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(57) Abstract :

Title: METHOD FOR DETECTING HYBRID ISLANDING BASED ON LISSAJOUS PATTERNS FOR MICROGRIDS

ABSTRACT A method for detecting islanding conditions in an electrical grid using hybridization of second order general integrator-frequency locked loop (SOGI-FLL), Lissajous pattern (LP) and reactive current injection via inverter. The LP is used to identify the islanding condition on the basis of voltage signal. Here, measured AC voltage signal is pre-processed through SOGI-FLL to get fundamental voltage waveform from polluted measured signal which assures robust operation of LP. The LP based detection at very near zero power mismatch operation is expedited by creating frequency shift during islanding situation by injecting varying reactive current through the controlling of inverter. The proposed inverter based active method, which forcefully makes faster change in frequency shift in the voltage by injecting additional varying reactive current. In this context, choice of dominant LP parameter, system independent threshold setting of the parameter under worst case scenario are derived through deep insight. [Fig. 1]

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