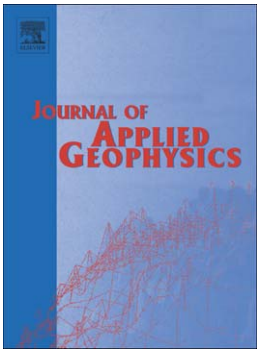

Deblending of simultaneous-source data using iterative seislet frame thresholding based on a robust slope estimation

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Running head: **Multi-dip seislet frame for iterative deblending**

ABSTRACT

In a simultaneous source survey, no limitation is required for the shot scheduling of nearby sources and thus a huge acquisition efficiency can be obtained but at the same time making the recorded seismic data contaminated by strong blending interference. In this paper, we propose a multi-dip seislet frame based sparse inversion algorithm to iteratively separate simultaneous sources. We overcome two inherent drawbacks of traditional seislet transform. For the multi-dip problem, we propose to apply a multi-dip seislet frame thresholding strategy instead of the traditional seislet transform for deblending simultaneous-source data that contains multiple dips, e.g., containing multiple reflections. The multi-dip seislet frame strategy solves the conflicting dip problem that degrades the performance of the traditional seislet transform. For the noise issue, we propose to use a robust dip estimation algorithm