Adaptive Space-Time CFOSLS

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We present an adaptive space-time scheme based on a constrained first order system least squares formulation using the least squares functional restricted to individual elements as indicators for adaptive refinements. We use bisection refinement (in any D). We consider both parabolic and hyperbolic evolution problems, focusing on the latter, in particular on the transport equation. Numerical experiments in both 3D and 4D space-time performed in parallel, are presented to illustrate the performance of the method.

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