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On first-order algorithms for ℓ_1 /nuclear norm minimization. (English) Zbl 1293.65089
Acta Numerica 22, 509-575 (2013).

This paper reviews recent progress in applications of first-order optimization methods to problems of ℓ_1 /nuclear norm minimization. Two approaches are considered. The first approach presents the constructions of proximal point type algorithms and results related to composite minimization and its application to Lasso problems. The second approach covers the saddle-point first-order algorithms for Dantzig selector problems. The complexity analysis of both approaches are established.

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MSC:

[65K05](#) Numerical mathematical programming methods
[90C30](#) Nonlinear programming
[65Y20](#) Complexity and performance of numerical algorithms

Cited in **9** Documents

Keywords:

nuclear norm minimization; gradient algorithms; convergence; proximal point type algorithms; Lasso problem; saddle-point first-order algorithms; Dantzig selector problem; complexity

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