

DE058176027

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Nonoverlapping Schwarz algorithm for solving two-dimensional m-DDFV schemes

IMA J. Numer. Anal. 30, No. 4, 1062-1100 (2010).

MSC Classification: 65N08

Keywords: finite volume methods; Nonoverlapping Schwarz algorithm; discrete duality finite volume (DDFV) schemes; mixed Dirichlet/Fourier boundary conditions

Review text:

This article deals with a m-DDFV (modified discrete duality finite volume) scheme for anisotropic elliptic problems with mixed Dirichlet/Fourier boundary conditions. As a result, the authors provide a nonoverlapping Schwarz algorithm associated with a subdomain decomposition of the problem domain for solving m-DDFV scheme on the whole domain. The convergence of the Schwarz algorithm is proved to converge to the solution of the m-DDFV scheme on the whole domain. The properties of the algorithm were illustrated by numerical results on anisotropic elliptic equations.

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