**Sallow Sear-wave Velocity Structure in Southwestern Taiwan Inferred from Rayleigh waves**

Speaker : Yi-Wun Liao

 The southwestern region of Taiwan can be mainly divided into two geological units, Western Coastal Plain and Western Foothills. In the Western Coastal Plain, the bedrock is covered with thick sediment layers. These sediment layers play an important role in seismic wave simulation and ground motion prediction. In order to have a detail information of the shallow S-wave velocity in this area, Rayleigh wave dispersion curves from earthquake records and microtremor arrays are analyzed to obtain 1-D velocity models.

 S-wave velocity systematically increases from east to west in the southwestern region of Taiwan. This characteristic implies that the structure is approximately parallel to the main structure of Taiwan. For the north-south direction, our results from seven microtremor arrays in the Western Coastal Plain can interpret the existence of Beikang Basement High, which affects the features of pre-Miocene and Neocene interfaces. 1-D S-wave velocity models resulted from a dense site distribution of microtremor arrays in Chiayi Region help us to construct the shallow S-wave velocity structure in detail. If the S-wave velocity of the bedrock is assumed to be 1500 m/s, the depths of alluvium gradually increase from east to west. With these estimated S-wave velocity models we can have better constraints on the velocities of the sediment layers in the ground motion simulation of the southwestern region of Taiwan.

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