

REDUCE THE POWER SYSTEM LOSSES BY THE PLACEMENT OF TCSC USING PARTICLE SWARM OPTIMIZATION

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ABSTRACT

Power losses are major problem in present Power System. It increases rapidly in day by day. Flexible Alternative Controllers in Power Systems (FACTS) are used to solve various active and reactive power problems. Flexible Alternative Controllers in Power System provides regulate power flow in critical lines. Thyristor Controlled Series Capacitor (TCSC) is the fast advancement in thyristor devices and associated switching control technology, the Capacitance of the series capacitance bank can be controlled much more effectively. Particle Swarm Optimization (PSO) is a heuristic global optimization method and also an optimization algorithm, which is based on swarm intelligence. This paper presents in Particle Swarm Optimization (PSO) compared with genetic algorithm. The suggested algorithm has been applied to IEEE-30 bus system.

KEYWORDS: Flexible Alternative Controllers in Power Systems (FACTS), Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Thyristor Controlled Series Capacitor (TCSC), Power System Stability