

MUMPS in PETSc and HPDDM

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Abstract

Recent advances in adaptive domain decomposition methods have made it possible to solve large systems of equations that were previously challenging for both algebraic multigrid (because of lack of robustness) and exact factorization (because of large FLOP count and memory cost). In this presentation, I will present some recent improvements in the interface between MUMPS and PETSc. Then, I will show how robust adaptive domain decomposition methods as implemented in HPDDM benefit from these improvements.