

# **Occurrence of the aurora over Jang Bogo Station, Antarctica: all-sky image processing and its preliminary results**

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For the first time, a color CCD All-Sky Camera (ASC) has been operated at Jang Bogo Station (JBS, MLAT~80°) since 2018 for the research of the aurora which is frequently observed at JBS. In this study, we present the occurrence rate of the aurora by analyzing the ASC image data. Coordinate correction, selection process of the reliable images, and image processing for the recognition of the aurora were performed before the occurrence rate calculation. For the calculation of the occurrence rate, image region where the elevation angle is greater than 20° was partitioned into 100 equal-area cells. The occurrence rate was computed for each cell by binning the data with one-hour time interval. The results calculated from 2018 data show that the aurora dominantly appears in the geomagnetic northern horizon at MLT midnight. In the MLT dawn sector, the aurora frequently occurs in the whole sky, but relatively high occurrence rate in the geomagnetic northern sector. These results are consistent with other previous studies that showed asymmetry of the shape of the aurora oval.