

アイスランドにおけるオーロラ光学観測の現状

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Current status of auroral optical observation at observatories in Iceland

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Iceland in the northern hemisphere and Syowa Station (SYO) in Antarctica are in the magnetic conjugate relationship. Conjugate observation in Iceland has been carried out since 1984 as a collaborative project between NIPR and University of Iceland. At present, there are two observatories in Iceland; Husafell (HUS) and Tjornes (TJR). Conjugate point of SYO, which was located between HUS and TJR in 1984, is now located just north-eastward of TJR. Currently available instruments at the conjugate stations are shown in Table 1. As for the auroral optical instruments, the all-sky B/W TV camera using Image Intensifier (ATV) has been a main instrument for the conjugate study, and operated by hand mainly during the campaign period in September or March. At HUS, the all-sky monochromatic imager using cooled digital CCD camera (CAI) and the 8 CH meridian scanning photometer (SPM) were installed in 2005 and 2008, respectively. The all-sky B/W TV camera using Watec CCD camera (WAT-120N+) (Watec) was installed at HUS in 2008 and TJR in 2009. CAI, SPM, and Watec are operated automatically all through the auroral season from August to April. In our presentation, some details of the auroral optical observations at HUS and TJR will be shown.

Table 1. Currently available instruments at Syowa – Iceland conjugate stations

| Instrument | SYO | HUS | TJR |
|--|-----|-----|-----|
| Fluxgate magnetometer | | | |
| Induction magnetometer | | | |
| VLF receiver | | | |
| Riometer | | | |
| Imaging Riometer | | | |
| All-sky B/W TV camera using Image Intensifier (ATV) | | | |
| All-sky B/W TV camera using Watec CCD camera (WAT-120N+) (Watec) | | | |
| Wide field-of-view B/W TV camera (WTV) | | | |
| All-sky Color Digital Camera (CDC) | | | |
| All-sky monochromatic Imager using cooled digital CCD camera (CAI) | | | |
| 8CH Meridian Scanning Photometer (SPM) | | | |
| GPS TEC & Scintillation | | | |
| MF Auroral emission (Tohoku Univ.) | | | |
| SuperDARN radar | | * | * |
| Ionosonde (by NICT) | | | |
| FM/CW radar (by NICT) | | | |
| Atmospheric Electric Field detector | | | |
| OH Airglow Spectrometer | | | |
| All-sky airglow imager | | | |
| MF-radar | | | |
| Rayleigh-Raman Lidar | | | |
| Millimeter-wave spectrometer | | | |
| Atmospheric MST/IS Radar | | | |