

## Abstract Details

**Title:** Transient Stability Enhancement of a Series Compensated Line using TCSC

**Authors:** Neelu Sharma and Dharam Niwas

**Abstract:** The paper describes the effect of TCSC (Thyristor Controlled Series Capacitor), a series FACTS (Flexible AC Transmission System) device, in a series compensated line. The paper investigates the reduction of first sub transient swing after contingency, when a TCSC is connected in series compensated line. TCSC also enhance the transient stability and leads to the mitigation of SSR oscillations. The system used in this study is taken as the first IEEE benchmark model. Simulations are carried out in MATLAB/Simulink environment with TCSC to analyze the effects of TCSC on transient stability performance of the system. The simulation results demonstrate the effectiveness and robustness of the TCSC on transient stability improvement of the system.

**Keywords:** FACTS, TCSC, Transient Stability, Series Compensation.