

Seasonal variations of O₂ and OH rotational temperature fluctuations measured by SATI

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The Spectral Airglow Temperature Imager (SATI) can measure the rotational temperature by observing nightglow emissions of OH and O₂ with a time resolution of about 5 min.

SATI has been operated continuously since December, 1997 up to current except a maintenance period from May to middle of August, 1999.

In this study, we accumulated time series of temperature data for each month, and investigated long period variations appeared in the temperature data.

Results show semidiurnal oscillations are predominant from November to February with a small phase difference.

Weak semidiurnal oscillations appeared during the rest of the year.

These results are consistent with the previous observational results with a Lidar.

Oscillations with a short period will also be discussed.

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