

Crustal anisotropy beneath Hakone-Ashigara region as inferred from shear wave splitting measurements

Ryou Honda[1]; Toshikazu Tanada[1]

[1] Hot Springs Res. Inst. of Kanagawa Prefecture

We measured shear wave splitting parameters for local earthquakes observed at Hakone-Ashigara region. Observed waveforms are integrated into displacement and band pass filtered between 2.0 and 8.0 Hz. In order to estimate leading shear wave polarization (LSPD) and travel time differences between leading and slower split shear waves (DT), we adopted cross-correlation method.

In the study area, Kaneshima (1990) reported that leading shear waves observed at a station located north of Hakone volcano are polarized in the north-south direction. Comparing with our result of LSPD for all earthquakes observed in the study area between 1995 and 2005, it shows good agreements with his result and the direction can be regarded as orientation of tectonic stress around there.

We selected some earthquakes occurred at same point with similar mechanism in order to investigate variations of LSPD in space and time. LSPDs estimated at stations around Hakone volcano are same as those obtained from all earthquakes. On the other hand, leading shear waves observed at stations in Hakone volcano polarized E-W. This result may imply existence of volcanic dykes aligning to E-W.