

## Comparison of auroral intensity at geomagnetic conjugate points obtained with all-sky imagers

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Spatial and temporal variations of auroral shape and emission intensity are expected to be affected by conditions in the magnetosphere and the acceleration regions, as well as those of the ionosphere and the upper atmosphere. Therefore, comparison between auroras simultaneously observed at conjugate points in the northern and southern hemispheres can provide us with information on physical parameters along the field line. Particularly, comparison between absolute intensities of conjugate auroras may contain information about field aligned electric field in the acceleration region in both hemispheres. In order to make observations of absolute intensity of conjugate auroras, two identical imaging instruments (Conjugate Aurora Imager; CAI-N, and CAI-S) were deployed at Husafel, Iceland and at Syowa Station, Antarctica in 2005. Both CAIs were calibrated using a 2-m integrating sphere and a spectrophotometer at NIPR.

Simultaneous observation of conjugate auroras was made on September, 19, 2006. After atmospheric extinction was corrected by using standard stars, intensity ratio (the ratio of intensity at the southern hemisphere to that at the northern hemisphere),  $R$ , was obtained. The value of  $R$  for diffuse aurora was  $1.03 \pm 0.14$ , which can be explained by difference in the magnetic field intensity at both hemispheres. On the other hand, the value of  $R$  for discrete aurora was in a range from 1 to 3, indicating different field aligned acceleration in both hemispheres.

At the presentation, details of observation results will be given along with discussion.