

A NEW PRIMAL-DUAL PREDICTOR-CORRECTOR INTERIOR-POINT METHOD

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I present a new primal-dual predictor-corrector interior-point method for solving nonconvex optimization problems. The method is based on a new primal-dual shifted barrier function that uses Lagrange multiplier estimates to expand the feasible region for each subproblem. This expansion of the feasible region allows for improved numerical performance. Akin to predictor-corrector methods for linear programming, the step computation involves the combination of an aggressive superlinearly convergent step with a more conservative step aimed at minimizing the merit function.

Joint work with Philip E. Gill (University of California, San Diego) and Vyacheslav Kungurtsev (Czech Technical University in Prague).