The velocity structure of the crust and the uppermost mantle beneath the Indonesia based on receiver function analysis

Hiroaki Negishi[1]; Koji Miyakawa[1]; Ibnu Purwana[2]

[1] NIED; [2] MGA

The Indonesian archipelago is one of the most active regions with seismicity in the world, and the analyses of hypocenters and source mechanisms of earthquakes are very important for monitoring seismic fault, plate motion, tectonic activity and for disaster mitigation. Meteorological and Geophysical Agency of Indonesia (Badan Meteorologi dan Gefisika in Indonesia, hereinafter referred as BMG) has been monitoring earthquake activities and helping mitigate the effects of earthquake disasters by using their seismograph networks. So the investigation of velocity structure beneath the Indonesian Islands is important to not only knowledge of the seismo-tectonics but also improvement of the environments seismological work in BMG.

We investigate one-dimensional velocity structure from the receiver-function analysis of JISNET data. Fine one-dimensional velocity model are obtained for each station, by inverting of stacked waveform data. These results show some important features, such as the existence of subducted plate in the upper mantle. In this region there are some another broad-band seismograph networks that are operated by various institution, and we will continue joint works with them.