

Talk announcement

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An overview of DPG methods

Discontinuous Petrov Galerkin (DPG) methods are least squares methods that minimize a residual in a nonstandard norm. The norm in which the residual is minimized is an inexact dual norm. DPG methods are so designed to make this norm easily and efficiently computable. This talk will give an overview of the basic results on DPG methods. The essential techniques will be illustrated using the examples of Laplace and Maxwell equations. We will then consider spacetime examples where the DPG methodology immediately provides a stable method with ready-made error estimators for spacetime adaptivity. Remaining open questions in the DPG error analysis of spacetime problems will be highlighted.