

## Comparison between the CNA observed by the imaging riometer and the high-energy electrons simultaneously observed by NOAA

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An international cooperative research project (Alaska project) of CRL is currently running with Geophysical Institute of University of Alaska. As part of the project, a 256-element imaging riometer is established at Poker Flat, Alaska, which observes enhancement of the electron density in the D-layer as the Cosmic Noise Absorption (CNA) events by a frequency of 38.2 MHz. The CNA imaging with high spatial resolution (6 degrees per beam) is achieved with its antenna array of 16x16 elements and continuous observation at Poker Flat has been carried out from Oct., 1995, to Aug., 1999. Several instruments of the Alaska project have been successfully installed at Poker Flat. Now a renewal of the data acquisition system of the imaging riometer is making progress.

Based on the previously obtained CNA data, a comparison between CNA events and intensity of aurora observed by Meridian Scanning Photometer (MSP) of Alaska University have been studied (Monzen et al., SGEPS fall meeting, 2001). In this paper, based on the obtained CNA data during 1995-1999 and the number flux of energetic particle simultaneously observed by the NOAA satellite over Poker Flat, an event study of the relationship between the CNA and high-energy precipitating electrons is carried out. The MSP or the all-sky imager can observe the intensity of aurora due to the precipitating electrons of a few keV or less and the imaging riometer can observe the CNA events due to the high energy electrons of more than dozens of keV. The aim of the study will be extended to the estimation of the precipitating energy with wider energy range. In this talk we will report the relationship between the CNA intensity and the number flux of the precipitating particles. Furthermore, improvement of the data acquisition system of the imaging riometer will be discussed.