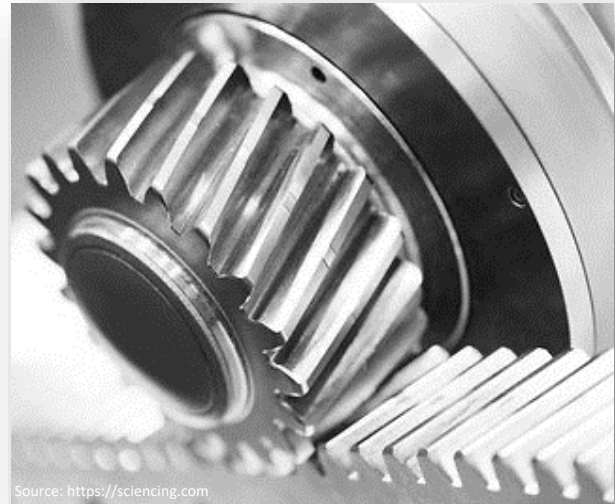


Announcement Master's Thesis

Finite Element Analysis of Pinion and Rack Gear Contact

Pinion and rack gears are used to transfer moment in the steering systems of automobiles. It is necessary to examine the contact between these two helical gears accurately for a correct estimation of the dynamic behavior of the entire steering system. Therefore, it is essential to understand the transferred force and its distribution on the gear flanks correctly. A finite element model needs to be developed to analyze this contact appropriately, and contact force distribution can be investigated in detail in this model.



Source: <https://sciening.com>

What is expected to be done in this study?

- Development of a Finite Element Model in ABAQUS CAE
- Analysis of contact forces and their distribution on the gear flanks
- Comparison of the force distribution with the previously developed dynamic model

Your profile:

- Good knowledge of the basics of mechanics and technical dynamics
- Good programming skills in ABAQUS CAE or having a high motivation to learn it
- 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 19, 2023

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