

Seismic velocity structure of Southern Kyushu, Japan: (1) Evaluation of the P wave travel time residuals

Keigo Yamamoto[1], Yuko Kishimoto[2], Kazuhiro Ishihara[3], Kiyoshi Nishi[4], Tamotsu Furuzawa[5]

[1] D.P.R.I., Kyoto Univ., [2] DPRI, Kyoto Univ, [3] SVRC, DPRI, Kyoto Univ., [4] Sakurajima Volcano Res. Center, DPRI., Kyoto Univ, [5] RCEP, DPRI, Kyoto Univ

To explore the seismic velocity structure of Southern Kyushu, Japan, we analyzed 94 earthquakes observed by the seismic stations of DPRI, Kyoto University. Three characteristic regions elongating parallel to the arc axis are recognized according to the P wave travel time residuals of the deep events. The residuals tend to be (1) positive in volcanic region; (2) negative on the east of it; (3) nearly 0 second to the west of it. The features (1) and (2) become remarkable according as the epicentral distances enlarge. These features and the ray distribution suggest the existence of a deep low V_p zone beneath volcanic area and of a high V_p zone related to the subducted slab. Smaller-scale low V_p zones just beneath the volcanoes are indicated by the shallow event residuals.