



## **Seismicity characteristics in the southeastern Central Range of Taiwan from a temporary seismic network**

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Taiwan is located in the boundary between the Philippine Sea and Eurasian plates. The Taiwan orogen is created by the collision between the continental shelf of the Eurasian plate and the oceanic crust of the Philippine Sea plate. Currently, we have deployed a temporary seismic network with new six seismographs that increase density of stations from 10 km away to 5 km away in southeastern Central Range and combined with data from the Central Weather Bureau of Taiwan (CWB) to study the seismicity in this area. Totally, there were 415 earthquakes with good quality of location (ERZ and ERH are less than 5 km) from June to August, 2013. However, in previous studies, our study area was reported as an aseismic zone. With the benefit of the temporary seismic network, we were able to detect micro-earthquakes in this “aseismic zone”. Moreover, it is interesting to note that in some stations, volcano-seismic signals like spasmodic bursts are observed and consist of numerous high frequency earthquakes occurring very closely in time, or hybrid seismic signals that have a high frequency sharp P-wave onset with no clear low frequency S-wave phase. This phenomenon can be interpreted as high-temperature and fluid activities in the upper and middle crust (5-20km depth) in this area from previous studies (Wang et al., 2010 and Hsieh et al., 2014).