Abstract

This paper proposes an artificial bee colony (ABC) algorithm for solving optimal reactive power flow problem. The proposed ABC can deal with different objectives of the problem such as minimizing the real power losses, improving the voltage profile, and enhancing the voltage stability and properly handle various constraints for reactive power limits of generators and switchable capacitor banks, bus voltage limits, tap changer limits for transformers, and transmission line limits. The proposed approach has been observed and tested on different IEEE bus test system. The performance of ABC to be better in terms of solution superiority and computational time.

References

Artificial Bee Colony Algorithm for Solving Optimal Power Flow Problem


Index Terms

Computer Science

Algorithms

Keywords

Artificial bee colony(ABC), reactive power optimization, loss minimization and fuel cost.