

## Source, path, and site effects estimated from S waves observed in southern Kanto, Japan

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We simultaneously separate source, propagation path, and site amplification effects from S waves spectra observed at four stations in southern Kanto, Japan. Assuming that observed S waves spectra are combination of source spectra, attenuation along ray path ( $Q_s^{-1}$ ) and site amplification factor, linear inversion method is conducted after transfer of observed S waves spectra into a logarithmic scale. The station in the Kanto Basin but near the Kanto Mountains shows large site amplification factor for high frequency.  $Q_s^{-1}$  is proportional to  $-0.5$  power of frequency at 3-20 Hz. We define relatively low- and high-frequency-earthquakes based on the high frequency source spectrum. Depth distribution shows that deep earthquakes are high-frequency-earthquakes at 50-120km in focal depth.