

Atmospheric Wave Modulations in the Electron Temperature and Plasma Density Measured During WAVE 2000 Campaign

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Both the rocket experiment and the ground based observation were carried out on the 10th, January, 2000 as a campaign WAVE 2000. The electron density and temperature were measured by using the Langmuir probe onboard the rocket S-310-29.

The rocket has launched at 05:50:00 JST from Kagoshima Space Center (135.04E, 31.15N). The wavy structure is shown from 80 km to 120 km altitude of the electron density profile both in the upleg and downleg which has about 10 km of wave length. The sporadic E layer shown at the altitude of 92 km has good agreement with the neutral zonal wind shear which was measured using foil chaff.

In this study, the plasma density and energetics in the atmospheric wave will be discussed.