Abstract

Recent advancements in artificial intelligence especially in evolutionary algorithms have enabled much efficient way to solve the constrained optimization problems in various fields of engineering. In this paper we explain the development of the optimization techniques from single criterion to multi criterion. We also address the Combined Economic and Emissions
Dispatch (CEED) problem in thermal power stations. We use the aggregate objective function approach to solve the multiobjective CEEED problem using firefly optimization technique. Then we simulate the proposed approach on a test system and formulate the pareto optimal front for three different load demands. This proves that the algorithm can be effectively used to solve such multiobjective problems.

Reference

- K.Sathish Kumar, V Tamil Selvan, N Murali, R Rajaram, N Shanmuga Sundaram, T Jayabarati, Economic Load Dispatch with Emission Constraints using various PSO Algorithms, WSEAS TRANSACTIONS on POWER SYSTEMS.
Japan, 1996. IEEE.

**Index Terms**

Computer Science

Artificial Intelligence

**Key words**

Combined Economic Emission Dispatch

Firefly Optimization

Algorithm

Green House Effect

Economic Load Dispatch

Nature Inspired Algorithms