Talk announcement

Bogdan Radu
(RICAM)

Tuesday, June 20, 2023
13:45, S2 416-1

A mixed finite element method for 2D nonlinear magnetostatics

We consider a mixed finite element method for solving nonlinear magnetostatics in 2D in the context of electric motors. In comparison to the classic primal formulation, the mixed setting approximates the physical quantities B and H in the appropriate spaces and preserves the Ampere law on the discrete level. This allows for more precise calculations, like for example the torque computation. We discuss the existence and uniqueness of the nonlinear mixed system. Further, we explain how mass lumping or hybridization can be used to solve the nonlinear system in an efficient way.