

## Imaging riometer and CCD imager observed in brazilian geomagnetic anomaly region

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On the basis of imaging riometer installed at Southern Space Observatory(SSO) in Brazil, Concepcion in Chile and Kakioka in Japan, we studied cosmic noise absorption(CAN) phenomena during magnetic storm period on December 14, 2006. This magnetic storm occurred at 1414UT on December 14. Dst became minimum at 0745UT on December 15. Magnetic storm recovered at 0600UT on December 16. The intensity of cosmic noise ( $f=38.2\text{MHz}$ ) increased at 0240-0340UT on December 15 at Kakioka. This intensification of cosmic noise is unusual event and foF2 increased to 15MHz at Kokubunji Observatory(NICT) in this period. On the other hand, 0.5 to 1.5dB CNA

phenomena was observed at SSO in this period. The large CNA phenomena was also observed at Concepcion during 23h to 12hUT on December 14-15. However, this CNA looks like no relationships to the development of magnetic storm.

Another different topic is airglow phenomena obtained by CCD imager at SSO, Brazil. We analyzed CCD imager data in detail and found special airglow phenomena. We called this phenomena as static multiple band. These bands are co-rotating with Earth. The phenomena is seen during winter season in the southern hemisphere and during geomagnetic quiet condition. There is no relationships to the photometer data(557.7nm and 630.0nm) The occurrence frequency of this phenomena is low. We found about 5 days event among more than 100 days data. We want this airglow make clear that this airglow is special one in geomagnetic anomaly region or not.