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The EOS's broadband seismic network in Myanmar: installation, site classification, local seismicity reports and velocity structure studies

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To study the earthquakes and better understand the tectonics in Myanmar, Earth Observatory of Singapore (EOS) has been collaborating with local seismic monitoring authority to install (30) broadband seismic stations. With the broadband collected data, we have used them to study the site classification, earthquakes relocation and constrain the velocity structure.

We defined our EOS's broadband seismic stations site classes by using the horizontal to vertical spectral ratio (HVSr) method from ambient seismic noise. We clearly identified some of our stations on the rock site such as; EW01, M024, EW07, M027 which have resonance frequency larger than 5.0 Hz. The resonance frequency less than 1.6 Hz are defined as soft soil class such as EW05, M008, M012, M022. This kind of classification is based on the National Earthquake Hazards Reduction Program (NEHRP) site classes.

From the initial automatic location that we have selected and relocated ~1000 earthquakes which we found that all these local earthquakes well define the Indian slab beneath Myanmar region. Moreover, use selected teleseismic events located between 30 to 90 degree distance to image the Moho beneath our seismic stations using P-receiver functions (PRFs) and H-K stacking technique to get crustal thickness and V_p/V_s ratio.

Promotional text

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