Abstract

This paper presents an Interior Point Method (IPM) and variant of Particle Swarm Optimization (CFAPSO) based hybrid method to solve optimal power flow in power system incorporating Flexible AC Transmission Systems (FACTS) such as Thyristor Controlled Phase Shifter (TCPS) for minimization of multiple objectives. The proposed IPM-CFAPSO algorithm identifies the optimal values of generator active-power output and the adjustment of reactive power control devices. The proposed optimization process with IPM-CFAPSO is presented with case study example using IEEE 30-bus test system to demonstrate its applicability. The results are presented to show the feasibility and potential of this new approach.


Index Terms

Computer Science

Power Systems

Keywords

Optimal power flow  Constriction Factor Approach Particle Swarm Optimization
Flexible AC Transmission
TCPS