

Effect of Parameters for Exponential Loads on Voltage Transmission Line with Compensation

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Abstract : This paper presents an analysis of the effects of parameters n_p and n_q for exponential load on the transmission line voltage profile, transferred power and transmission losses for different shunt compensation size. For different values for n_p and n_q in which active and reactive power vary with it is terminal voltages as in exponential form, variations of the load voltage for different sizes of shunt capacitors are simulated with a simple two-bus power system using Matlab SimPowerSystems Toolbox. It is observed that the compensation level is significantly affected by the voltage sensitivities of loads.

Keywords : static load model, shunt compensation, transmission system, exponential load model

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