

Accepted Manuscript

Robust scheduling to minimize the weighted number of late jobs with interval due-date uncertainty

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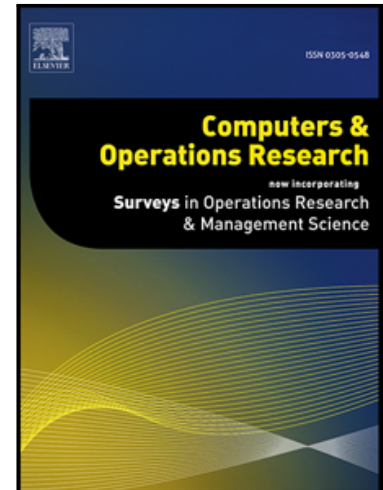
PII: S0305-0548(17)30275-7
DOI: [10.1016/j.cor.2017.10.010](https://doi.org/10.1016/j.cor.2017.10.010)
Reference: CAOR 4346

To appear in: *Computers and Operations Research*

Received date: 11 February 2017
Revised date: 5 August 2017
Accepted date: 30 October 2017

Please cite this article as: Maciej Drwal, Robust scheduling to minimize the weighted number of late jobs with interval due-date uncertainty, *Computers and Operations Research* (2017), doi: [10.1016/j.cor.2017.10.010](https://doi.org/10.1016/j.cor.2017.10.010)

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Highlights

- The problem of scheduling jobs with interval uncertain due-dates is considered with the objective to minimize the total weight of late jobs, utilizing the min-max regret approach for computing robust solutions.
- It is shown how to compute the maximum regret for any given schedule.
- A new mixed-integer linear program (MIP) is developed for the general case of the problem.
- A polynomial time algorithm is given for the special case with unit weights, implying that in this case the uncertain counterpart is not more difficult to solve than the deterministic problem.
- Computational results are reported from the application of MIP using state-of-the-art software solver. Obtained results are compared against three heuristic solution methods: decomposition algorithm, lower bound heuristic and mid-point scenario heuristic.

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