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*A preconditioning approach for sparse linear systems  
arising in interior-point methods.*

**Abstract :**

We consider the sequences of linear systems arising in interior-point methods applied to linear programming problems. To solve these linear systems, we use an iterative technique with a multilevel preconditioner ARMS, which is an algebraic multigrid-like algorithm. We adapt this preconditioner to the varying difficulty of the linear systems.

The iterative linear solver has been incorporated into PCx, an implementation of a predictor-corrector interior-point method for solving linear programming problems. In this talk, we show a few experiments with the iterative solution within PCx, describe the adaptations of the multilevel preconditioner, and mention the interior-point method conditions we used to trigger these adaptations.