

ICM-9110-18 Krylov Subspace Methods for the Sylvester Equation, D.Y. Hu and L. Reichel, *Linear Algebra Appl.*, 172(1992), pp. 283-313.

ABSTRACT: We describe Galerkin and minimal residual algorithms for the solution of Sylvester equations $AX - XB = C$. The algorithms use Krylov subspaces for which orthogonal bases are generated by the Arnoldi process. For certain choices of Krylov subspaces the computation of the solution splits into the solution of many independent subproblems. This makes the algorithms suitable for implementation on parallel computers.