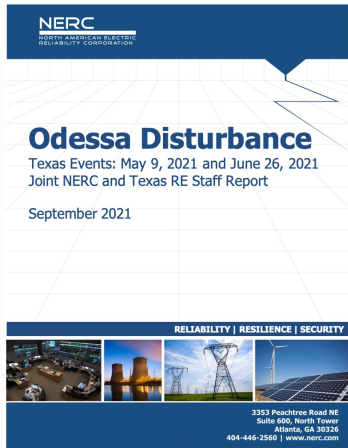
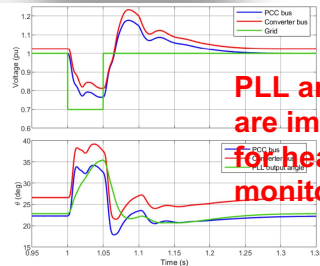


Kalman Filter Dynamic Estimation for Solar PVs

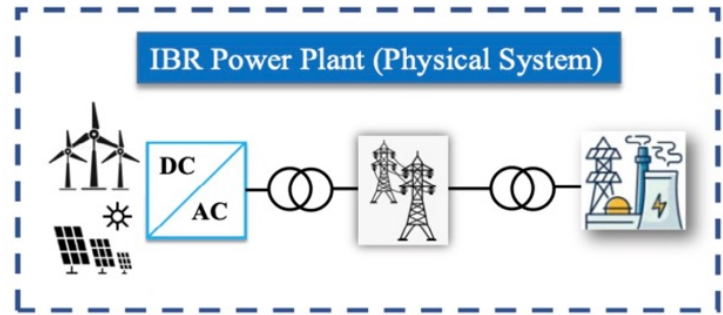
LINGLING FAN / UNIVERSITY OF SOUTH FLORIDA



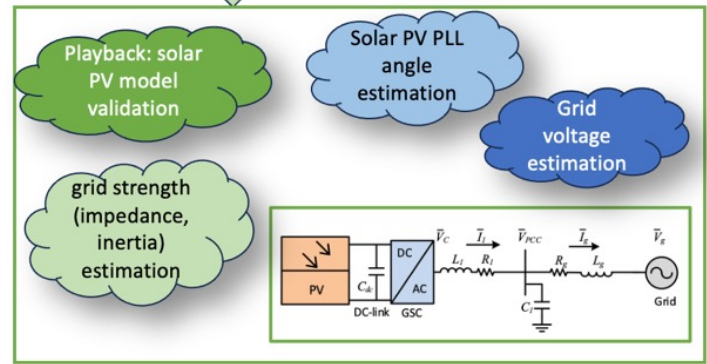
389 MW tripping: PLL loss of synch



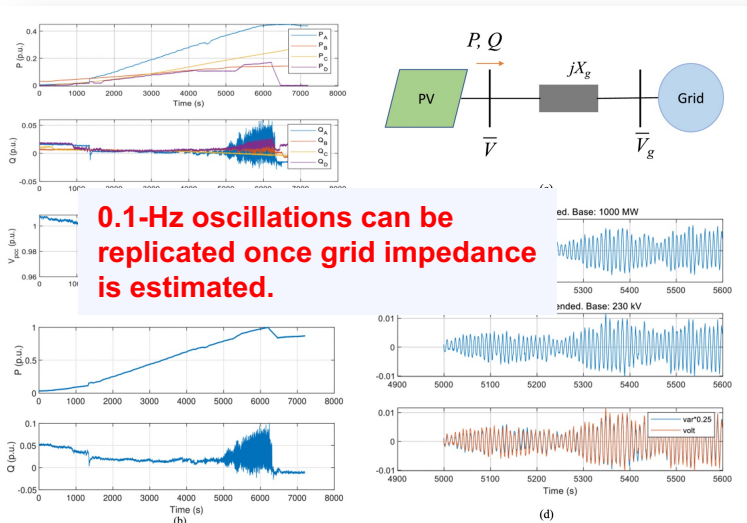
PLL angles are important for health monitoring.



data stream



<https://ieeexplore.ieee.org/document/10210194>
<https://ieeexplore.ieee.org/document/9940566>



Through the Kalman-filter-based estimation, not only the internal states of solar PVs but also the grid strength parameters can all be found at real time.

(1) Analytical modeling; (2) fusing prediction of state/parameters based on model with measurement data (Kalman filter); (3) CHIL tests for feasibility.

Achieving real-time situation awareness through dynamic state and grid strength estimation.