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WORKING PAPER

An Invasive Weed Optimization Algorithm for the Resource Availability Cost Problem

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Abstract

In this paper, an Invasive Weed Optimization (IWO) algorithm for the Resource Availability Cost Problem (RACP) is presented, in which the total cost of the (unlimited) renewable resources required to complete the project by a pre-specified project deadline should be minimized. The IWO algorithm is a new search strategy, which makes use of mechanisms inspired by the natural behavior of weeds in colonizing and finding a suitable place for growth and reproduction. In this paper, the algorithm is used for the first time to solve a project scheduling problem. All algorithmic components are explained in detail and computational results for the RACP are presented.