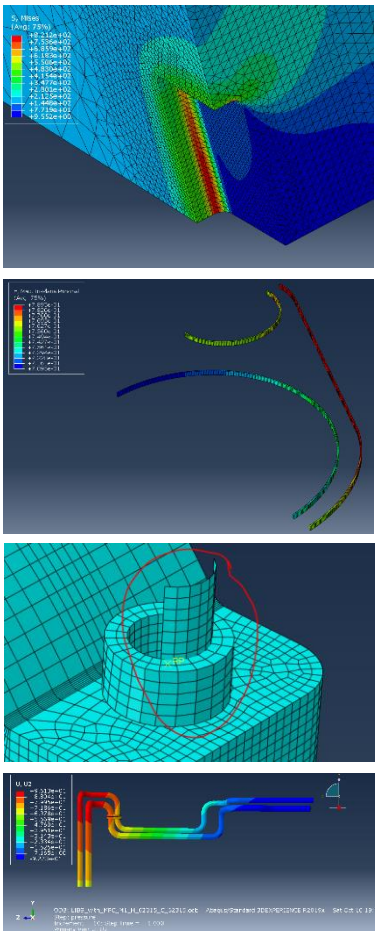
Karlsruher Institut für Technologie

Institut für Fördertechnik und Logistiksysteme

Employment as Student Assistant

Finite Element Analysis for Development of Remote Handling Devices for Nuclear Fusion Purposes

Scope:
In scope of a multinational nuclear fusion research program, FLX-IFL is developing specialized mechanical solutions for remote handling and maintenance requirements of a fusion reactor. In this project, specialized remote handling equipment is designed to meet the demanding requirements of the operating conditions (such as, high temperature, Vacuum, Radiation and Dust). In addition, other projects covering topics such as Finite Element Simulation, Signal and measurement, and construction of prototype equipment is also being researched.



Background:
In the development of remote-handling devices in the field of nuclear fusion, several components must be analyzed for their structural integrity. One such method is to perform numerical analysis using finite element analysis software to analyze the forces and stresses acting on these components. The main task is the development and maintenance of numerical analysis for the development of remote handling compatible devices in the field of nuclear fusion.

Task:

- Technical drawing using CAD Software with respect to the DIN/ISO standard.
- Numerical analysis/numerical modelling using specific methods (Matlab/Simulink, Abaqus)
- Validation and Development of the model
- Participation in writing of technical / scientific papers

Requirement:

- Interest on Mechanical Engineering and Construction
- Analytical Capability
- Sufficient knowledge on mechanics of materials
- Knowledge on Finite Element und Multibody Simulation
- Experience with CAD (Autodesk Inventor/CATIA) is not mandated but desirable
- Experience with FEA software (Abaqus /ANSYS) is not mandated but desirable.

What we Offer:
Interesting and engaging work on the topic of remote handling in a flexible working environment.

For interest please send us your actual CV and transcript.

Research Topic:
Remote Handling in extreme Conditions (FLX)

Project: DEMO

Topic:
☐ Experimental
☒ Theoretical
☐ Practical
☒ Simulation
☒ Construktion (CAD)
☒ Hardware-Design (CAE)

Course/Degree:
☒ Mechanical
☒ Mechatronic
☐ Electrical
☐ Informatics
☐ Informatics Engineering
☐ Industrial Engineering

Start: from now on

Contact Person:

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