Preliminary results of rocket attitude and auroral green line emission rate in the DELTA campaign

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Abstract: The attitude of a sounding rocket launched in the DELTA (Dynamics and Energetics of the Lower Thermosphere in Aurora) campaign was determined with IR horizon sensors and geomagnetic sensors. Since the payload was separated into two portions, two sets of attitude sensors were needed. A new IR sensor was developed for the present experiment, and found the zenith-angle of the spin-axis of the rocket with an accuracy of 2°. By combining information obtained by both type of sensors, the absolute attitudes were determined. The auroral green line emission rate was measured by a photometer on board the same rocket launched under active auroral. conditions, and the energy flux of the auroral particle precipitation was estimated.
Author Keywords: Auroral green line; Geomagnetic sensor; Horizon sensor; Rocket attitude

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