

Estimation of Local Site Effects Using Microtremor Testing in Erdenet City

Site effects associated with local geological conditions constitute an important part of seismic hazard assessment. This work was done in frame of the projects "Seismic microzoning 12 aimag centers" that funded by Ministry of Construction and Urban development. In order to estimate site effect we used seismic weak motion, seismic noise survey and seismic array measurement data. The weak motion survey were applied for 15 sites including 1 outcropping rock site that used as reference site with duration of a 14 days. Other 14 site location are selected by different geotechnical condition area. Seismic microtremor measurements done with 500 meter distance grid and in total 527 sites were measured with duration of a hour. All the measurements were used Guralp CMG3EPS seismometer and REFTEK 130b digitizer. All the noise and weakmotion measured sites we obtain amplified frequency using Horizontal to Vertical noise spectral ratio (HV). With obtained HV ratio we made each sites with different engineer geological condition area. Also obtained amplified frequency compared simplified model that obtained geophysical survey using simplified equation $H = V_s / 4f$. here H-thickness of sediment, V_s - average S wave velocity, f- amplified frequency. Consequently we deduced Amplified frequency map using amplified frequency.

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