Geophysical Research Abstracts
Vol. 18, EGU2016-2433, 2016
EGU General Assembly 2016

Ionospheric tsunami disturbances probed by HF Doppler sounder, ionosonde and ground-based GPS TEC

Wei-Suan Chen (1), Jann-Yenq (Tiger) Liu (1), Tso-Ren Wu (2), and Yu-Lin Tsai (2)

(1) Institute of Space Science, National Central University, (2) Institute of Hydrological and Oceanic Sciences, National Central University

Tsunami waves induced by the 26 December 2004 Mw 9.3 Sumatra earthquake, the 11 March 2011 Mw 9.0 Tohoku earthquake, and the 16 September 2015 Mw 8.2 Chile earthquake are recorded by tide gauges around Taiwan. In this paper, the tsunami waves are studied by the tide gauge data and Cornell Multi-grid Coupled of Tsunami Model (COMCOT) simulations, while ionospheric tsunami disturbances (ITDs) are probed by the HF Doppler sounder with a sounding frequency of 5.26 MHz, ionosonde, and GPS TEC derived by ground-based GPS receivers in Taiwan. It is found that ITDs tend to lead their associated tsunami by about 30-60 minutes. A comparison between ITDs and tsunami waves will be presented and discussed.