Propositions

attached to the thesis

Improving the Scheduling and Rescheduling of Rolling Stock: Solution Methods and Extensions

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Thursday 14 October 2021 at 10:30 hours
I
Comparing both the theoretical and numerical properties of rolling stock scheduling models is essential for determining the right model for the right application.

(Chapter 2)

II
Local search-based heuristics can be an effective and flexible solution method to solve rolling stock rescheduling problems.

(Chapter 3)

III
Rolling stock rescheduling can help to reduce the propagation of delays, especially when allowing flexibility in determining the rolling stock turnings at terminal stations.

(Chapter 4)

IV
While a sequential process for rolling stock and shunting driver rescheduling often leads to infeasibilities, an integrated approach can provide high-quality solutions quickly.

(Chapter 5)

V
Extending the rolling stock rescheduling problem to take into account other aspects of the rescheduling process can lead to better overall solutions and a more streamlined rescheduling process.

(Chapters 4 and 5)
VI

Developing models that align well with the practical context of train operators is a continuing challenge in the field of railway optimization.

VII

In academia, too little appreciation is given to the evaluation of existing models and the reproduction of results, compared to the development of new models and solution methods.

VIII

Open science principles, like the sharing of code and data, will play an important role in keeping the field of Operations Research accessible and attractive.

IX

Achieving a healthy work-life balance is essential for succeeding as a researcher: good ideas often pop up at the moments you are the least looking for them.

X

With general-purpose solvers becoming ever more competitive, the bar for developing custom alternative solution methods is continuously being raised.

XI

Moving through an academic career often requires a considerable amount of personal adaptation, both due to the temporary nature of contracts and the importance of building an international profile.