

Talk announcement

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Preconditioner for a 3D-1D inverse problem using IgA

Model reduction techniques are used in many applications ranging from groundwater wells to biological flows. When a completely monolithic approach is used, Lagrangian multipliers are introduced which are typically in a fractional Hilbert space. In this talk we consider a 3D-1D inverse problem where the Lagrangian multipliers are not in a fractional Hilbert space, however, the trade-off is that the 3D state space requires higher smoothness. This is achieved using Isogeometric Analysis. We suggest a suitable preconditioner and discuss ongoing work regarding its analysis and realization.