

コロナ質量放出の到来に伴う電離圏全電子数の1時間周期変動

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1-h period oscillations of ionospheric total electron contents after the arrival of coronal mass ejections

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On 11 and 12 September 2014, two coronal mass ejection (CME) arrived at the Earth and caused a geomagnetic storm with a minimum Dst index of -75 nT at 23 UT on 12 September. We found that total electron contents (TEC) oscillated in the large extent of the dayside ionosphere after the arrivals of the CMEs. The timeseries data of TEC over Japan and the North America, which observed by the global positioning system (GPS), show high-amplitude (± 0.4 TEC Units) density oscillations with a period of about 1 h. The oscillations are seen in timeseries data averaged over Japan and the North America, but those do not show any traveling structure. The 1-h oscillation over Japan was observed just after the first CME arrival at 23 UT (8 JST), 11 Sep., while that over the North America was observed just after the arrival of the second CME at 14 UT (10 EDT), 12 Sep. Those correspond to the timings that the local times of those areas are in daytime. In the presentation, we will discuss possible generation processes of the ionospheric 1-h oscillations triggered by CMEs.