Technische Universität Braunschweig

Graduiertenkolleg 2075

Modelle für die Beschreibung der Zustandsänderung bei Alterung von Baustoffen

Vortrag im Gästeprogramm des GRK 2075

Prof. Dr. Carsten Carstensen

Humboldt-Universität zu Berlin

The dPG Paradigm

Montag, 18.07.2016, 14.30 Uhr
Institut für Wissenschaftliches Rechnen, Raum 812
Mühlenpfordtstrasse 23, 38106 Braunschweig

The discontinuous Petrov Galerkin Method is a novel residual minimization method with broken test spaces for all kinds of partial differential equations. The presentation discusses an abstract framework and applications to the Poisson model problem as well as to the Stokes equations and linear elasticity. The final part addresses electro-magentism with the stationary Maxwell equations and possible generalizations. Related work is down loadable under

C. Carstensen, D. Gallistl, F. Hellwig, L. Weggler: Low-order dPG-FEM for an elliptic PDE, Computers & Mathematics with Applications 68 (11), 1503-1512, 2014.

C. Carstensen, L. Demkowicz, J. Gopalakrishnan: A posteriori error control for DPG methods, SIAM Journal on Numerical Analysis 52 (3), 1335-1353, 2014.

C. Carstensen, L. Demkowicz, J. Gopalakrishnan: Breaking spaces and forms for the DPG method and applications including Maxwell equations, preprint at ICES, 2015.

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