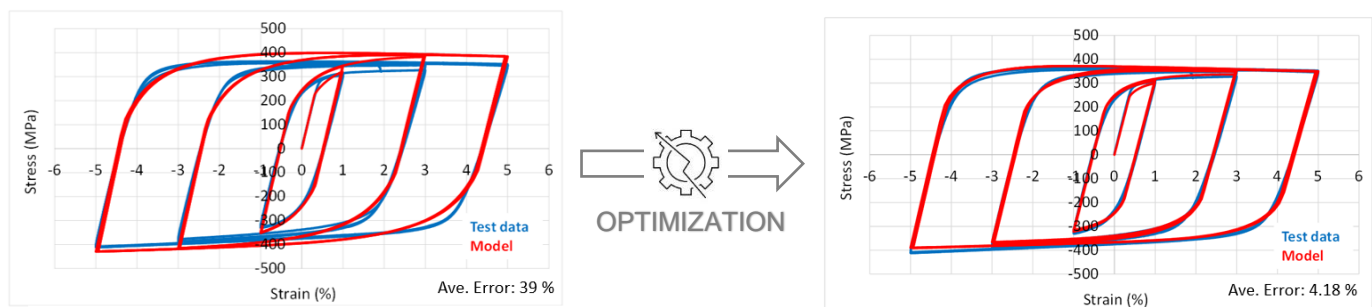


Announcement Master's Thesis

Enhancing Optimization Algorithm for Hardening Parameter Estimation

The precise determination of hardening parameters for materials subjected to cyclic loading is essential for their use in finite element simulations, particularly for subsequent fatigue analysis. These parameters can be estimated through optimization procedures to minimize the error between mathematical models and experimental data. In our previous research, we developed an algorithm; however, it requires further refinement to attain both accurate and accelerated outcomes. Therefore, the objective of this study is to enhance our existing optimization algorithm.



What is expected to be done in this study?

- Development of an optimization model to estimate hardening parameters
- Implementation of the model into ABAQUS CAE simulations and performing FE simulations for validations

Your profile:

- Good knowledge of the basics of mechanics and optimization
- Good programming skills in ABAQUS CAE and Matlab 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 19, 2023

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