

Generalized Central Paths for Convex Programming

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Abstract : The central path has played the key role in the interior point method. However, the convergence of the central path may not be true even in some convex programming problems with linear constraints. In this paper, the generalized central paths are introduced for convex programming. One advantage of the generalized central paths is that the paths will always converge to some optimal solutions of the convex programming problem for any initial interior point. Some additional theoretical properties for the generalized central paths will be also reported.

Keywords : central path, convex programming, generalized central path, interior point method

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