

Full Waveform Inversion for Complex Near Surface Imaging Using SEG Seam II Synthetic Model

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ABSTRACT

The earth's complex near surface introduces many challenges in land seismic exploration. In arid areas such as much of the Middle East, karst features and unconsolidated sediments that make the problem harder by introducing a complex velocity contrast, complex anisotropy and attenuation problems in addition to strong scattering of surface and body wave that interfere with the imaging of deeper structure. In this paper, we tested and applied Full Waveform Inversion as high-end technology in velocity model building and seismic wave migration for imaging complex near surface structure having small-scale geological features using the Arid SEAM Phase II synthetic model