MATLAB SIMULINK FOR MODELLING FACTS DEVICES APPLICATION IN POWER TRANSMISSION NETWORK

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ABSTRACT

This project focuses in the modeling of FACTS (Flexible AC Transmission System) devices application in power transmission network utilizing Matlab Simulink software. There are two FACTS devices discussed in this study; the SVC (Static Var Compensator) and STATCOM (Static Synchronous Compensator). The effects of both SVC and STATCOM will be thoroughly looked into on their application in the power transmission network. That includes analyzing the effect of different transmission length, effect of load variation, as well as effect of dynamic response of STATCOM and SVC under fault condition. When system voltage is low, the FACTS generate reactive power (FACTS capacitive). When system voltage is high, it absorbs reactive power (FACTS inductive). The designed was tested on IEEE 9 busbar system using MATLAB SIMULINK. It comes with the phasor simulation method, activated with the Powergui block.

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