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**Eddy-current estimation for  
nonlinear magnetic field problems**

Andreas Schafelner<sup>1</sup>, Herbert Egger<sup>1,2</sup>, Nepomuk Krenn<sup>2</sup>

<sup>1</sup> Institute of Numerical Mathematics, Johannes Kepler University Linz

<sup>2</sup> Johann Radon Institute for Computational and Applied Mathematics, Linz

Prediction of eddy-current losses in conducting parts of magnetic devices is of great practical interest. Numerical solution of the underlying nonlinear time-dependent magnetic field problems is possible but computationally too expensive for practical purposes. The industry standard therefore consists of estimating the losses from corresponding magnetostatic field solutions by appropriate post-processing schemes. We review some of these approaches and propose an alternative strategy which yields improved estimates for the magnetic fields and eddy-current losses at a minimal computational overhead. The method and preliminary numerical results are presented for the two-dimensional setting of relevance in electric machine design.

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