

Source characteristics of intra-slab earthquakes

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We compare strong motion records from the 1969 ($M_w=8.1$; a plate-boundary earthquake) and the 1994 ($M_w=8.2$; an intra-slab earthquake) Hokkaido Toho-oki earthquake to investigate the source spectral difference between them. At frequencies higher than 0.3Hz, observed S-wave spectral ratios of the 1994 event to the 1969 event are obviously larger than the theoretical ones calculated based on the omega-square source model taking into account of the static stress drop difference between the two events. This indicates that the local stress drop of the 1994 event is quite a large. The 1994 event source radiates extremely strong high frequency seismic waves due to its complex rupture process.