

DER Frequency Response and Oscillations

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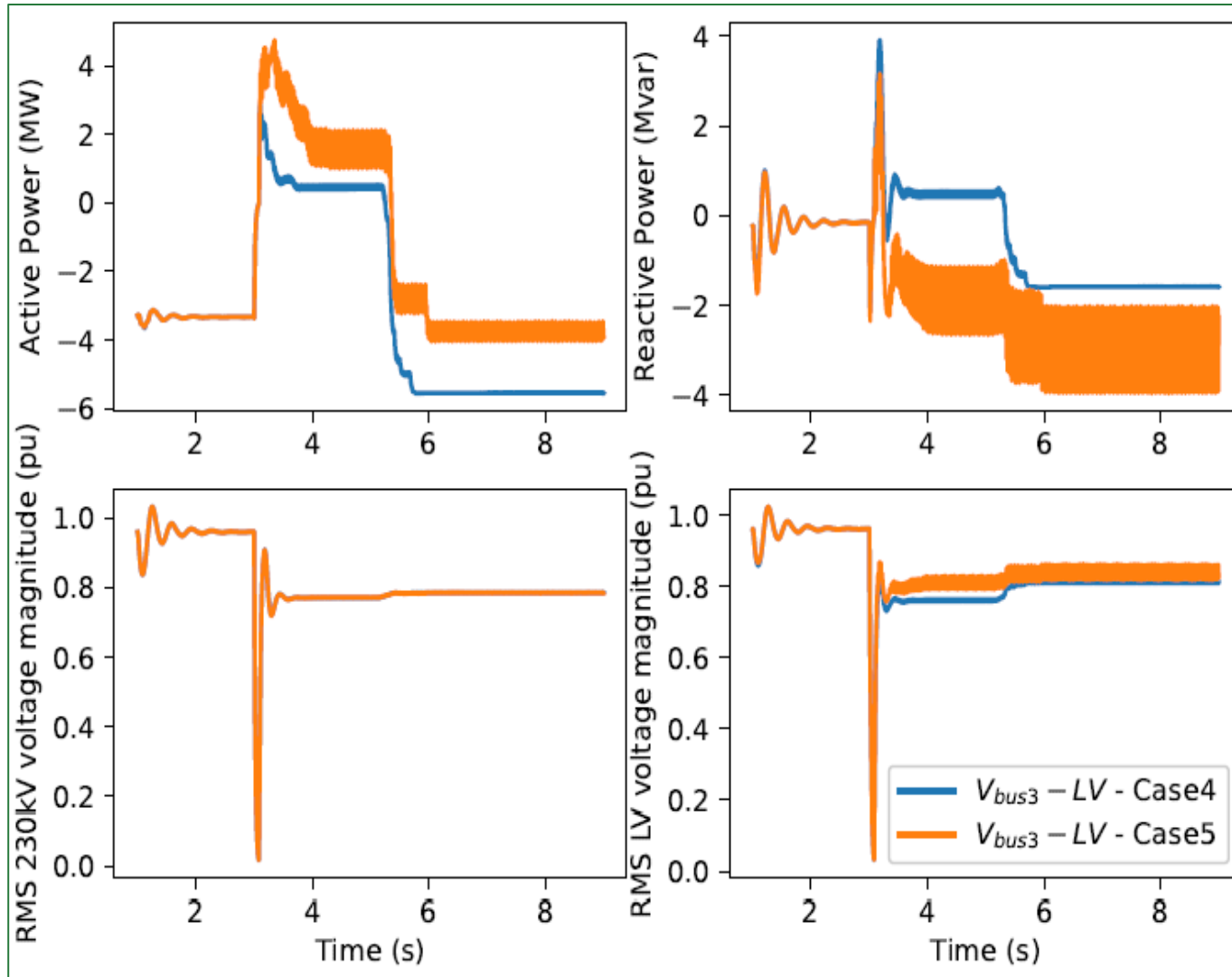
Premise being tested out

- Previous WECC wide simulations with composite load model and DER_A showcased oscillatory behavior with DER_A providing frequency response
- Since almost no DER in the network provides frequency response at the moment, this response was turned off in the model and no further oscillations observed

Premise being tested out (cont'd)

- However, if DER do provide frequency response in the future, are the oscillations due to:
 - an artifact of aggregation?
 - a legitimate concern?

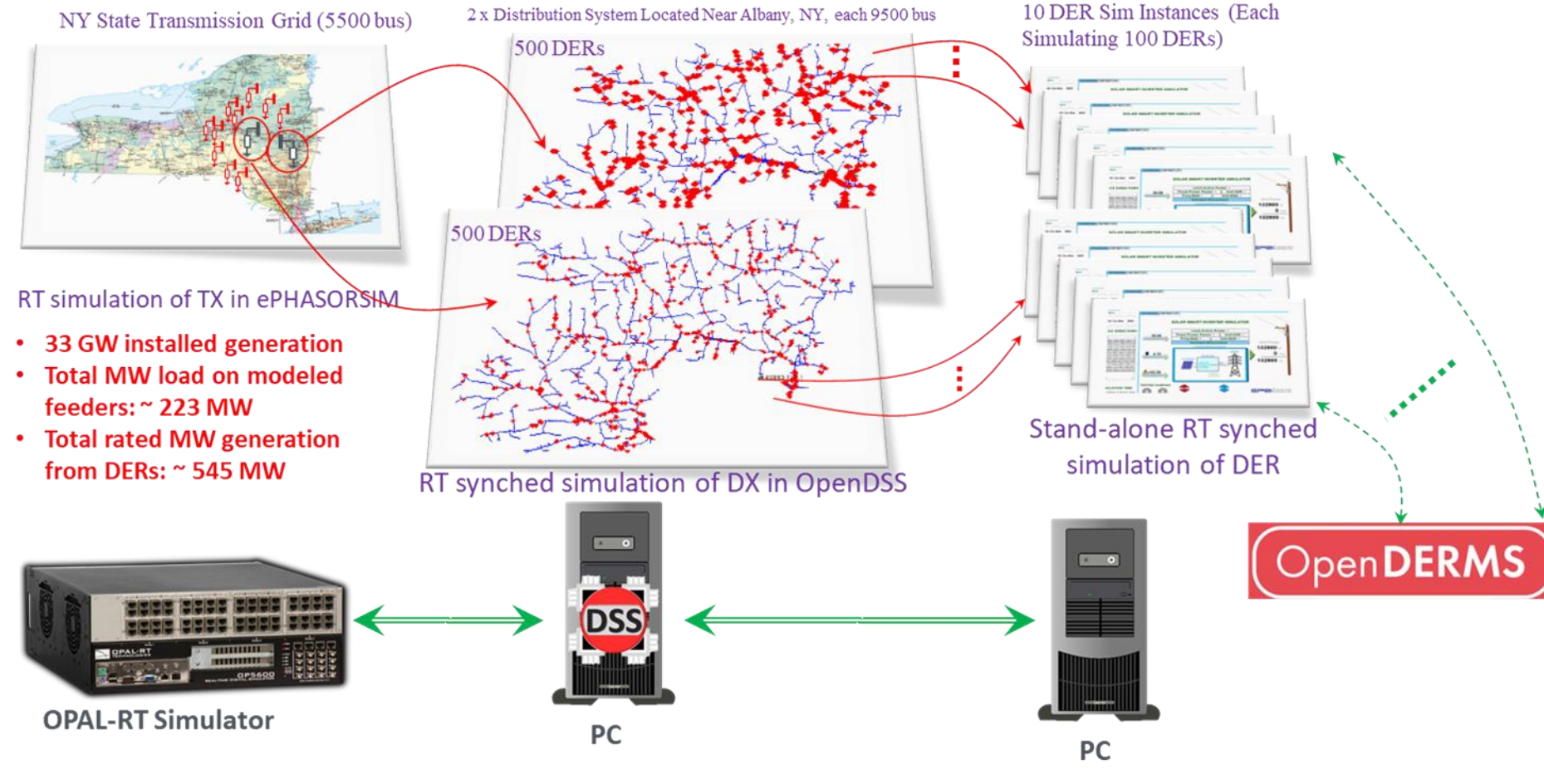
Preliminary studies



- Study done in 2021 looked at IEEE transmission network in EMT domain with representative versions of utility distribution feeder also in EMT domain
- Oscillations in distribution network, did not translate up to the transmission network
 - Observed from 230kV bus voltage

Ongoing large system study to investigate concept

T&D Co-Simulation Test Setup



Results can be shared with the group



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