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Ahad Dehghani* (ahad.dehghani@gmail.com), 1001 Sherbrooke West, Montreal, Quebec H3A 1G5, Canada, **Jean-Louis Goffin** (jean-louis.goffin@mcgill.ca), 1001 Sherbrooke West, Montreal, Quebec H3A 1G5, Canada, and **Dominique Orban** (dominique.orban@gerad.ca), HEC Montréal 3000, chemin de la Côte-Sainte-Catherine, Montreal, H3T 2A7, Canada. *A*

Primal-Dual Regularization Interior-Point Method for Semidefinite Programming.

Interior-point methods in semidefinite programming (SDP) require the solution of a sequence of linear systems which are used to derive the search directions. Safeguards are typically required in order to handle rank-deficient Jacobians and free variables. We propose a primal-dual regularization to the original SDP and show that it is possible to recover an optimal solution of the original SDP via inaccurate solves of a sequence of regularized SDPs for both the NT and dual HKM directions. (Received September 25, 2012)