

HYBRIDIZABLE DISCONTINUOUS GALERKIN METHODS FOR ELASTODYNAMICS

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ABSTRACT. In this talk we will present some preliminary results on the use of an HDG method for the simulation of elastic waves. We will show how the Qiu and Shi [1] choice of spaces and stabilization parameters for an HDG scheme applied to quasi-static elasticity also apply for time harmonic elastic waves [2], providing a superconvergent method. We will next discuss a conservation of energy property [4] that holds in the transient case when the elasticity equations are semidiscretized in space with the same HDG strategy. We will finally show some numerical experiments in three dimensions [3].

Keywords: Hybridization, Discontinuous Galerkin, wave propagation

Mathematics Subject Classifications (2010): 65M60, 65M15, 65M20.

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