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# Temporal Variations of Near-surface seismic structure of Taiwan revealed by coda interferometry

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We report the temporal change of the near-surface(<400m) seismic structure of Taiwan revealed by coda interferometry. Following our earlier work (Chen et al., 2017), the Empirical Green's Functions (EGF) of shear waves extracted from the earthquake coda recorded by the vertical pairs of borehole array, deployed by the Central Weather Bureau, are used to examine the temporal variations of vs and Vs azimuthal anisotropy at the borehole sites. In total, about 700 local events, from 2013 to 2018, are used in this study. The band-passed (3 – 8 hz) EGF extracted from each single event are stacked over variable time period to ensure the reliability of measurements and the desired temporal resolution. The averaged Vs and patterns of Vs azimuthal anisotropy are in good agreement with the site geology, the ambient stress and those reported in our early work. Apparent drop in the Vs isotropic velocities and perturbations in Vs azimuthal anisotropy are observed in few representative borehole sites, and we also noticed that such variations are tightly correlated with the occurrence of major earthquakes in Taiwan. We present the preliminary results and discuss the triggering mechanisms, the healing revolution, and their relationship with the site geology.