

Abstract

Adel M. Elrefaey

Artificial Immune System Based Local Search for Solving Multi-Objective Design Problems

In this paper, an artificial intelligent approach based on the clonal Selection principle of Artificial Immune System (AIS) and local search (LS) is propose to solve Multiobjective engineering design problems. This paper presents an optimal design of a linear synchronous motor (LSM) considering two objective functions namely, maximum force and minimum saturation and then design of air-cored solenoid with maximum inductance and minimum volume as the objective functions. The proposed approach uses Local search, dominance principle and feasibility to identify solutions that deserve to be cloned.