



Identification of Upper Crustal Structures Beneath Central Java, Indonesia from of Surface Wave Dispersion Inversion

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Our previous study on MERAMEX data (Zulfakriza et al., 2014) obtained features of the tomographic images which correlate well with the surface geology of central Java in periods between 1 to 12 sec. Kendeng Basin and active volcanoes in the central part of this region are clearly imaged with low group velocities with values around 0.8 km/sec, while the carbonate structures in the southern part of the region correspond to higher group velocities in the range of 1.8 to 2.0 km/sec. In this current study, we invert dispersion curves obtained from seismic noise tomography to estimate shear wave-depth profiles of the region. The results are used to discuss the spatial variation of shear wave velocities for a depth range down from the surface to upper crust. Most of the shear wave velocity anomalies, including the upper crustal areas of the Kendeng basin and active volcanoes, are consistent with our previous study of Rayleigh wave group velocities and fit to the regional geology.

Keywords: Dispersion Inversion; shear wave velocity; Central Java, Indonesia.

Reference:

Zulfakriza, Z., Saygin, E., Cummins, P., Widiyantoro, S., Nugraha, A., Luehr, B.-G., Bodin, T., 2014. Upper crustal structure of central Java, Indonesia, from transdimensional seismic ambient noise tomography. *Geophys. J. Int.* 197.