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*On the efficiency of the Algebraic Optimized Schwarz Methods*

In this study we investigate the efficiency of the Algebraic Optimized Schwarz Methods (AOSM) in solving large-scale linear systems. The AOSM used as preconditionners in solving linear systems converge in two iterations for a decomposition with two sub-domains using optimal transmission blocks. These blocks require the inverse of large sub-matrices of the original matrix of the linear system. In this paper we are interested in approximating the transmission blocks with adequate approximations. Numerical comparisons will be presented for different types of problems.

This is joint work with M. Gander and D. Szyld.