Abstract

In this contribution we provide a simple and useful state estimation approach for a general class of non linear models that describe dynamic power systems. At first we show, through a small power network, that this class of systems is modeled by non linear differential-algebraic equations that we may always transform to a system of ordinary differential equations. After, we investigate a state estimator based on the EKF technique as well as the local stability analysis. High performances are illustrated through a simulation study applied on 3 and 5 buses test systems.

References


On the state estimation for Dynamic Power System

1110–1118.

Index Terms

Computer Science
Power Systems
On the state estimation for Dynamic Power System

Keywords
Power System Dynamics  State Estimation  Extended Kalman Filter  Convergence Analysis