

S-520-29号機により観測された電波伝搬特性を用いた電子密度推定

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Electron density profile estimated from the propagation characteristics of radio waves by S-520-29 sounding rocket

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S-520-29 sounding rocket experiment was launched from Uchinoura Space Center (USC) at 19:10 JST on 17 August, 2014. This rocket is equipped with the LF and MF band radio receiver(LMR) in order to observe propagation characteristics of LF and MF band radio waves during the rocket flight. The LMR received three radio waves of 873kHz (JOGB), 666kHz (JOBK) and 60kHz (JJY) from the ground stations. In these sounding rocket experiment, the LMR was working properly, and it could successfully observe propagation characteristics of three radio waves. Then, we analyzed the doppler shift frequencies of radio waves. From these analyze, we measured the electron density profile in the ionosphere. The measured electron density profile consisted with the observed electron density profile obtained with other instrument.

In this presentaion, we will explain the results of LF and MF band radio waves observations and the electron density profile in the ionosphere obtained to analyze the doppler shift frequencies of radio waves by the S-520-29 sounding rocket. Then, we compare the measurement electron density profile with the other instrument.