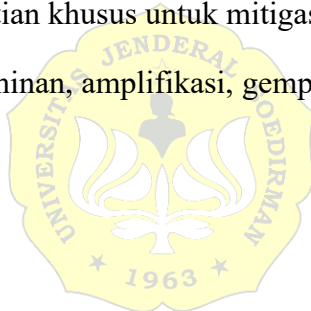


ABSTRAK

Penelitian mikrozonasi di sekitar Pantai Parangtritis melibatkan 34 titik pengukuran, dengan fokus pada Kecamatan Kretek (15 titik). Data diolah menggunakan metode HVSR dan perangkat lunak HVSRpy untuk menghasilkan kurva HVSR yang memuat informasi nilai frekuensi dominan (f_0) dan amplifikasi dominan (A_0). Kurva tersebut menjadi dasar untuk inversi guna memperoleh nilai V_{s30} . Frekuensi dominan berkisar antara 0,2–6,9 Hz, dengan nilai rendah di pesisir yang didominasi batuan *alluvial*, dan nilai tinggi pada batuan keras. Amplifikasi berkisar antara 1,5–7,37, nilai amplifikasi tinggi meningkatkan risiko efek getaran gempa. Indeks kerentanan seismik (K_g) bernilai 0,1–60, dengan nilai tertinggi di wilayah sedimen lunak. Ketebalan sedimen (H) berkisar 7–276 meter, sementara V_{s30} antara 160–722 m/s, sesuai dengan data USGS. Hasil penelitian ini menunjukkan bahwa wilayah ini didominasi oleh formasi Endapan Gunung Api Muda dan Aluvium dengan karakteristik tanah lunak dan amplifikasi signifikan, tanah yang lunak cenderung berada di wilayah pesisir atau dekat dengan aliran sungai, dan untuk tanah yang keras berada di dataran tinggi atau perbukitan, sehingga memerlukan perhatian khusus untuk mitigasi bencana.

Kata Kunci : Frekuensi dominan, amplifikasi, gempa, indeks kerentanan seismik, mitigasi bencana.



ABSTRACT

The microzonation research around Parangtritis Beach involved 34 measurement points, with a focus on Kretek District (15 points). The data is processed using the HVSR method and HVSRpy software to obtain an HVSR curve to obtain information on the dominant frequency (f_0) and dominant amplification (A_0) values. This curve is the basis for inversion to obtain the V_{s30} value. The dominant frequency ranges between 0.2–6.9 Hz, with low values on coasts dominated by alluvial rocks, and high values on hard rocks. Amplification ranges from 1.5–7.37, high amplification values increase the risk of earthquake vibration effects. The seismic vulnerability index (K_g) has a value of 0.1–60, with the highest value in soft sediment areas. Sediment thickness (H) ranges from 7–276 meters, while V_{s30} ranges from 160–722 m/s, in accordance with USGS data. The results of this research show that this area is dominated by alluvial sediment layers with soft soil characteristics and significant amplification. Soft soil tends to be in coastal areas or close to river flows, and hard soil is in the highlands or hills, so it requires special attention for disaster mitigation. The results of this research show that the area around Parangtritis Beach is dominated by Young Volcanic Deposits and Alluvium formations with soft soil characteristics and significant amplification. Soft soil tends to be in coastal areas or close to river flows, and hard soil is in the highlands or hills. so it requires special attention for disaster mitigation.

Keywords: Dominant frequency, amplification, earthquake, seismic vulnerability indeks, disaster mitigation.

