

Thesis Title	Genetic Algorithm Aided Fuzzy Controller Design of SVC for Improving Power Sytem Stability
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ABSTRACT

This thesis presents a novel approach to design SVC fuzzy controller for improving power system stability using Genetic Algorithm(GA). System modeling considered in this thesis comprises a synchronous machine connected to an infinite bus through double circuit transmission line and SVC is installed at the mid-point. SVC controller is designed by fuzzy control method and utilizing information from phase plane. Electric power deviation and its change at the location of SVC are chosen as input signals to SVC fuzzy controller and search the optimal fuzzy control parameters to obtain the optimal or near optimal dynamic system performance by using GA. Simulation results demonstrate the effectiveness of this novel proposed control both in case SVC only and in case SVC operated together with serveral types of power system stabilizers(PSS) as well as compare the results of designing by conventional approach , iteration method , with GA approach.