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Modeling of Inverters for Fuel Cells for Grid-Tied and Islanding mode with smooth transitions

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We are reporting on models for a group of inverters that can feed real and reactive power into a utility grid in Grid-Tied mode and is able to transition smoothly transition to islanded mode. In grid tied mode, the inverters are operating in D-Q mode and inject controllable amounts of real and reactive power into the grid. In islanded mode the inverters are grid forming and share power using droop control. We are presenting MatLAB-Simulink models and results of the simulations including the transitions.

Authors: GIESSELMANN, Michael (Texas Tech University); BAYNE, Stephen (Texas Tech University); Dr REALE, David (DOOSAN); Dr CINGOZ, Fatih (DOOSAN); Ms SHAMIN, Nimat (Texas Tech University); Mr KELLEY, Mitchell (Texas Tech University)

Presenter: GIESSELMANN, Michael (Texas Tech University)

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