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SSSC BASED OPTIMAL POWER OSCILLATION DAMPING CONTROLLER

R. K. PANDEY AND N. K. SINGH

Abstract

This paper investigates damping control strategy for Static Synchronous Series Compensation (SSSC). The criterion for selection of most appropriate control input parameter of SSSC has been suggested in order to ensure effective damping of oscillations in power network. An optimal SSSC power oscillation damping controller based on Eigenvalue Assignment Technique (EAT) with a level of relative stability has been proposed. A comprehensive study has been performed on Single Machine Infinite Bus (SMIB) and two area power system in order to demonstrate the effectiveness of proposed method of design. The results obtained demonstrate the capability of the method which is confirmed with practical operational scenario.

Keywords : FACTS, SSSC, EAT, Damping controllers, Phillips-Heffron model.