Design of Chaos Algorithm Based Optimal PID Controller for SVC

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Abstract : SVC is one of the most significant devices in FACTS technology which is used in parallel compensation, enhancing the transient stability, limiting the low frequency oscillations and etc. designing a proper controller is effective in operation of svc. In this paper the equations that describe the proposed system have been linearized and then the optimum PID controller has been designed for svc which its optimal coefficients have been earned by chaos algorithm. Quick damping of oscillations of generator is the aim of designing of optimum PID controller for svc whether the input power of generator has been changed suddenly. The system with proposed controller has been simulated for a special disturbance and the dynamic responses of generator have been presented. The simulation results showed that a system composed with proposed controller has suitable operation in fast damping of oscillations of generator.

Keywords : chaos, PID controller, SVC, frequency oscillation