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Pattern search method for discrete L_1 -approximation. (English) Zbl 1129.49043
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Summary: We propose a pattern search method to solve a classical nonsmooth optimization problem. In a deep analogy with pattern search methods for linear constrained optimization, the set of search directions at each iteration is defined in such a way that it conforms to the local geometry of the set of points of nondifferentiability near the current iterate. This is crucial to ensure convergence. The approach presented here can be extended to wider classes of nonsmooth optimization problems. Numerical experiments seem to be encouraging.

MSC:

[49N90](#) Applications of optimal control and differential games
[68T10](#) Pattern recognition, speech recognition
[90C30](#) Nonlinear programming
[90C25](#) Convex programming

Cited in 1 Document

Keywords:

pattern search methods; nonsmooth optimization; convex optimization

Software:

[Optimization Toolbox](#)

Full Text: [DOI](#)

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