EG29

Deblending seismic data using shaping regularization

Chen, Y.[1], Fomel, S.[1], Schleicher, K.[1]
ykchen@utexas.edu
1. Jackson School of Geosciences, The University of Texas at Austin, Austin, TX

Simultaneous source technique has been attracting more and more attention becasue of its intuitive benefit in largely improving acquistion efficiency and somewhat resulting in higher record quality. However, the intense crosstalk between two or more sources lays a challenge for processing the blended seismic data, which calls for more specific and robust processing methods. In the paper, we introduce a new iteration based estimation scheme for the separation of the blended seismic data. We first deem the shots to be separated as the models to be estimated and construct an common estimation problem, then we use shaping regularization to constrain the characteristics of the model and iteration to enpower the effect of estimation. In our method, we use seislet transform as our shaper to remove the crosstalk noise and at the same time preserve the useful dip components of seismic data. Synthetic and numerically blended field datasets indicate that the proposed method is feasible and robust.

Keywords: simultaneous source, shaping regularization, iterative estimation