ABSTRACT

Horizontal to Vertical Spectral Ratio (HVSR) inversion research was conducted in Bledug Kuwu, Grobogan Regency, Central Java. This study aims to determine the subsurface structure of Bledug Kuwu. The data used is microtremor recording data from a 3-component seismometer. Microtremors are ground vibrations caused by natural or artificial events that have relatively low energy and low amplitude that are always present in any seismic recording and can describe geological conditions near the surface. The recording data is processed using the HVSR method to produce amplification and dominant frequency. The amplification of the research area was 0.57 to 6.69, the results of the processing showed that the closer to the big explosion, the smaller the amplification of that area. The dominant frequency value (f0) in the study area was 0.52 to 9.7 Hz. The treatment results showed that the study area was dominated by type IV classification with a dominant frequency value of less than 2.5 Hz. Type IV classification showed that the area was composed of alluvial rocks formed from mud sedimentation, soft soils, mud deposits, and which were classified into soft soils with a depth of 30 meters.