

## Group Seminar

Computational Methods for PDEs

Guaranteed error estimates for variational problems with free boundaries

**Sergey Repin**, University of Jyväskylä

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JKU, SP2 416-2

### **Abstract**

We consider a class of nonlinear variational problems, which solutions contain a priori unknown free boundaries. We present a general method that generates error identities for a wide class of variational problems and principal conclusions related to error measures that follow from the identities. Then we discuss applications to quantitative analysis with the paradigm of several free boundary problems (classical and two-phase obstacle problems, problems with thin obstacle, plasticity).