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Acoustic multi-source full waveform inversion with deblurring

Zhan, G., Dai, W., Boonyasiriwat, C., Schuster, G.T.

Department of Geology and Geophysics, University of Utah, Salt Lake City, UT 84112, United States

Abstract

The theory of preconditioned multi-source full waveform inversion (FWI) is presented where many shot gathers are simultaneously back-propagated to form the multi-source gradient of the misfit function. Synthetic tests on the 2D Marmousi data set show that multi-source full waveform inversion using an encoded multi-source deblurring filter as a preconditioner can provide an accurate velocity model at 1/100 the computational cost of conventional FWI. © 2013 Geophysical Press Ltd.

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