

Triggering deep low frequency tremors in Japan from the great Sumatra-Andaman earthquake

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Large surface waves from the 2004 Sumatra-Andaman earthquake triggered deep low frequency (DLF) tremors beneath Shikoku, Kii peninsula and Tokai regions in Japan. Since the source distances are more than about 5000 km, this is a clear example of dynamic triggering. We investigate the relationship between the surface waves and high frequency components (4-16Hz) of the observed records. During the arrivals of the surface waves, pulse-like features were observed in the high-frequency waveforms, which are identified as DLF tremors. The excitations seem to occur periodically and can be associated with the phase and amplitudes of the surface waves. Such clear timing of the earthquake occurrences can give us information about the triggering mechanisms for these events.