

# Source mechanism of deep low-frequency earthquakes and tremors inferred from S-wave particle motion and P/S amplitude-ratio

# Masaki Nakahashi[1]; Akio Katsumata[1]; Noriko Kamaya[2]

[1] Meteorological College, JMA; [2] JMA

Source mechanism of deep low-frequency earthquakes/tremors have been investigated by particle motions of S-waves (ex., Ohmi and Obara, 2002), moment tensor inversion (ex., Ueda et al., 2002), and P/SV/SH spectra ratio (ex., Nakamichi et al., 2000). But, the source model of the phenomena has not been established yet. We analyzed particle motions of S-waves and P/SV/SH amplitude ratios to examine the source mechanism of deep low-frequency earthquakes.

We estimated polarization direction of filtered S-wave records, and searched best-fit source force direction based on single-force and double-couples models. And on the same time, we measured the amplitude of P, SV, and SH waves, and searched a best-fit amplitude ratio model.

We analyzed earthquakes which occurred in western Tottori Pref. It was founded the difference in source force direction between particle motion and amplitude ratio analyses is relatively smaller for double-couple model than for single-force model. One of force axes for double-couple model was found to be almost vertical.