

Metaheuristics to Solve Tasks Scheduling

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Abstract : In this paper, we propose a new polynomial metaheuristic elaboration (tabu search) for solving scheduling problems. This method allows us to solve the scheduling problem of n tasks on m identical parallel machines with unavailability periods. This problem is NP-complete in the strong sense and finding an optimal solution appears unlikely. Note that all data in this problem are integer and deterministic. The performance criterion to optimize in this problem which we denote $Pm/N-c$ (sums of $w_j C_j$) is the weighted sum of the end dates of tasks.

Keywords : scheduling, parallel identical machines, unavailability periods, metaheuristic, tabu search

Conference Title : ICAMNA 2014 : International Conference on Applied Mathematics and Numerical Analysis

Conference Location : Montreal, Canada

Conference Dates : May 12-13, 2014