

ABSTRACT

Jalan Jangli Baru, located in the landslide area west of Jalan Burangrang IV, Tembalang Subdistrict, Semarang City, has been damaged by an avalanche that could potentially endanger road users. This damage is thought to be caused by soft and unstable subsurface conditions, which have the potential to increase vibration amplification. At the site, microtremor data were recorded at 20 measurement points at the landslide site and processed using the Horizontal to Vertical Spectral Ratio (HVSr) approach to obtain values of shear wave velocity (V_s), compression wave velocity (V_p), and V_p/V_s ratio. The inversion results show V_s values ranging from 211-1145 m/s and V_p/V_s ratio between 2.23-7.21. Based on the classification of SNI 1726 of 2019 and Keçeli (2012), the soil layer in this area consists of medium to soft soil types, with most of the landslide sites showing $V_s < 350$ m/s and $V_p/V_s > 3$, indicating the presence of unconsolidated and highly weathered soils. These zones have a high potential for deformation and seismic amplification. This condition is an important consideration in landslide disaster mitigation and infrastructure development planning in ground motion prone areas.

Keywords: *HVSr, S wave velocity (V_s), V_p/V_s ratio, soil classification*