

2019年9月23-26日
Nain(Canada)訪問レポート
ERG衛星とのキャンペーン観測

September 23-26, 2019,
Nain (Canada) visit report
Campaign observation with the ERG satellite

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概要 (Summary)

電源

- NL Governmentの許可がまだ下りていない。2-3週間で下りるのではないか。10月半ばに通電する?
- 新しいFuel Generatorで発電。前の物よりは性能がよく、1度の給油で優に12時間以上は持ちそう。

OMTI

- シャッターをopenにしたまま観測継続。CCDの保護はフィルター6で行うようになっている。

VLF

- GPS時刻情報を正しく取得できないので、Linux PCからNTPで5分おきにデータを取っている。
- データ記録を外付けHDから内蔵HDに変更。VLFアンテナ、ケーブルは問題なし。

Magnetometer+Riometer

- A/Dボードの64 Hzトリガー信号をGPSからもらうのではなく、内部クロックからもらうように変更。
- GPS時刻情報は問題なし。磁場センサー、リオメーターアンテナ、ケーブルは問題なし。

Power

- No permission yet from NL provincial government. It may be issue in 2-3 weeks. Hook-up may come in middle of October?
- A new fuel generator was introduced. It worked better than the previous one and kept running for > 12 hours, once fueled.

OMTI

- Observations were made with the shutter opened. CCD is protected from strong light by the filter 6 mode.

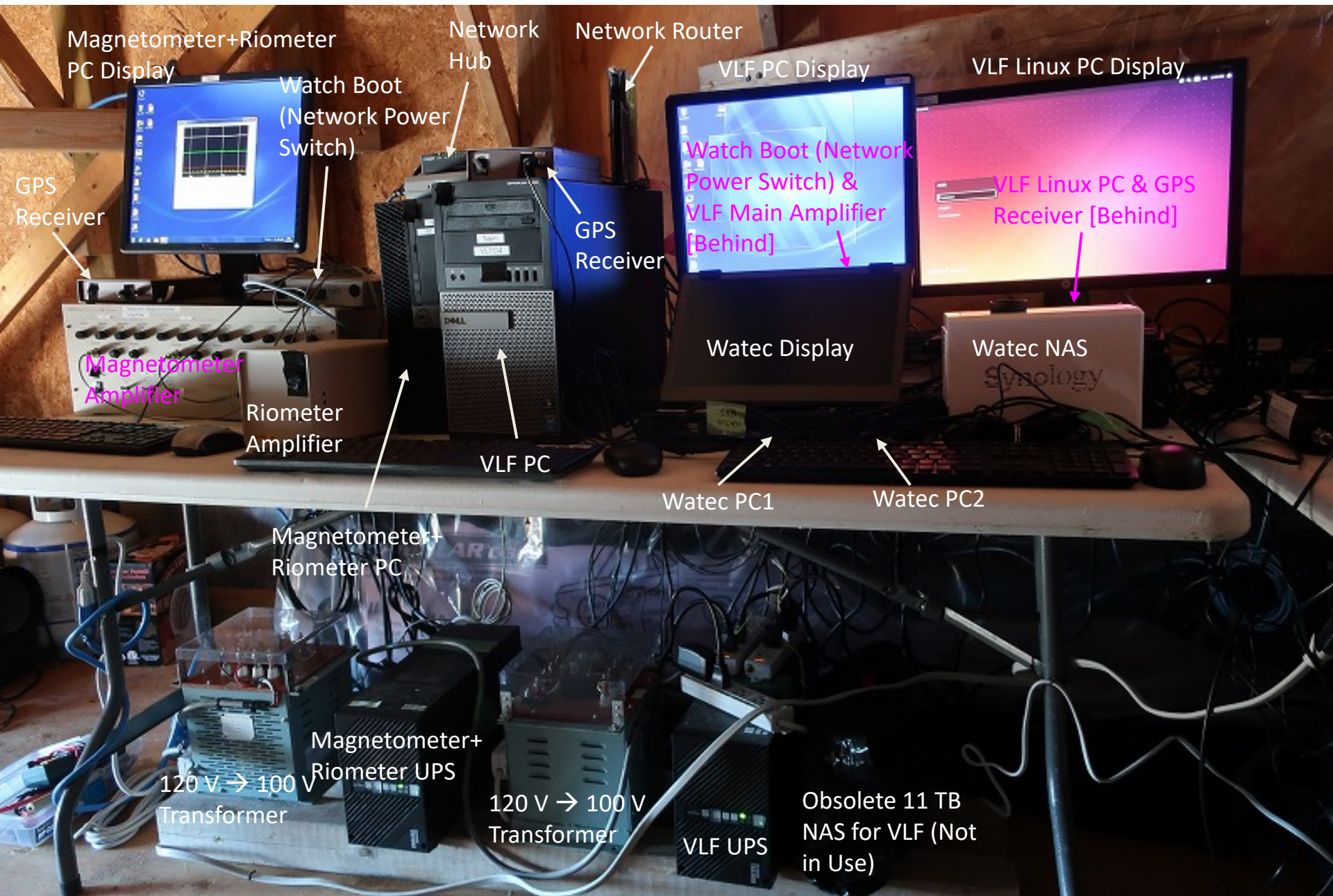
VLF

- Since no GPS time signal was obtained, the PC time is synchronized with the Linux PC via NTP.
- Data are recoded in an internal HD which replaced the old external HD. No problems in VLF antenna and cables.

Magnetometer+Riometer

- Since the trigger signal for the A/D board could not be taken from GPS, it is changed to take from the PC internal clock.
- No problems in GPS time signal. No problems in the magnetometer sensor, the riometer antenna, and cables.

観測小屋内部・西側 (West internal view of observation hut)



Magnetometer+Riometer
PC Display

Network
Hub

Network Router

VLF PC Display

VLF Linux PC Display

Watch Boot
(Network Power
Switch)

GPS
Receiver

Watch Boot (Network
Power Switch) &
VLF Main Amplifier
[Behind]

VLF Linux PC & GPS
Receiver [Behind]

Magnetometer
Amplifier

GPS
Receiver

Riometer
Amplifier

Watec Display

Watec NAS
Synology

VLF PC

Watec PC1

Watec PC2

Magnetometer+
Riometer PC

120 V → 100 V
Transformer

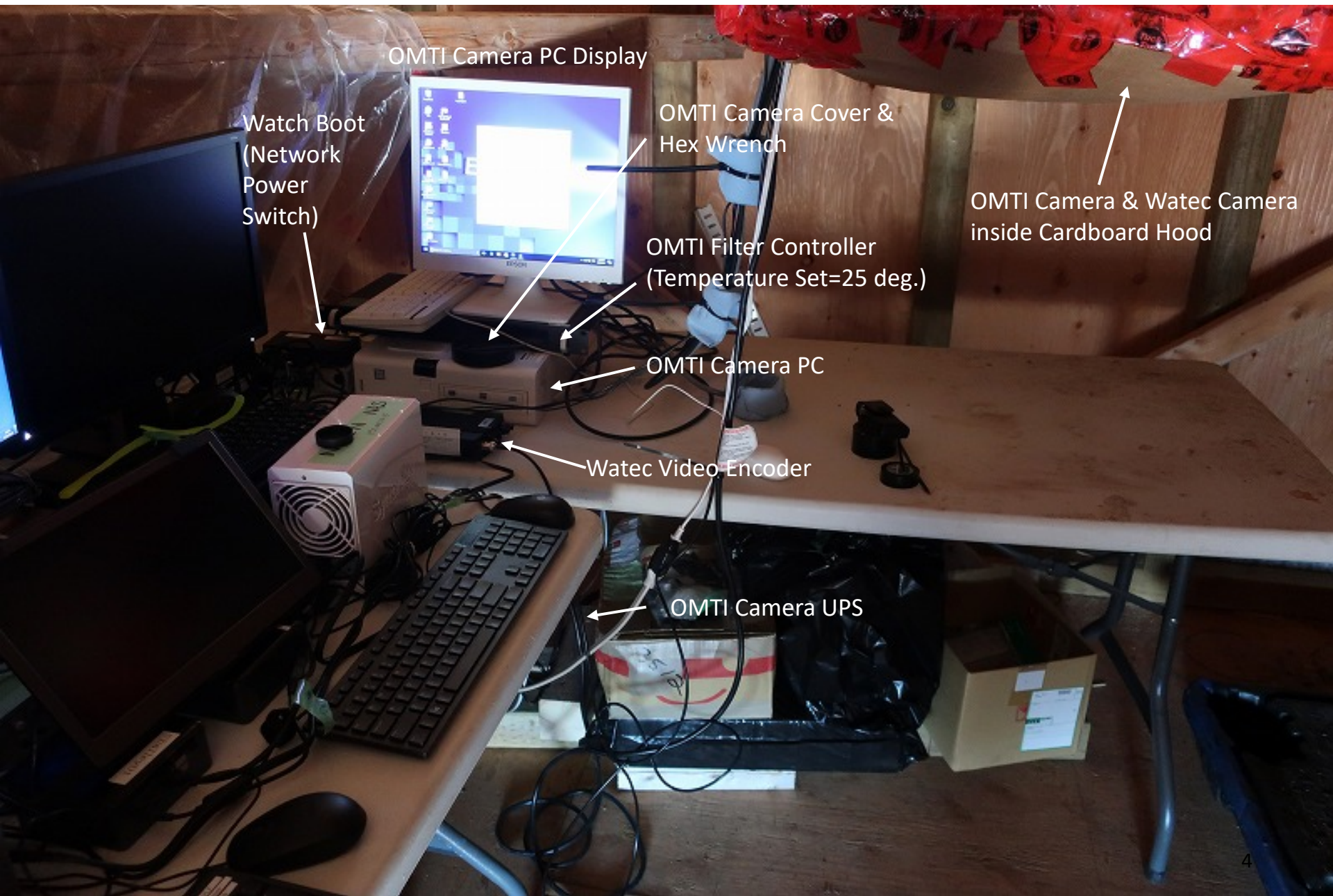
Magnetometer+
Riometer UPS

120 V → 100 V
Transformer

VLF UPS

Obsolete 11 TB
NAS for VLF (Not
in Use)

観測小屋内部・北側 (North internal view of observation hut)



OMTI Camera PC Display

Watch Boot
(Network
Power
Switch)

OMTI Camera Cover &
Hex Wrench

OMTI Camera & Water Camera
inside Cardboard Hood

OMTI Filter Controller
(Temperature Set=25 deg.)

OMTI Camera PC

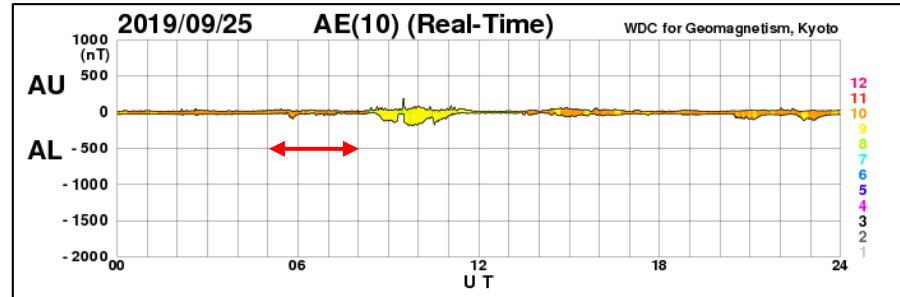
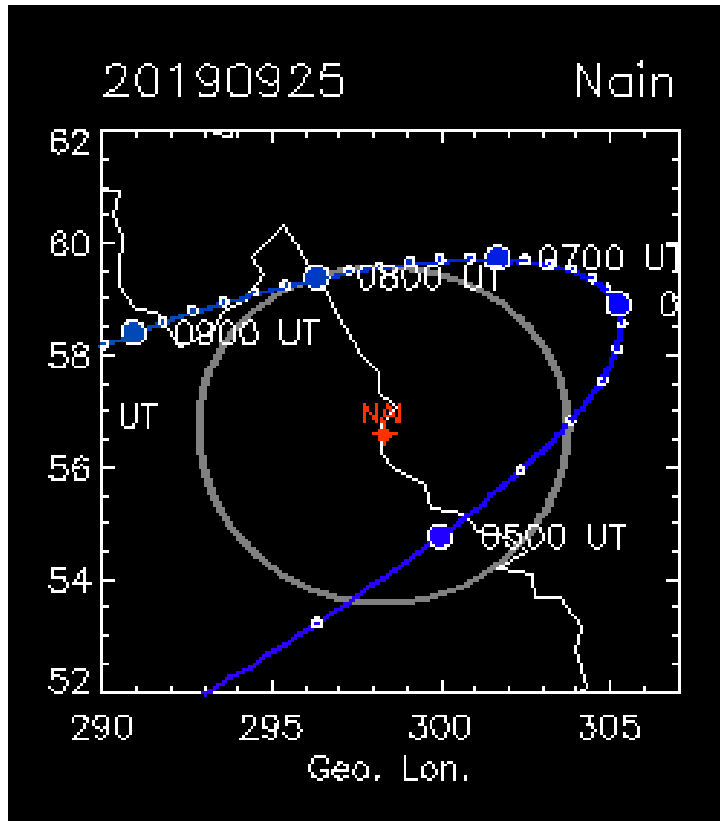
Waterc Video Encoder

OMTI Camera UPS

あらせ衛星との同時観測

(Simultaneous observations with the Arase satellite)

- 05-08 UT (02-05 LT) on September 25, 2019
- Unfortunately, there were no distinct activities during the time interval.
- Only faint aurora could be identified.
- OMTI and VLF made observations, while the induction magnetometer and the riometer were not functioned (because of the A/D board trouble).

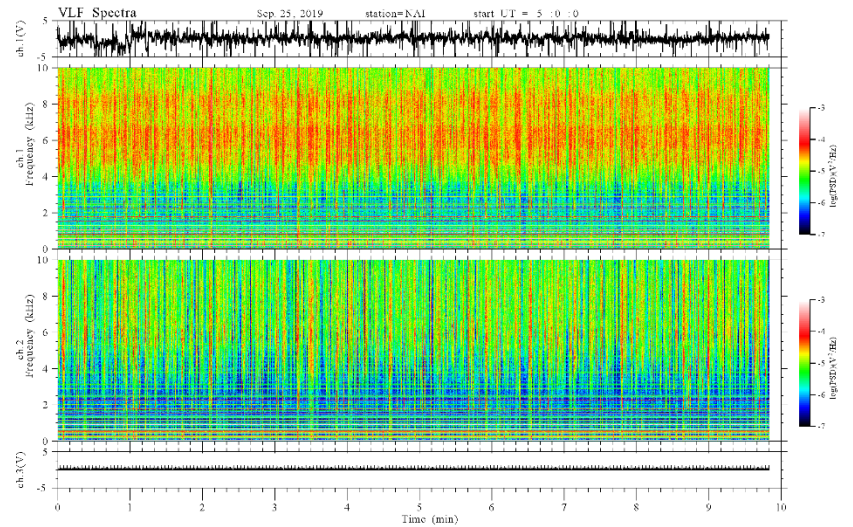
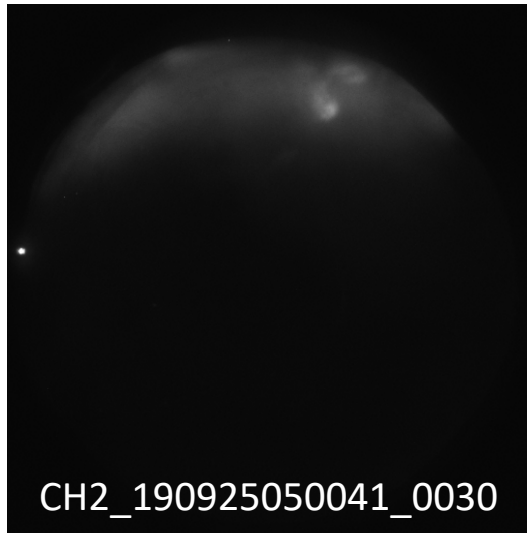


あらせ衛星との同時観測・データ例

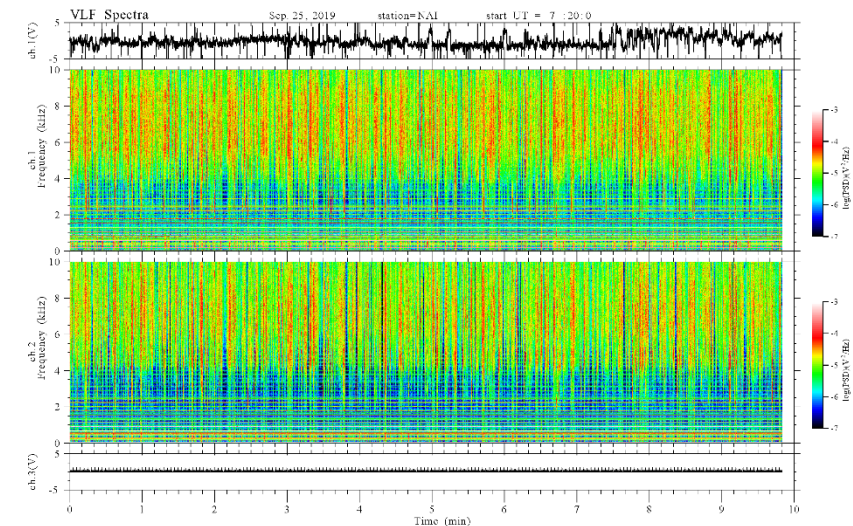
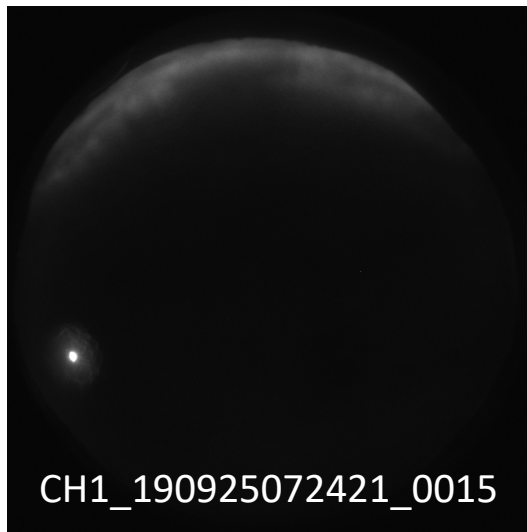
(Simultaneous observations with the Arase satellite, Examples of data)

- Weak auroral activities were found in the northern horizon.
- No distinct VLF wave activities were found.

05:00-05:10 UT



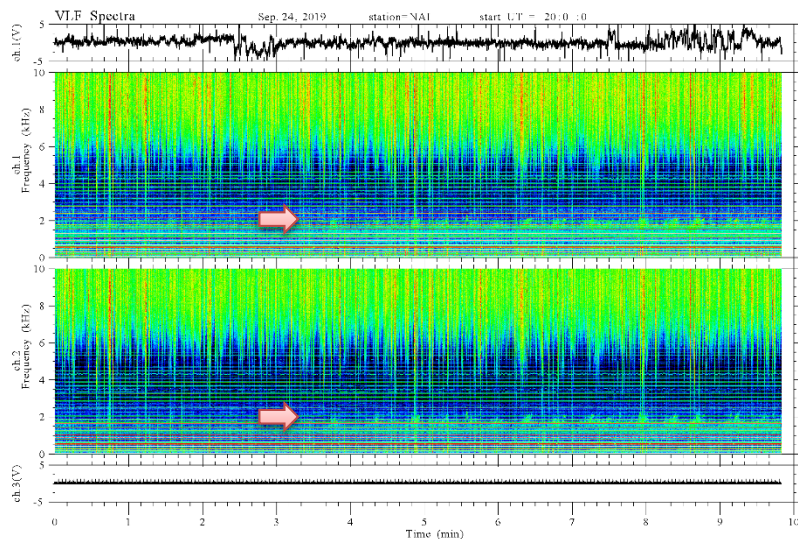
07:20-07:30 UT



他の日の興味深い現象 (Notable phenomena on other days)

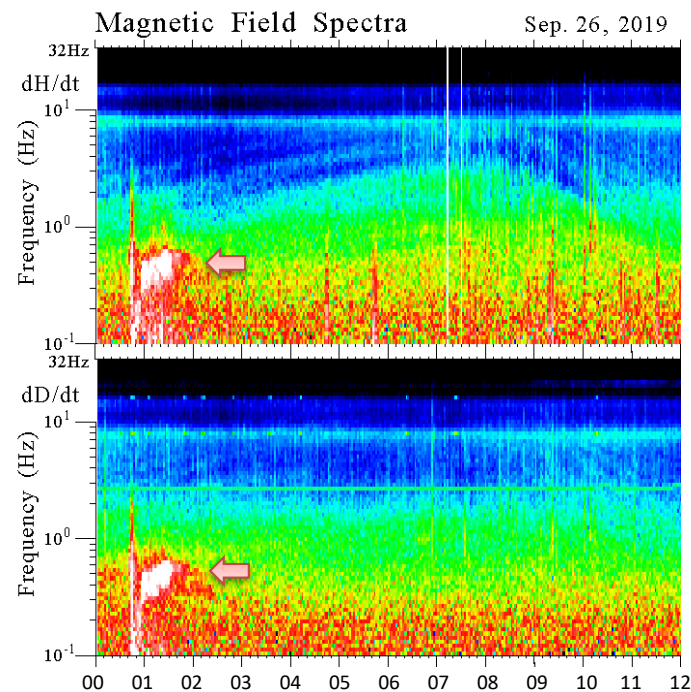
QP emissions

2019/09/24 20:00-20:10 UT

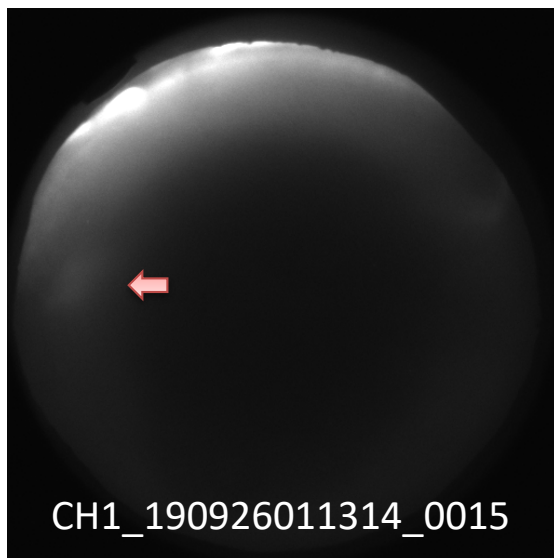


Pc1 pulsation

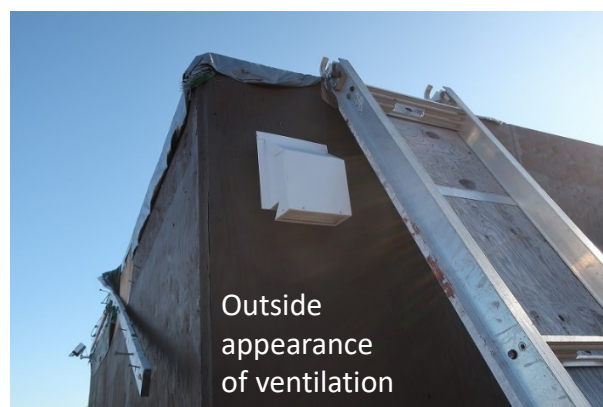
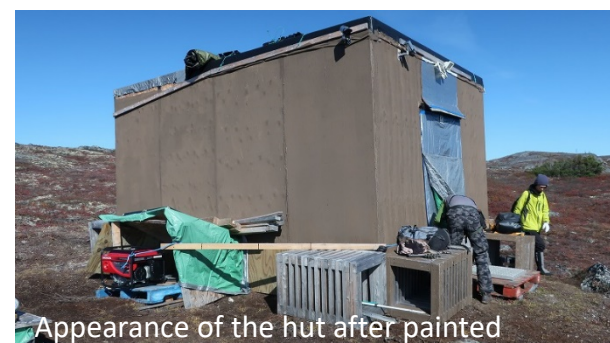
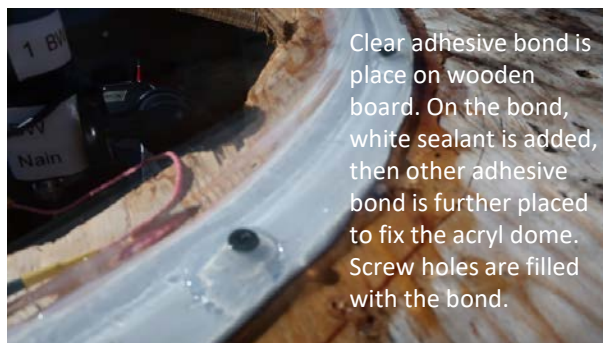
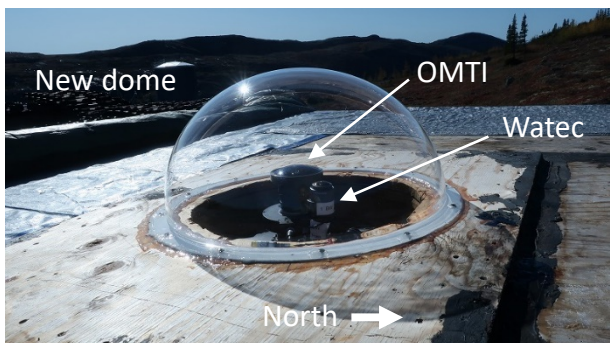
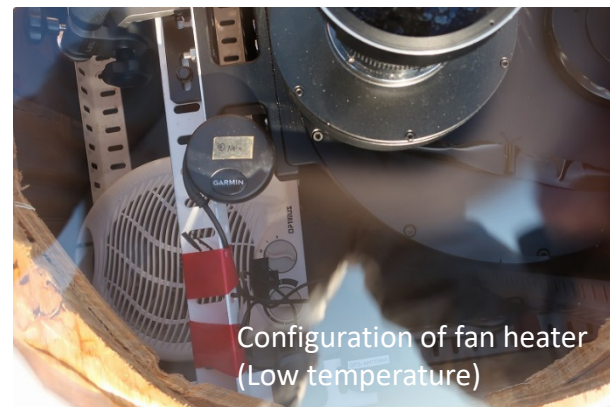
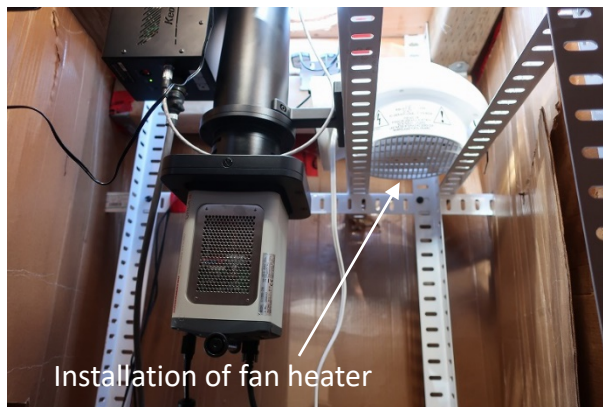
2019/09/26



Isolated proton aurora
2019/09/26 01:13 UT



観測所周りの写真 (Photos around the observation hut)



周辺環境とストレージ写真 (Environment and storage photos)



Uphill road to the observation hut. Ground has been levelled and prepared for construction of new houses.



View of Nain town from the water tank area



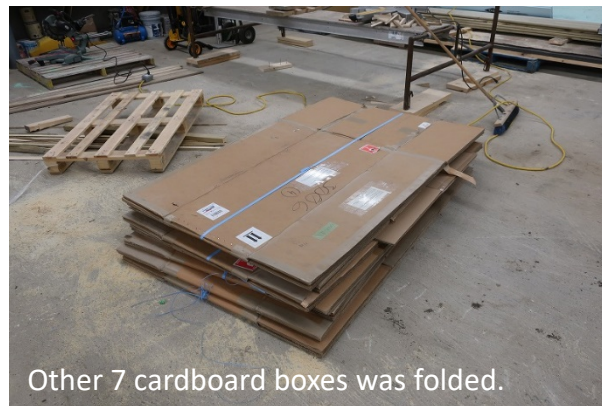
South view from the water tank area



Night view of Nain town from the water tank area. Brighter white lights have been increasing.



Strange container for the OMTI camera. This box has been left as it is.



Other 7 cardboard boxes was folded.



Folded empty boxes and small storage boxes for PC, which were in the 7 cardboard boxes.

3人の労働者 (3 hard workers)

ポール・フェントン
Paul Fenton

能勢 正仁
NOSÉ Masahito

尾崎 光紀
OZAKI Mitsunori

Dome