

Determination of underground structure of Palu City, Sulawesi, Indonesia by microtremor observations

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Palu City is located in the northern part of island of Sulawesi, Indonesia and there is active fault in the western part of city area. In this study, underground structures were estimated by array and single 3-componet microtremor observations. S-wave velocity structure models with 3 to 5 layers at the 10-sites were determined from array observation records. Predominant periods of H/V at 126 sites were obtained from 3-componet observation records. The S-wave velocities of alluvial layers were form 140 to 300m/s. The predominant period was about 1 second that H/V spectral ratio has clear single peak models near the coast line area. Therefore soft alluvial layer was distributed coast line area. Depth to bedrock (S-wave velocity is 600m/s layer) was about 90m maximum in the area.

Keywords: Microtremor observation, S-wave velocity structure