

Bachelor- oder Masterarbeit zu vergeben

Optimal Scheduling of Track Maintenance – a Literature Review **Optimale Gestaltung des Instandhaltungsprozesses – eine Literaturrecherche**

Maintenance is a critical step to improve the availability, reliability and safety of the railway track. Nowadays, more advanced maintenance strategies are employed in the railway area, in order to increase the maintenance efficiency under the challenges of limited funding, increasing traffic load and aging infrastructures.

Considering the volume of the railway infrastructure, the high cost of maintenance activities as well as the complexity and uncertainty of the deterioration process, a well-planned strategy of track maintenance is essential. Under this context, an optimal scheduling of track maintenance has become a trending hotspot among the infrastructure operators and researchers of this field.

Optimization is an important method which has been widely used in different industrial and scientific fields. The objective of this work is to carry on a literature review on the optimal scheduling methods of track maintenance. In this literature review, significant aspects should be clarified, such as:

- Definition of optimal maintenance (including objective function)
- Advantages of optimal scheduling based track maintenance compared to traditional maintenance strategies
- Difficulties of applying optimal scheduling in track maintenance
- Methods / algorithms of optimal scheduling in track maintenance

Finally, it is expected that some case studies on the research and application of optimal planning in track maintenance will be assessed in a structured way, with a focus on explaining the process concretely.

If you are interested, please contact / Bei Interesse wenden Sie sich bitte an:
Laura Tatiana Rodríguez Bayona
Institut für Eisenbahn- und Verkehrswesen, Pfaffenwaldring 7, 70569 Stuttgart
Telefon: 0711 685-66366, laura.rodriguez@ievvwi.uni-stuttgart.de