عنوان مقاله:

A New Heuristic Algorithm for The Preemptive and on-Pre emptive Multi- Mode RCPSPs

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خلاصه مقاله:

In this paper, a nov el modeling and solving metho have been developed to address the so-ca lled resou ce-constrained projec t schedulin g problem (RCPSP) here proj ct tasks h ave multiple modes, an d also the preemption of activities is allowed. To solve this NP-h ard proble m, a new g eneral opti mization vi a simulation (OvS) ap proach has been developed which is the main contribution of the current r esearch. In this approach, the mathematical model of the main problem is relaxed and solved ;the optim um soluti ns were then used in the corresponding simulatio model to produce several rando m feasible solutions to the main problem. Finally, th e most pro mising solutions were selected as the initial populatio n of a genetic Algorit m (GA). To test the e fficiency of the problem, several test pro blems were solved by the proposed approa ch; accord ing to the results, the proposed concept ha s a good performance to solve such a complex combinat rial proble m. Also, th e concept could be ea sily applied to other similar comb inatorics.

کلمات کلیدی:

Optimization via Simulation, Multi-mode Resource Constraint Project Scheduling Problem, Genetic Algorithm

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