An Anisotropic h-p Approach for Goal Oriented Adaptivity in Time and Space

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In this talk, we present an anisotropic goal-oriented error estimator based on the Dual Weighted Residual (DWR) method for a convection diffusion problem. We employ discontinuous elements in space and time. The directional error indicators quantify anisotropy of the solution with respect to a user defined goal functional, and produce hp-refinements that efficiently capture sharp layers. A numerical example demonstrate the superior performance of the proposed method compared to isotropic h and hp adaptive refinement.

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