COMPARATIVE STUDY of OPTIMAL POWER FLOW using EVOLUTIONARY PROGRAMMING and IMMUNE EVOLUTIONARY PROGRAMMING TECHNIQUE in POWER SYSTEM

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ABSTRACT

Optimal power flow (OPF) is one of the main functions of power system operation and control. This project presents a new technique for solving the optimal power flow problem, in a power system using an Evolutionary Programming and Immune Evolution Programming optimization technique. This study will utilize concept of Immune Evolutionary Programming (IEP) which is a combination of EP and AIS technique and compare the results to that obtained from Evolutionary Programming (EP) technique. The study explores two functions namely total loss minimization and total cost minimization as the objective function. Comparison was made in order to determine the base objective function to be used for the solving Optimal Power Flow (OPF) problem. The developed algorithm was tested against on IEEE 26 bus test system.

Keywords:

Evolutionary Programming (EP), Artificial Immune System (AIS), Immune Evolutionary Programming (IEP), Optimal Power Flow (OPF).

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