

Voltage Stability Estimation And Prediction Using Neural Network

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Summary

This paper proposes a neural network-based method for on-line voltage stability estimation, prediction and monitoring at each power system load bus. The training of the radial basis function neural network (RBFNN) was accomplished by using load flow voltage magnitude and phase as input information, and fast indicators of voltage stability information covering the whole power system and evaluated at each individual bus as output layer information. The generalization capability of the designed networks under a large number of random operation conditions and for several power systems has been tested. Fast performance, accurate evaluation and good prediction for the voltage stability margin have been obtained. Results of tests conducted on standard IEEE 14-bus test system are presented and discussed

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