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Seismic Evaluation of Reinforced Concrete Buildings in Myanmar, Based on Microtremor Measurement

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Abstract : Seismic evaluation is needed upon the buildings in Myanmar. Microtremor measurement was conducted in the main cities, Mandalay and Yangon. In order to evaluate the seismic properties of buildings currently under construction, seismic information was gathered for six buildings in Yangon city and four buildings in Mandalay city. The investigated buildings vary from 12m-80 m in height, and mostly public residence structures. The predominant period obtained from frequency results of the investigated buildings were given by horizontal to vertical spectral ratio (HVSR) for each building. The fundamental period results have been calculated in the form of Fourier amplitude spectra of translation along with the main structure. Based on that, the height (H)-period(T) relationship was observed as T=0.012H-0.017H in the buildings of Yangon and, observed the relationship as T=0.014H-0.019H in the buildings of Mandalay. The results showed that the relationship between height and natural period was slightly under the relationship T=0.02H that is used for Japanese reinforced concrete buildings, which indicated that the results depend on the properties and characteristics of materials used.

Keywords : HVSR, height-period relationship, microtremor, Myanmar earthquake, reinforced concrete structures
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