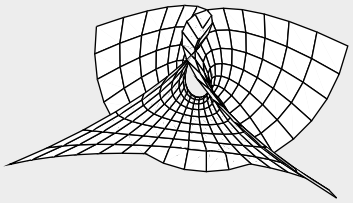

# Einladung zum Oberseminar Mathematik in den Naturwissenschaften

Julius-Maximilians-Universität Würzburg
Lehrstuhl für Mathematik in den Naturwissenschaften

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## Existence results in magnetoelasticity

We study a variational model of magnetoelasticity both in the static and in the quasistatic setting. The model features a mixed Eulerian-Lagrangian formulation, as magnetizations are defined on the deformed configuration in the actual space. The magnetic saturation constraint is formulated in the reference configuration and involves the Jacobian determinant of deformations. These belong to the class of possibility discontinuous deformations excluding cavitation introduced by Barchiesi, Henao and Mora-Corral. We establish a compactness result which, in particular, yields the convergence of the compositions of magnetizations with deformations. In the static setting, this result provides the existence of minimizers by means of classical lower semicontinuity methods. Our compactness result also allows us to address the analysis in the quasistatic setting, where we examine rate-independent evolutions driven by applied loads and boundary conditions in presence of dissipative effects. In this case, we prove the existence of energetic solutions.

| Ort: Mathmatik Ost, 40.03.003/Zoom | Zeit: Donnerstag, 10.11.2022 um 14:45 Uhr |
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**You are cordially invited to this lecture. Request the Zoom link from anja.schloemerkemper@mathematik.uni-wuerzburg.de**

gez. Anja Schlömerkemper