

## 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  $Pm/N-c/\sum w_j C_j$  is the weighted sum of the end dates of tasks.

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

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