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Talk announcement

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A review of some a posteriori error estimates for adaptive finite element methods

Recently, the adaptive finite element methods have gained a very important position among numerical procedures for solving ordinary as well as partial differential equations arising from various technical applications. While the classical a posteriori error estimates are oriented to the use in h-methods the contemporary higher-order hp-methods usually require new approaches in a posteriori error estimation as the task in every step of the hp-adaptive method is to find a proper combination of spatial refinement with simultaneous variation of the polynomial order of the approximation.
We present a review of error estimation procedures for some particular both linear and nonlinear differential problems with special regards to the needs of the hp-method.