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**Factor-Three-Coarsening Nonsymmetric Black Box
Multigrid**

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The classical Petrov-Galerkin approach to Black Box multigrid for nonsymmetric problems due to Dendy is combined with the recent factor-three-coarsening Black Box algorithm due to Dendy and Moulton, along with a powerful symmetric line Gauss-Seidel smoother, resulting in an efficient and robust multigrid solver. Focusing on the convection-diffusion operator, the algorithm is tested and shown to achieve fast and reliable convergence with both first-order and second-order accurate upstream discretizations of the convection operator for a wide range of diffusion coefficients. The solver also exhibits robust behavior with respect to discontinuous jumps in the diffusion coefficient, and performs well for recirculating flows over a wide range of diffusion coefficients. The efficiency of the solver is supported by results of an analysis for the case of constant coefficients.