
Summary: Sparse optimization is an important class of nonconvex and discontinuous optimization problems due to the involved $\ell_0$ norm regularization or the sparsity constraint. It has wide applications arising in many fields including signal and image processing, machine learning, economics and statistics. Over the past ten years, sparse optimization has attracted much attention and has become a hot research topic, with an accumulation of fruitful research achievements. In order to further promote the research in this direction, we mainly summarize and review the research results in theory and in algorithms during the last five years, along with some related important references, so as to dedicate to the readers.

MSC:

90C26 Nonconvex programming, global optimization

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sparse optimization; $\ell_0$ norm; sparse set; group sparsity

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