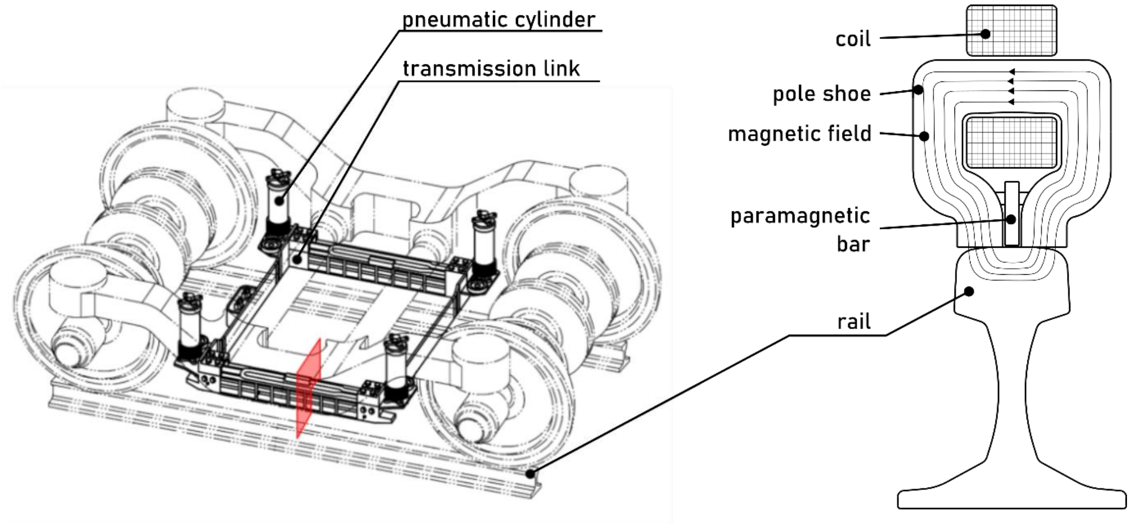
Announcement Bachelor's Thesis

Study of a Plane Finite Element Model of Pole Shoe Pressing onto Rail

Magnetic Track Brakes (MTBs) are used for emergency braking in railway systems. Braking is carried out by means of elastic pole shoes (brake shoes) being pressed onto the rail and hence frictional sliding contact. In this bachelor's thesis, the contact between poleshoe-paramagnetic bar and rail shall be analyzed within a FEM model. Special attention has to be paid to the paramagnetic bar which in fact is connected via a pin to the pole shoe (not depicted in sketch) where initially there is clearance, which however is used up during the loading and the mechanical contact (that transmits forces) is also occurring between pin and poleshoe or pin and bar.



What is expected to be the done in this study?

- Getting familiar with the technical details of the MTB to be able to comprehend the problem at hand,
- Getting familiar with Abaqus CAE and how to implement a simple plane model that futures contact,
- Performing a comprehensive parametric analysis and interpretation of the results.

Your profile

- Good knowledge of the basics of mechanics, basic knowledge of finite element method is desirable.
- Good programming skills in Matlab (or something else) or having high motivation to learn it.
- Independence, a high level of motivation and problem-solving skills.

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

Contact

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