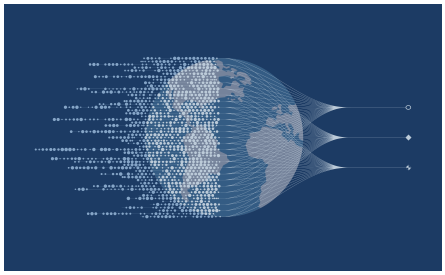

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# Source Processes From Regional Seismic Body Waves

We utilize regional seismic data to explore the temporal source processes and spectral differences between declared nuclear explosions in the Democratic People's Republic of Korea (DPRK). The temporal history of the explosions is resolved using Relative Source-Time Function (RSTF) estimation, and scattered body-wave coda is used to identify differences in spectral signatures between explosions and nearby earthquakes. Each of these methods takes advantage of using common seismic stations between events, greatly reducing the effects of site and propagation effects within the regional seismic observations. The coda amplitude ratios allow us to demonstrate that spectral differences between source types can be exploited in to provide critical information for seismic discrimination. The RSTF estimation effectively preserves source time-history information that can be used for in-depth temporal analysis of remote nuclear explosions.

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