Talk announcement

Stefan Tyoler
(RICAM)

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IETI-DP Solvers for Continuous Galerkin Isogeometric Analysis on multi-patch domains with non-matching interfaces

In this talk, we propose the Dual-Primal IsogEometric Tearing and Interconnecting (IETI-DP) method for non-matching muli-patch IgA configurations. The IETI-DP method is a domain decomposition algorithm, that realizes the application of the FETI-DP method (Dual-Primal Finite Element Tearing and Interconnecting) in the isogeometric multi-patch setting. Since the domain is already composed of multiple patches (usually coupled continuously) domain decomposition methods are a natural choice. First, we present how the IETI-DP system is set up and we present a suitable preconditioner for the case of non-matching patch-subdomains. Furthermore, we show an appropriate condition number estimate for the preconditioned system. Finally, we provide some numerical results of simple benchmark problems.