# AN ARTIFICIAL IMMUNE SYSTEM (AIS) BASED IN LOAD FLOW OPTIMISATION





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### ABSTRACT

The load flow problem can be expressed as a set of nonlinear simultaneous algebraic equations, and then it is possible to have multiple solutions. To overcome the limitations of conventional load flow method to obtain the multiple solutions in load flow problem, an artificial immune system based in load flow optimization is developed. The immune system is a complex cells, molecules and organs which have proven to be capable of performing several tasks, like pattern recognition, learning, memory acquisition, generation of diversity, noise tolerance, generalization, distributed detection and optimization. In this paper, the load flow problem is solved using Artificial Immune System (AIS) optimisation technique. The AIS programme was developed using MATLAB programming language.

#### Keywords: An Artificial Immune System, Load Flow Solution

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