

Subsurface Seismic Tomography Imaging Using Ambient Seismic Noise in Jakarta Area

In this study, we extracted Green's function from ambient seismic noise data in order to get information about the shallow subsurface structure. The waveform cross-correlation technique has been applied for 31 days of recordings of ambient seismic noise at 36 seismographic stations around the DKI Jakarta area. We used the dispersive behaviour of the retrieved Rayleigh waves to infer velocity structures in the shallow subsurface. Our preliminary results obtained from tomographic inversions at periods of 0.5 s, 1.0 s and 1.5 s depict low velocity anomalies in East Jakarta and West Jakarta areas. Meanwhile a high velocity anomaly is observed in South of Jakarta area. The low velocity structures observed in this study may be associated with the local geological condition, where soft sediment layers exist.

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