

A POSTERIORI ERROR ESTIMATION FOR THE OPTIMAL CONTROL OF TIME-PERIODIC EDDY CURRENT PROBLEMS

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ABSTRACT

In this talk, the multiharmonic analysis of a distributed eddy current optimal control problem is presented in a time-periodic setting. A posteriori estimates of functional type can be derived by taking advantage of inf-sup and sup-sup conditions, which have been used in order to prove existence and uniqueness for the optimality system. Applying functional type a posteriori estimation techniques leads to sharp, guaranteed and fully computable bounds of the approximation error for the optimal control problem. Linear problems as well as the further application for nonlinear problems and first numerical results are discussed.

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