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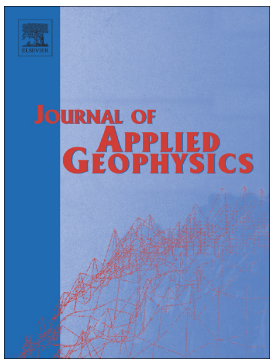

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Locating scatterers while drilling using seismic noise due to Tunnel Boring Machine

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Highlights

Seismic-interferometry-inspired method is applied to noise records.

We simulate noise-source wave propagation in a medium where scatterers are present.

We use Tunnel Boring Machine (TBM) seismic noise recorded at the surface.

We estimate the location of scatterers ahead of a tunnel wall while drilling.

Keywords

Seismic-noise correlation, tunnel seismic-while-drilling, body waves, traveltime inversion, locating scatterers, finite-difference modeling,

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