ABSTRACT

A seismic hazard analysis has been conducted on bedrock in Cilegon City using the Probabilistic Seismic Hazard Analysis (PSHA) method with the OpenQuake engine. This study presents earthquake hazard data in Cilegon City based on ground acceleration on bedrock. The PSHA method considers three parameters: maximum ground acceleration, T = 0.2 s, and T = 1.0 s, with a 2% probability of exceedance within a 50-year period, using two earthquake data sources—subduction earthquakes and fault earthquakes. The study results indicate acceleration values ranging from (0.25 – 0.29) g for maximum ground acceleration, (0.54 – 0.63) g for T = 0.2 s, and (0.27 – 0.31) g for T = 1.0 s. The distribution pattern of acceleration values appears to be higher in the southern part of Cilegon City, particularly in Ciwandan, Cilegon, and Cibeber Districts.

Keywords : *Earthquake, spectral acceleration, PSHA, Cilegon*