

## Reexamining the Distributed Slack Bus

This talk will demystify the slack bus. The notion of the slack bus has been shrouded in confusion to varying degrees in power-system analysis. We will see that this is largely due to how power-flow problem formulations never quite kept up with industry practices. The talk will also formalize the idea of a distributed slack bus that provides high-accuracy power-flow solutions leveraging connections between the dynamics of synchronous generators, economic dispatch, and automatic generation control. We will end with a few pointers for how power-flow problems will have to be revisited in future grids with increased inverter-based resources.