

Seismic site effect estimation using microtremor studies in the archaeological city of Jerash in Jordan

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In this study we determined the local site effect by means of the horizontal-to-vertical (H/V) spectral ratios. The Nakamura's concept (Nakamura Y. 1989) is applied in Jarash in order to determine the resonance frequencies and amplification factors for finding the dynamic characteristics for structural engineering purposes.

The results obtained in this study show that the dominant frequency F varies from site to another site and also the amplification factor. This means that the structural stability in most localities of the study area might be seriously affected by any major short periodic earthquake released westwards by the nearby seismologically active sources, except for localities characterized by long periodic dominant frequencies of the study areas, considering that most structures of the study area are characterized by one to three story profiles.

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