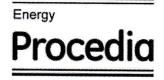




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Multi-objective Economic Emission Dispatch Solution Using

Dance Bee Colony with Dynamic Step Size

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Abstract

Energy planning considering environment aspect is a vital research area for power system operation and control. This paper introduces an efficient variant namely dance bee colony with dynamic step size adjustment for solving the multi objective economic emission dispatch considering valve point effects. The particularity and robustness of the proposed algorithm is validated on two practical test systems IEEE 30-Bus and to 40 units considering valve point effect and power losses. Results compared to many recent competitive methods confirm the efficiency of the proposed method in term of solution quality and convergence characteristics.

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Peer-review under responsibility of the Euro-Mediterranean Institute for Sustainable Development (EUMISD) *Keywords:* Multi Objective, Dance Bee colony, Environmental/economic dispatch, fuel cost, Emission, Step size.

Nomenclature

EDEconomic DispatchDBCDancing Bee colonyCostfuel costEmiEmission

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