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An overview of the development of the HDG methods

Abstract: We provide an overview of the evolution of the so-called hybridizable discontinuous Galerkin (HDG) methods. We motivate the introduction of the methods and describe the main ideas of their development within the framework of steady-state diffusion. We then describe the status of their application to other problems of practical interest. A significant part of this material is joint work with N.C. Nguyen and J. Peraire, from MIT.