ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Presentation about the Workplacement

Raphael Kuess, BSc
Universität Klagenfurt

"Magnetic particle imaging: Anisotropy in the Landau-Lifshitz-Gilbert model and its inverse problem."

https://classroom.aau.at/de/join/3nh-a2g

Friday, 26 February 2021

10:00 a.m.

Abstract

My work placement took place at the Saarland University in Saarbrücken, more precisely at the chair for numerical analysis and applied mathematics, where i dealt with the topic concerning magnetic particle imaging (MPI). Magnetic particle imaging is a dynamic imaging technique for medical applications based on the behaviour of super-paramagnetic nano-particles that are injected into a body. This allows a visualization of the dynamics of cells, vascular constrictions and tumours for example. Since this is done by measuring the response of the nano-particles to a changing external magnetic field, i dealt with the underlying physical model, especially with the Landau-Lifshitz-Gilbert equation, taking anisotropy into account. The question then was to find an adequate model for the system function to

speed up the calibration process in MPI.

Barbara Kaltenbacher and the Department of Mathematics look forward to seeing you at the talk!