Universität
Konstanz

Prof. Dr. S. Volkwein,

Wir laden recht herzlich zu einem Vortrag im Rahmen des

Oberseminars Numerische Optimierung

ein:

Dr. Thi Ngoc Tram Nguyen

(Universität Graz)

Parameter identification for the Landau-Lifshitz-Gilbert equation in Magnetic Particle Imaging

Dienstag, 11. Mai 2021

Beginn: **16:00 Uhr**
Raum: **Zoom Room: https://zoom.us/j/99085685058?pwd=bEZrV0FoaDdFVHdCOFRZOUNBeHVzQT09**
Interessenten sind herzlich willkommen!

S. Volkwein

Abstract:
   Magnetic particle imaging (MPI) is a novel tracer-based technique for medical imaging. The technique measures the response of the nanoparticles inside patients' blood stream in response to an external oscillating magnetic field. Based on this, the imaging process constructs the particles' spatial-dependent concentration, yielding a map of the blood vessels. Our aim is to determine a reliable model for the system function, a prerequisite for the imaging process. To avoid slow calibration, we use the nonlinear PDE Landau-Lifshitz-Gilbert equation, and study parameter identification in it. The inverse problem of parameter identification is investigated in two settings: a classical reduced version, and a new all-at-once version.

(eingeladen von Prof. Dr. Stefan Volkwein)