Abstract

Modern power systems are decumbent to prevailing failures. With this power system is becoming diffident. Hence power systems are exposed to instabilities. Voltage instability is one of the main blackouts. For improving the voltage of the system compensating devices like condensers and FACTS devices will be placed by reducing the reactive power losses. For finding the weakest bus in the system and voltage stability improvement is proposed in this paper by using the evolutionary technique Artificial Immune System (AIS) algorithm. For finding weakest bus in the system modal analysis is used. In this paper we are presenting the proposed algorithm for finding the weakest bus in the system by using Artificial Immune System (AIS) clonal selection algorithm which is supported by modal analysis by evaluating Eigen values and their Participation factors respectively.

References

Evaluation of Modal Analysis for Voltage Stability using Artificial Immune Systems

Index Terms

Computer Science  Power Systems

Keywords

Artificial Immune System  Clonal Selection  Fitness Function  Modal Analysis  Participation Factors
Weakest Bus