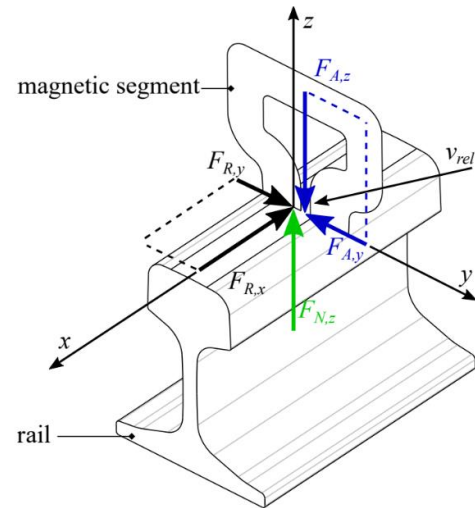


Announcement Master's Thesis

"Development of a Contact Model for Magnetic Track Brake"

While the classical wheel-rail contact has been a topic of very fruitful scientific research for many decades, little is known about the physical contact between the magnetic track brake and rail, which will be the topic of the current study. The developed model (which should not be an FE model) should be able to be implemented within a multi-body system dynamic simulation and capable of accounting for several parameters, such as friction, velocity and possibly also the contamination of the contact interface (by e.g. sand particles, leaves, etc.). The aim of this research is to develop the aforementioned model, which ultimately will be used to predict the required braking force.



What is expected to be done in this study?

- An extensive literature research regarding modeling of discrete contact of axially moving continua
- Development of a (semi-)analytical or numerical contact model
- Performing parameter studies and simulations with that developed model
- Comparison of the model results with the previously developed FE model

Your profile:

- Good knowledge of the basics of mechanics
- Good programming skills in e.g. Matlab or Python; or having a motivation to learn them
- Independence, a high level of motivation and problem-solving skills

Financial support will be provided within the study!

If you are interested in working on this master's thesis with us and would like to join our team, please contact us by sending a short email.

Vienna, September 29, 2023

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