

Article Abstract

Title:	Influence of TCSC on social welfare and spot price - a comparative study of PSO with classical method
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Abstract:	In this paper, Particle Swarm Optimization (PSO) based algorithm has been suggested to find optimal location and setting of Thyristor Controlled Series Compensator (TCSC) to maximize Social Benefit (SB), considering its installation cost in competitive electricity market. PSO has simultaneously optimized generators' active powers output, generators' bus voltages, TCSC reactance and its location. In addition, the influence of optimally located TCSC on the magnitude of real power spot price, reactive power spot price, wheeling charges and bilateral transaction matrix has been investigated. The effectiveness of the proposed approach has been tested on IEEE 6 bus system and results obtained are compared with those obtained from various classical methods.
Keywords:	Bilateral transaction, Particle Swarm Optimization, Social Benefit, Spot price