

Seismic Array Observations in Vietnam for investigating tectonic deformation of Southeast Asia and the Deep Earth's Interior

¹ Bor-Shouh Huang, ² Tu Son Le, ¹ Chun-Chi Liu, ³ Dinh Van Toan, ¹ Win-Gee Huang, ⁴ Yih-Min Wu, ⁴ Yue-Gau Chen and ⁵ Wen-Yen Chang

¹ Institute Earth Sciences, Academia Sinica, Taiwan

² Institute of Geophysics, Vietnamese Academy of Science and Technology, Vietnam

³ Institute of Geological Sciences, Vietnamese Academy of Science and Technology, Vietnam

⁴ Department Geosciences, National Taiwan University, Taiwan

⁵ Department of Natural Sciences, National Science Council, Taiwan

In coordination and collaboration with researchers at the Vietnamese Academy of Science and Technology, Vietnam, National Taiwan University and Academia Sinica, Taiwan, a 25-station broadband seismic array is installed in the northern Vietnam and underway to acquire a high density, wide dynamic range seismic data. Those stations are designed to image and interpret crust and mantle structures beneath the northern Vietnam, including the geodynamic evolution of the Red River Shear Zone. During this period, significant local, regional and teleseismic events were well recorded. The excellent distance and azimuth coverage from available events help answer questions about the deep seismic structures beneath array and its regional tectonic evolution. An unusual opportunity of this array to record near antipodal seismic waves from the significant seismic events occurred in South America may provide valuable seismic data to study the Earth deep interior. Those instruments are planned to distribute to southern Vietnam in near future for studying the deep structure of the South China Sea. Finally, those stations are planned to upgrade as real time transmission stations for earthquake monitoring and tsunami warning of the South China Sea.