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The variation of the ground electric field associated with the Mei-Nung earthquake on Feb. 6, 2016

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Recent studies show that a strong coupling exists between lithosphere, atmosphere and extending up to the ionosphere. Natural phenomena on the ground surface such as oceans variation, volcanic and seismic activities such as earthquakes, and lightning possibly generate significant impacts at ionosphere immediately by electrodynamic processes. The electric field near the ground is one of the potential quantities to explore this coupling process, especially caused by earthquake. Unfortunately, thunderstorm, dust storm or human activities also affect the measured electric field at ground. To investigate the feasibility of a network to monitor the variation of the ground electric field driven by the lightning and earthquake, a filed mill has been deployed in the NCKU campus since Dec. 2015, and luckily experienced the earthquake with a moment magnitude of 6.4 struck 28 km on 6 Feb. 2016. The recorded ground electric field deceased steadily since 1.5 days before the earthquake, and returned to normal level gradually. Moreover, this special feature can not be identified in the other period of the field test. The detail analysis is reported in this presentation.