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Using analytic center and cutting planes methods for nonsmooth convex programming.

(English) [Zbl 1012.90036](#)

Nguyen, Van Hien (ed.) et al., Optimization. Proceedings of the 9th Belgian-French-German conference, Namur, Belgium, September 7-11, 1998. Berlin: Springer. Lect. Notes Econ. Math. Syst. 481, 339-356 (2000).

Summary: We propose a method for unconstrained minimization of nondifferentiable convex functions. At each iteration, the algorithm includes a reinitialization procedure, due to a new cut, and some iterations of the analytic center method, those necessary to lower the upper bound of the best iterate function value. The convergence and the polynomial complexity by iteration are established, and numerical tests with typical problems from the literature are presented. The results are similar to those obtained by bundle methods and the algorithms that use analytic center.

For the entire collection see [\[Zbl 0935.00054\]](#).

MSC:

90C25 Convex programming

90C57 Polyhedral combinatorics, branch-and-bound, branch-and-cut

Keywords:

nondifferentiable optimization; interior point method; analytic center; cutting plane

Software:

[ACCPM](#)