



Wavy Structures in Vertical Electron Density Profile of the Ionosphere Triggered by the 2011 M9.0 Tohoku Earthquake

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This paper reports vertical wavy structures in the ionospheric electron density and total electron content profiles of FORMOSAT-3/COSMIC (F3/C) during the 11 March 2011 M9.0 Tohoku earthquake. The Abel inversion and the vertical gradient (differential) process act as the low- and high-pass filters, respectively. It is found that waves with the wavelength of 70-50km and less become pronounced during the earthquake period. Results demonstrate that the radio occultation (RO) is a powerful tool to probe vertical structures of the atmosphere and ionosphere.