IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 3, Issue 2, April 2023
Impact Factor: 7.301

Series Compensated Long Transmission Line Connected with a Shunt FACT Device by Optimal Placement

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Abstract: *This paper focuses on where Shunt FACTS devices should be placed for high power transfer levels in order to control transmissionvoltage, power flow, reduce reactive losses, and dampen oscillations in the power system. The ideal location for a shunt FACT device on an actual line model of a transmission line with series compensation at the centre is examined in this research. Unifiedpower flow controller (UPFC) Impact of change in degree of series compensation on the best location of the shunt FACTS deviceto gain the most advantage is examined as one of the most promising FACTS devices in terms of its ability to control power system quantities. The findings obtained by utilizing MATLAB/SIMULINK demonstrated that the best location for the shunt FACTS device changes when the level of series compensation is changed.*

Keywords: Optimal placement, Shunt FACTS, Series compensation, Unified power flow controller (UPFC)

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DOI: 10.48175/568