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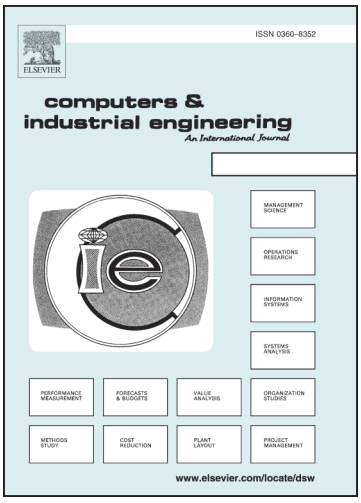

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Ayad Turky, Salwani Abdullah, Anas Dawod

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Dual population multi operators harmony search algorithm for dynamic optimization problems

Ayad Turky[1], Salwani Abdullah[2] and Anas Dawod[3]
[1]School of Computer Science and I.T., RMIT University, Australia
E-mail: ayad.turky@rmit.edu.au
[2]Data Mining and Optimisation Research Group
Centre for Artificial Intelligence Technology
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia
E-mail: salwani@ukm.edu.my
[3]Faculty of Science, Engineering and Technology, Swinburne University of Technology,
Victoria 3122, Australia
E-mail: adawod@swin.edu.au

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Dual population multi operators harmony search algorithm for dynamic optimization problems

Abstract

Dynamic optimization problems (DOPs) have been widely researched in recent years. This is due to its numerous practical applications in real-life conditions. To solve DOPs, the optimizer should be able to track the changes and simultaneously seek for global optima in the search space. This paper proposes a dual population multi operators harmony search algorithm for DOPs to deal with changes in the problem landscape. The main difference between the proposed algorithm and other techniques are twofold: dual population for exploring and exploiting the search space, and the use of multi operators at different points of the search. Extensive experiments were conducted on the Moving Peaks Benchmark (MPB) and six dynamic test functions proposed in the IEEE Congress on Evolutionary Computation (CEC 2009) were used to evaluate the performance of the proposed algorithm. Empirical

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