Time-Multipatch Discontinuous Galerkin Space-Time Isogeometric Analysis of Parabolic Evolution Problems

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In this talk, we present a new time-multipatch discontinuous Galerkin Isogeometric Analysis technology for discretizing a parabolic initial-boundary problem in space and time simultaneously. We prove stability of the discrete problem with respect to a suitable norm, and show a priori discretization error estimates in this norm. Furthermore, we provide efficient parallel generation and parallel multigrid solution technologies, and present first numerical results on massively parallel computers.

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