Chniti, Chokri; **Nataf, Frédéric**; **Nier, Francis**

Improved interface conditions for $2D$ domain decomposition with corners: numerical applications. (English) Zbl 1203.65274

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Summary: This article deals with a local improvement of domain decomposition methods for 2-dimensional elliptic problems for which either the geometry or the domain decomposition presents conical singularities. After explaining the main results of the theoretical analysis carried out by the authors [Calcolo 45, No. 2, 111–147 (2008; Zbl 1173.65364)], the numerical experiments presented in this article confirm the optimality properties of the new interface conditions.

MSC:

65N55 Multigrid methods; domain decomposition for boundary value problems involving PDEs

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