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ADAPTIVE ISOGEOMETRIC METHODS FOR REDUCED ORDER MODELING

Trond Kvamsdal[1,3], Harald van Brummelen[2], Eivind Fonn[3], Kjetil A. Johannessen[3] and Adil Rasheed[3]

1 Department of Mathematical Sciences
Norwegian University of Science and Technology, Trondheim, Norway
e-mail: Trond.Kvamsdal@ntnu.no

2 Department of Mechanical Engineering
Eindhoven University of Technology, The Netherlands
e-mail: E.H.v.Brummelen@tue.nl

3 Department of Applied Mathematics and Cybernetics
SINTEF Digital, Norway
e-mail: Trond.Kvamsdal@sintef.no, Eivind.Fonn@sintef.no, Kjetil.Johannessen@sintef.no, Adil.Rasheed@sintef.no

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Reduced Order Modelling (ROM) [1] is a popular method to facilitate parameter study or real-time simulation of industrial problems in structural and fluid mechanics. We will herein present and study how well ROM performs for highly graded adaptive grids. Furthermore, we will present a methodology for quality assurance of ROM-simulations. This includes adaptive refinement based on a posteriori error estimation [2,3] of the isogeometric high-fidelity solver together with error estimates of the degradation of the accuracy in a ROM-simulation compared to the related high-fidelity simulation.

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