

## Estimation of two-dimensional distribution of auroral electron energy parameters using CRL all-sky images

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As part of an international cooperative research project with Geophysical Institute of University of Alaska, we installed two all-sky imagers (CRL-ASI) at Poker Flat, and have obtained monochromatic aurora images with several wavelengths during two winter seasons. Using this data set, we are developing estimation methods of two-dimensional distributions of aurora electron energy parameters.

Fig.1 shows all-sky images observed by the CRL-ASI at 04 UT on 27 Oct. 2000. Patch-shaped aurora can be clearly seen in 557.7-nm and 427.8-nm emissions. Fig. 2 shows an average energy of auroral electrons estimated from the intensity ratio of 427.8-nm and 844.6-nm emissions. In the presentation, we will discuss about estimation errors of the energy parameters, and future plans of our study.

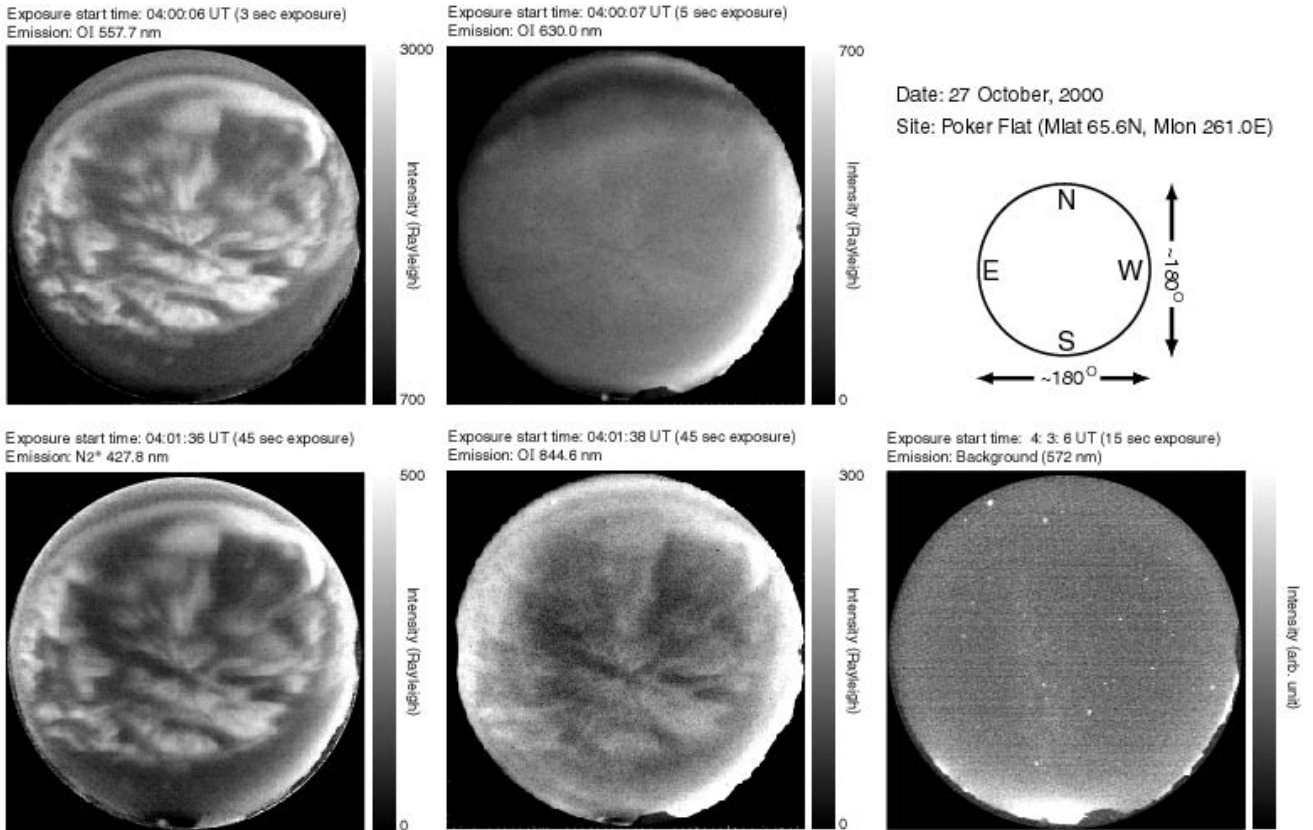


Fig.1 All-sky images observed by the CRL-ASI at 04 UT on 27 Oct. 2000. Patch-shaped aurora with ray structure can be seen in some emissions. In the background channel, there are not patch structures but some stars. It indicate that we have clear sky with no clouds at this time.

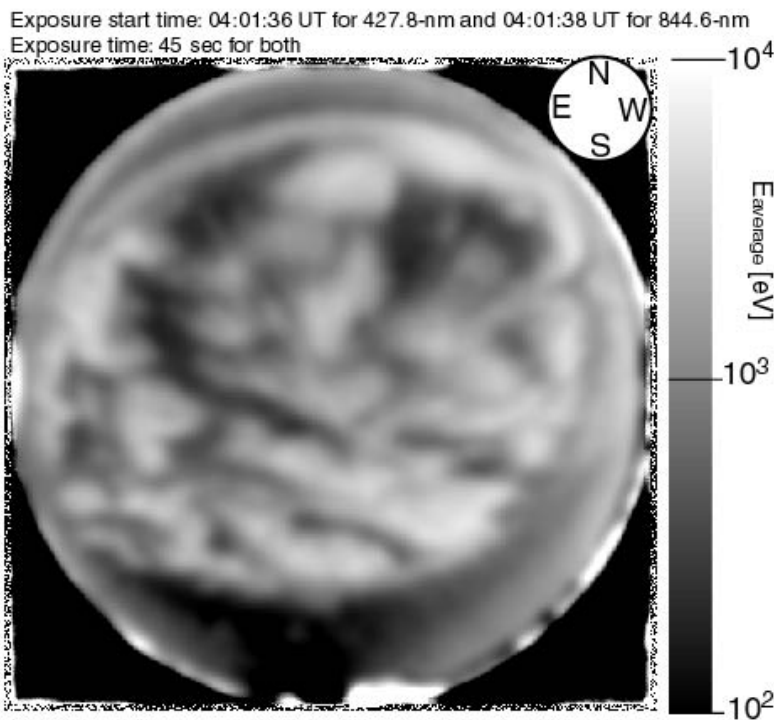


Fig. 2

A two-dimensional distribution of the average energy of auroral electrons estimated from the intensity ratio of 427.8-nm and 844.6-nm emissions.