

**KARAKTERISTIK SEISMIK KAWASAN KULONPROGO BAGIAN SELATAN**  
**SEISMIC CHARACTERISTICS OF SOUTHERN PART OF KULONPROGO AREA**

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**Abstrak**

*Telah dilakukan pengukuran sinyal mikrotremor di kawasan Kulonprogo bagian selatan untuk mendapatkan karakteristik seismik berupa: frekuensi dominan, faktor amplifikasi, ketebalan sedimen, indeks kerentanan seismik, percepatan getaran tanah maksimum dan nilai pergeseran tanah. Pengukuran dilakukan di 20 titik yang tersebar pada area dengan koordinat geografis 110.07° BT – 110.26° BT dan 7.80° LS – 7.94° LS. Data yang diperoleh diolah dengan menggunakan metode HVSR (Horizontal to Vertical Spectral Ratio). Hasil yang diperoleh menunjukkan bahwa frekuensi dominan berada pada kisaran nilai 0,96 – 12,63 Hz, faktor amplifikasi berada pada kisaran 2,32 – 6,09, ketebalan sedimen berada pada kisaran 5 – 70 m, indeks kerentanan seismik berada pada kisaran  $0,3 \times 10^{-6}$  –  $21,0 \times 10^{-6}$  s<sup>2</sup>/cm, nilai percepatan getaran tanah maksimum berada pada kisaran 67,8 – 298,5 cm/s<sup>2</sup> dan nilai pergeseran tanah berada pada kisaran  $0,6 \times 10^{-4}$  –  $16,7 \times 10^{-4}$ .*

**Abstract**

*Microtremor signals in southern part of Kulonprogo regency had already been measured to get seismic characteristics, i.e. predominant frequency, amplification factor, sediment thickness, peak ground acceleration, seismic vulnerability index and ground shear strain value. Measurement was conducted at 20 points which spread across area with geographical coordinates of 110.07° E – 110.26° E and 7.80° S – 7.94° S. Signals were analyzed using Horizontal to Vertical Spectral Ratio (HVSR) method. The results show that the predominant frequency value is in the range of 0,96 – 12,63 Hz, amplification factor is in the range of 2,32 – 6,09, sediment thickness is in the range of 5 – 70 m, seismic vulnerability index is in the range of  $0,3 \times 10^{-6}$  –  $21,0 \times 10^{-6}$  s<sup>2</sup>/cm, peak ground acceleration is in the range of 67,8 – 298,5 cm/s<sup>2</sup> and ground shear strain value is in the range of  $0,6 \times 10^{-4}$  –  $16,7 \times 10^{-4}$ .*