

FP TUL ADAPTIVE BDDC AND KRYLOV SUBSPACE RECYCLING

Anotace: Means of acceleration of iterative methods for sequences of linear systems have been extensively studied in literature. A widely used approach is recycling the subspace within a Krylov method combined with deflation. Another natural approach is based on improving the preconditioner. In domain decomposition methods, adaptive selection of coarse space is the state of the art leading to powerful preconditioners. We compare these two approaches and study their combination for unsteady incompressible flow problems. Our particular interest is the Poisson problem of pressure. Results for the problem of flow behind the sphere are presented. We demonstrate that by using these approaches we are able to save about one half of the computational time.

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