A COMBINED ANN-IVSI APPROACH FOR ASSESSMENT OF VOLTAGE STABILITY IN A POWER SYSTEM

**KABIR CHAKRABORTY, ABHIJIT CHAKRABORTI
AND ABHINANDAN DE**

Abstract

A new technique combining Integrated Voltage Stability Indicator (IVSI) and Artificial Neural Network (ANN) based pattern reorganization engine has been presented in this paper to assess the voltage security in a multi-bus power system under variable loading conditions and contingencies. The proposed IVSI integrates power and loss data to determine the voltage stability state of the system. The proposed method includes identification of weaker segment of the power system and also includes equivalencing of a multi-bus power system into a two bus equivalent system. The proposed method has been tested on IEEE 57 bus system.