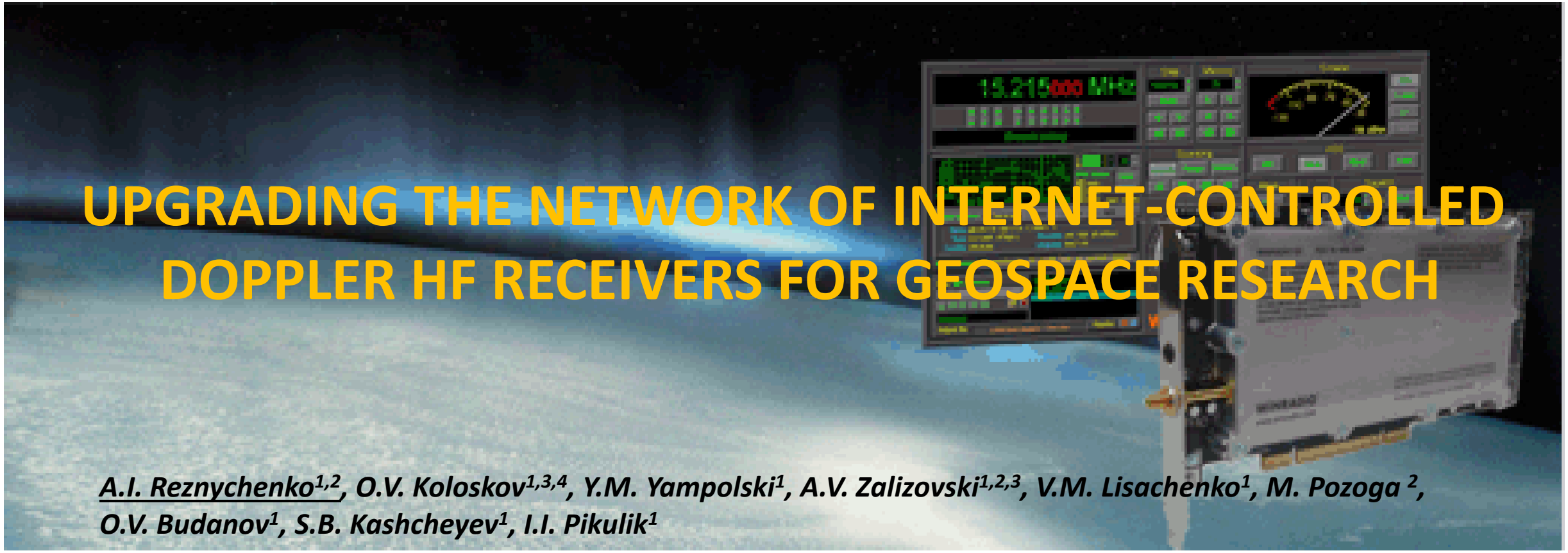


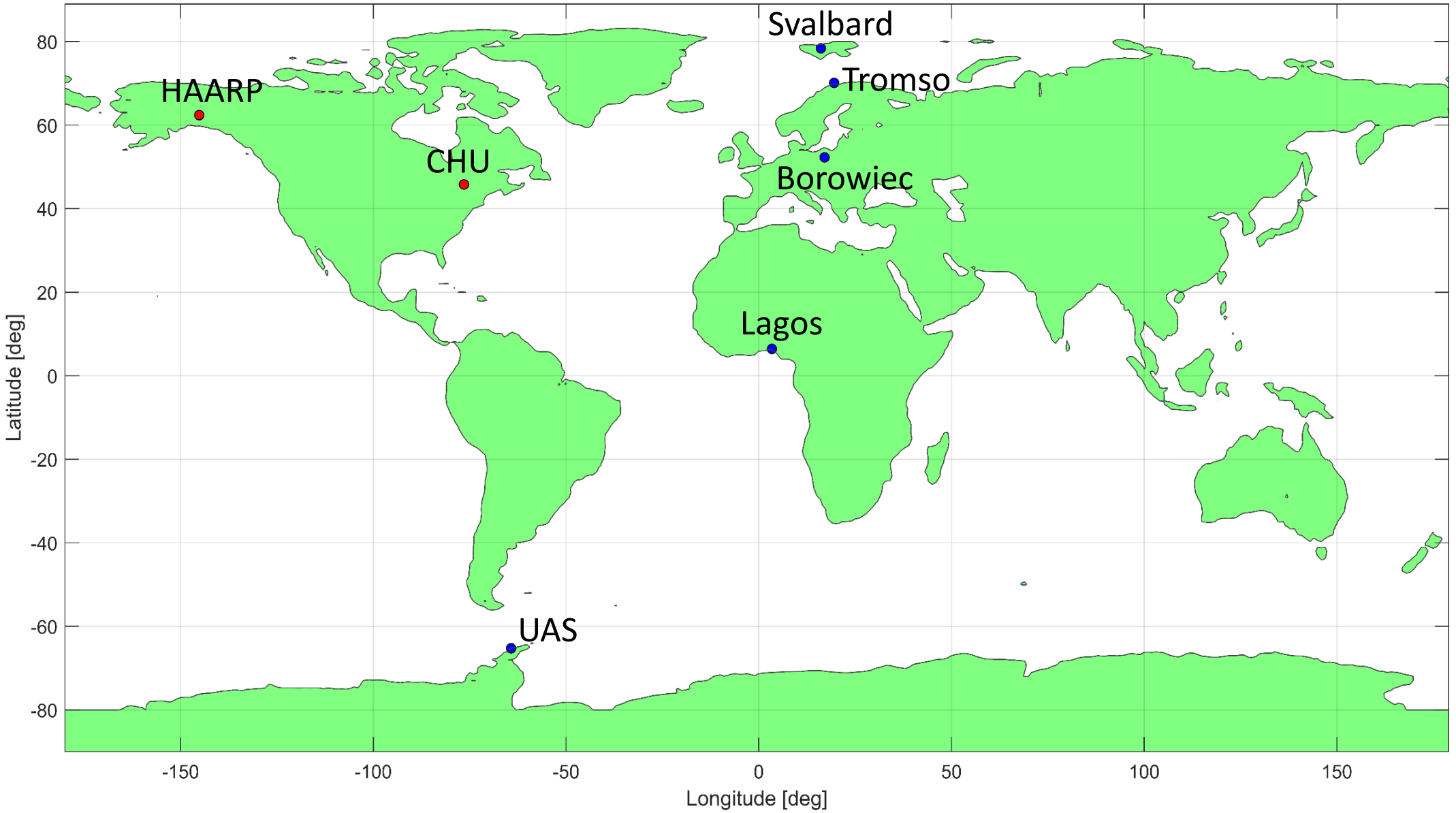
UPGRADING THE NETWORK OF INTERNET-CONTROLLED DOPPLER HF RECEIVERS FOR GEOSPACE RESEARCH

A.I. Reznychenko[1,2], O.V. Koloskov[1,3,4], Y.M. Yampolski[1], A.V. Zalizovski[1,2,3], V.M. Lisachenko[1], M. Pozoga [2], O.V. Budanov[1], S.B. Kashcheyev[1], I.I. Pikulik[1]

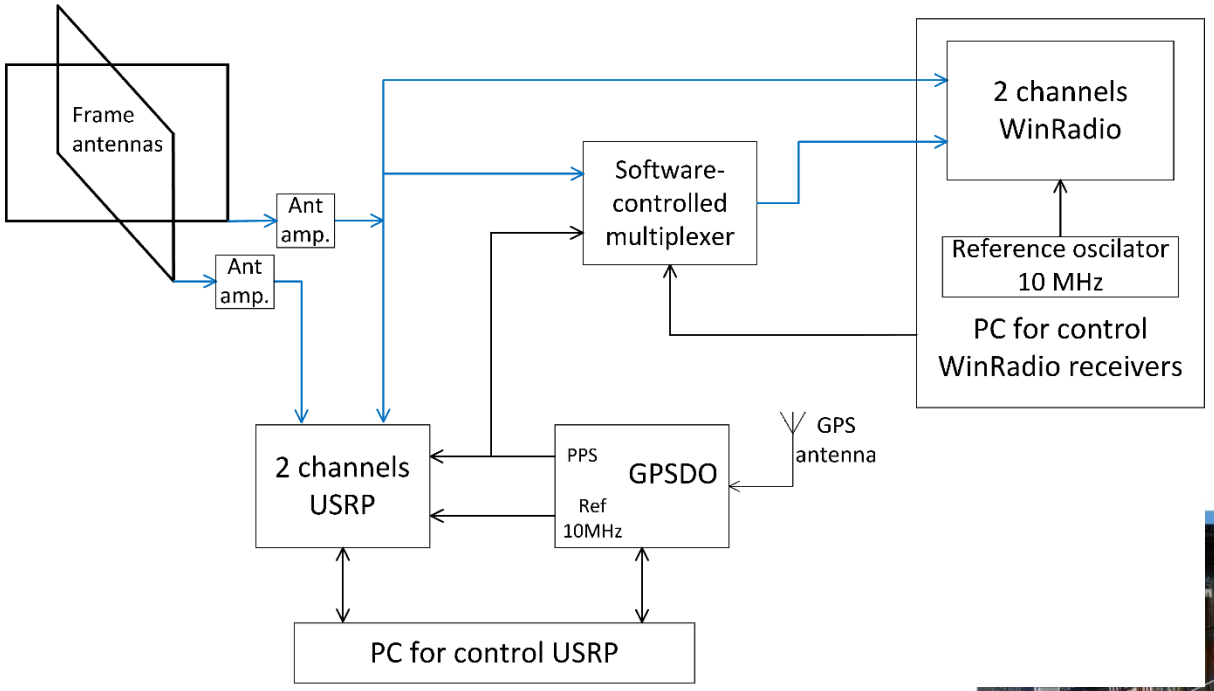
[1]Institute of Radio Astronomy of the National Academy of Sciences of Ukraine, Kharkiv;
[2]Space Research Centre of Polish Academy of Sciences, Warsaw, Poland
[3]State Institution National Antarctic Scientific Center, Ministry of Education and Science of Ukraine, Kyiv
[4] University of New Brunswick, NB, Fredericton, Canada

2023

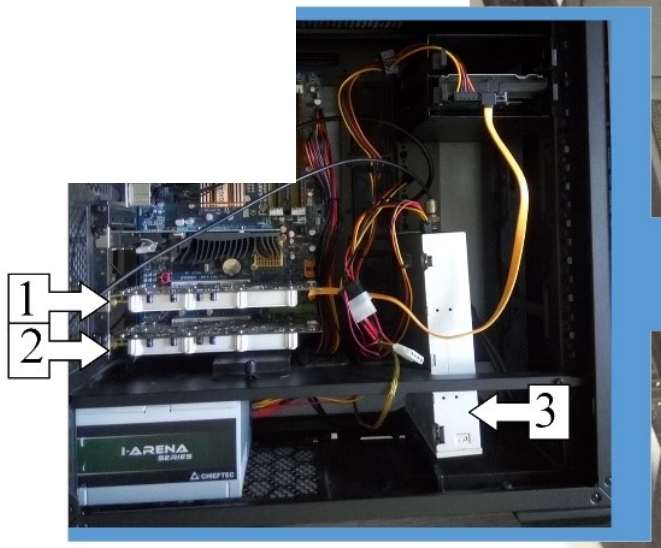
The network of internet-controlled doppler HF receivers

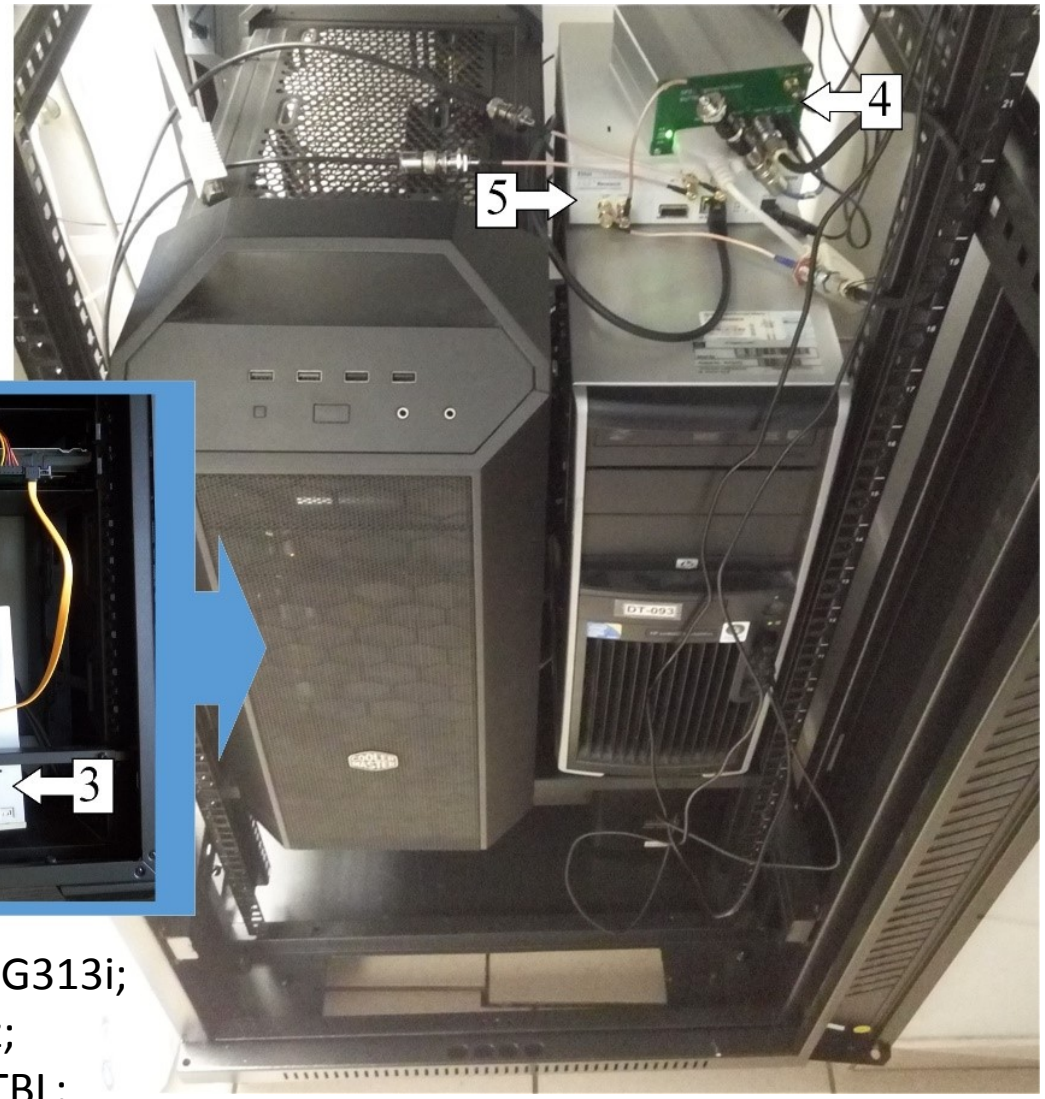


HF equipment. Borowiec, Poland



Digital HF receiver WR-G313i

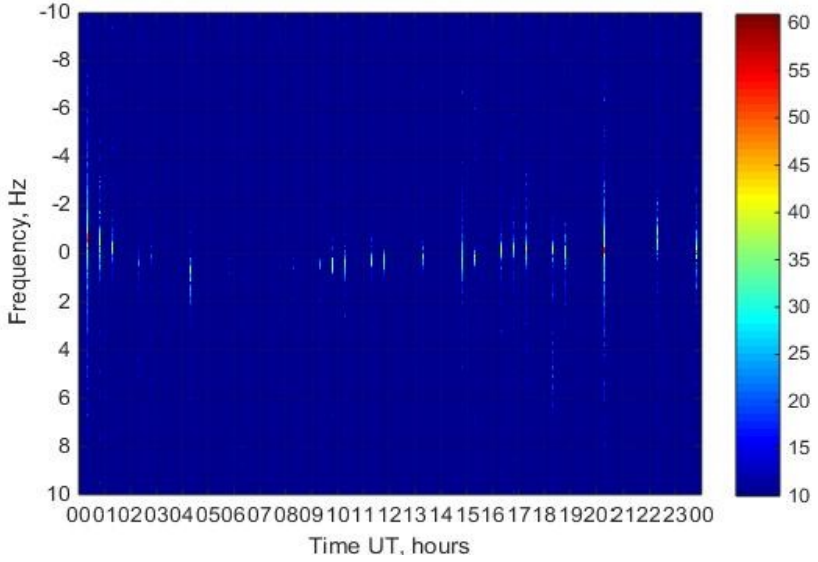


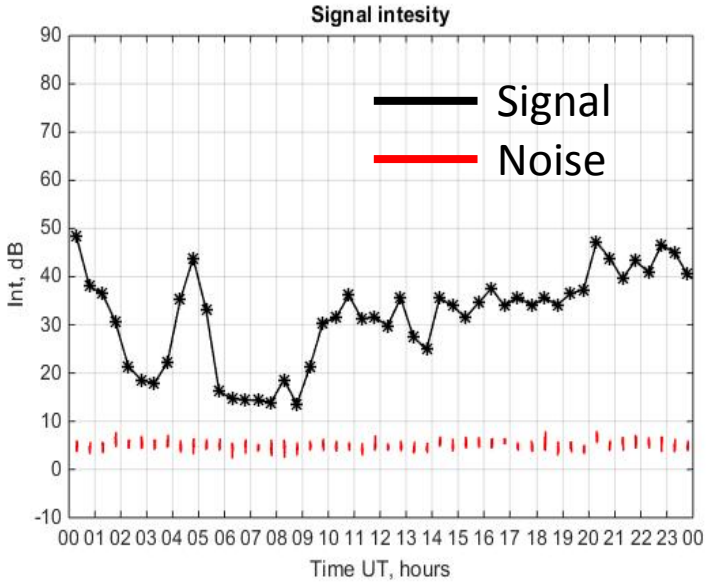


1, 2 – Digital receivers WinRadio WR-G313i;
3 – Oscillator reference 10 MHz;
4 – GPS disciplined oscillator BG7TBL;
5 – USRP N200.

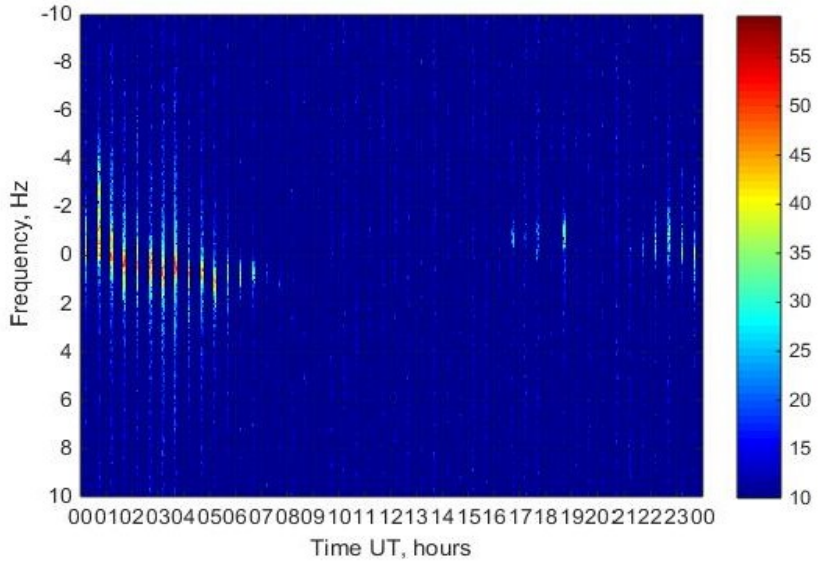
Test signal receiving in Borowiec

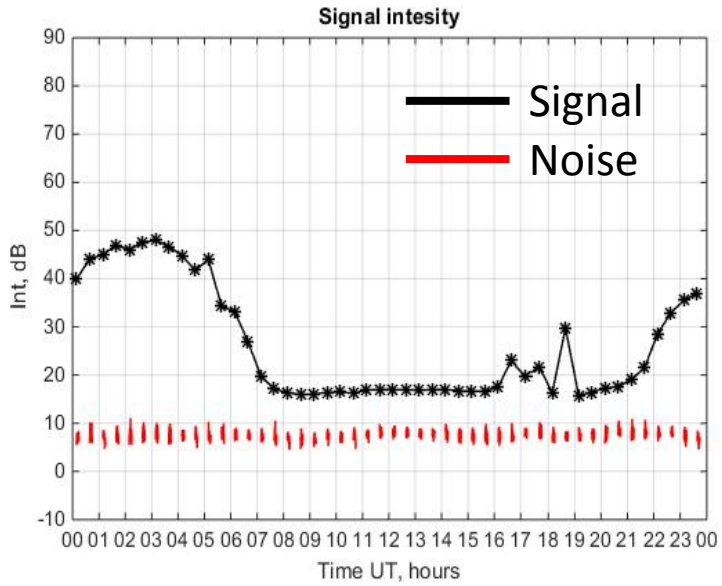
14.670 MHz



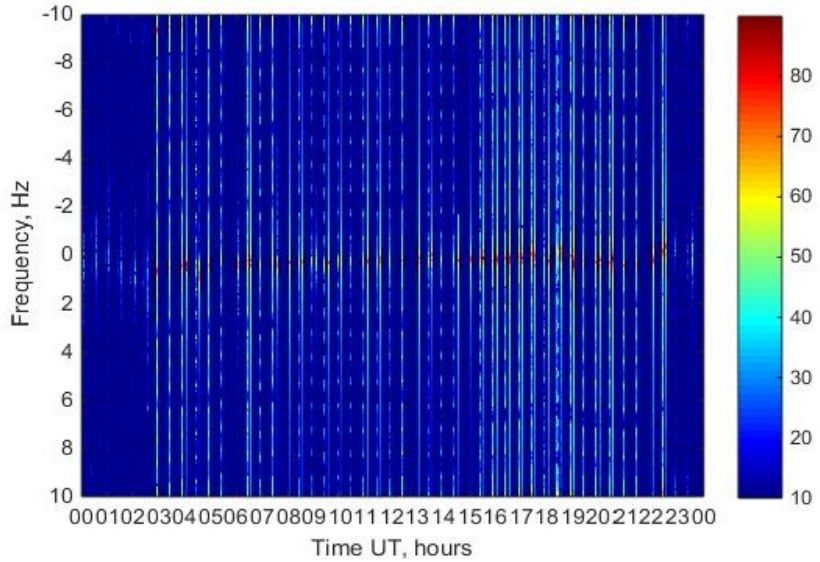


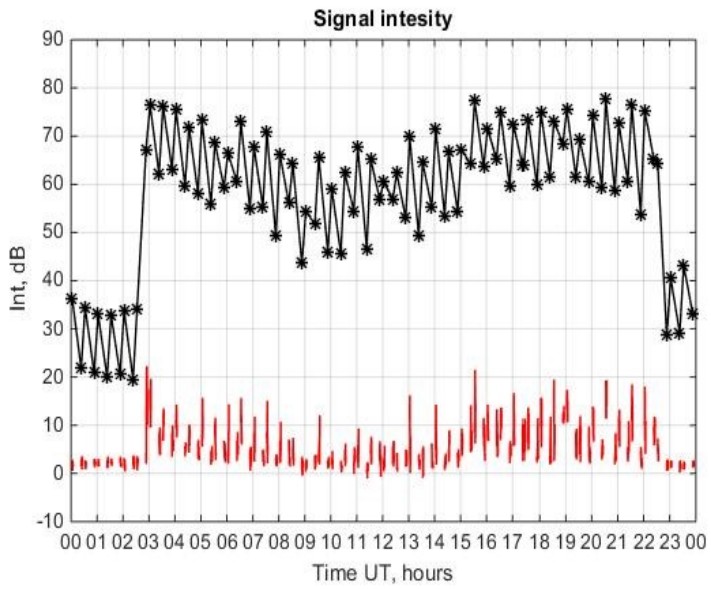
7.850 MHz



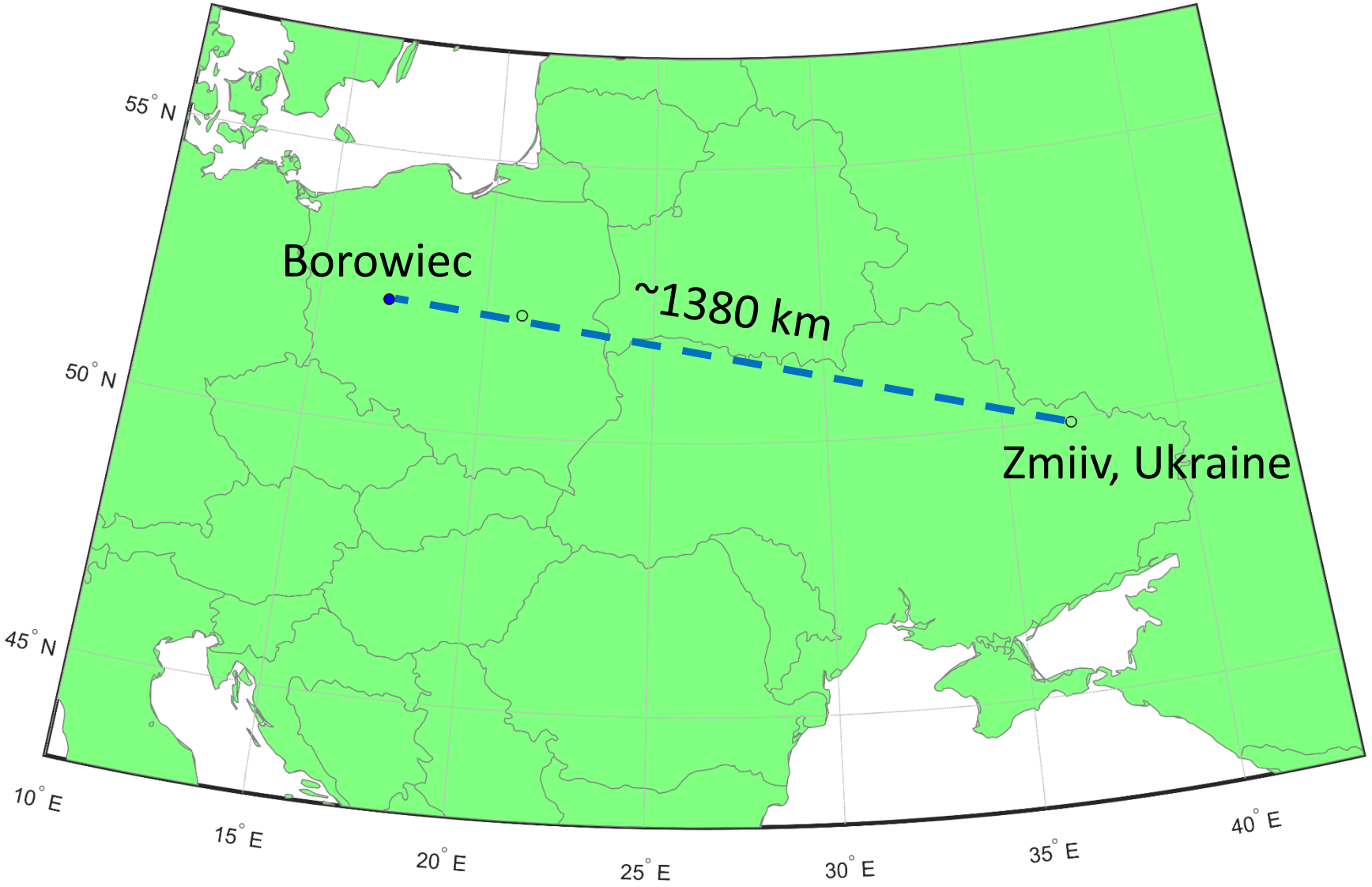


9.996 MHz



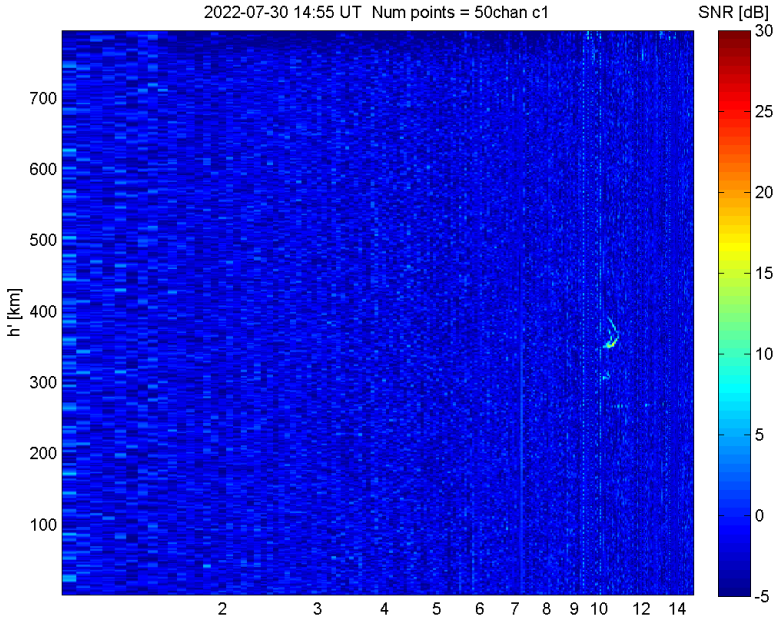


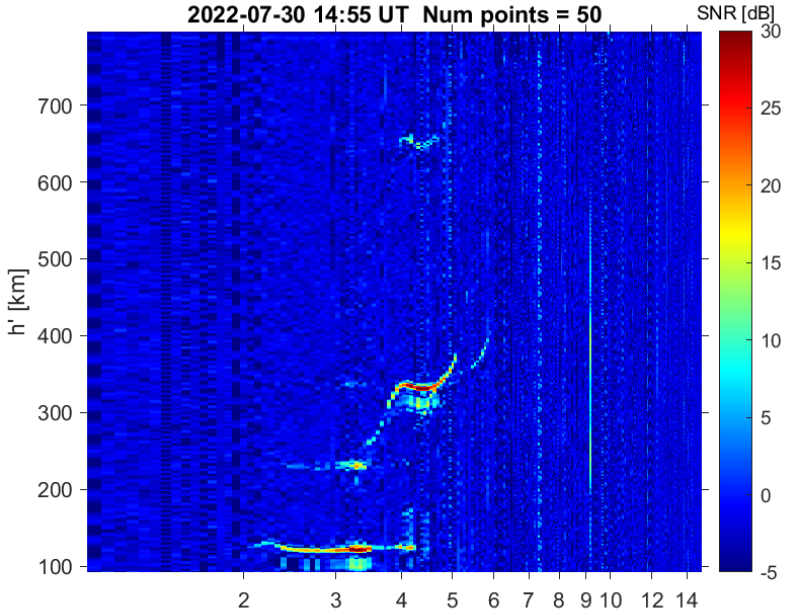
Test passive ionosonde in Borowiec



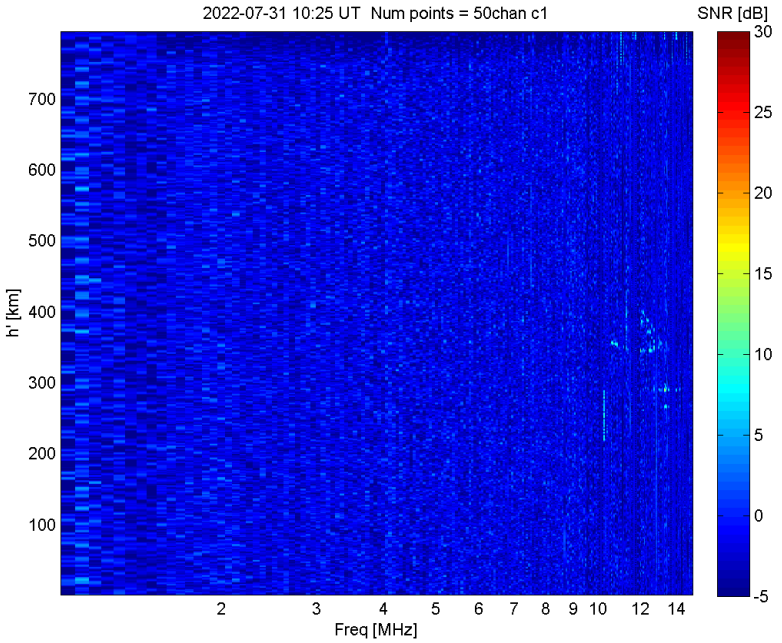
Test passive ionosonde in Borowiec

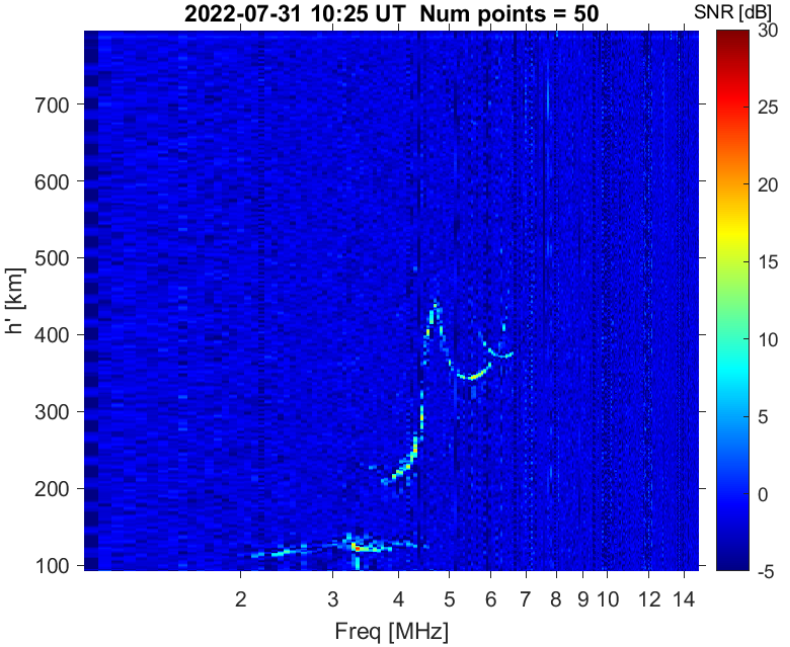
Borowiec





Zmiiv, Ukraine





The Central Database Storage

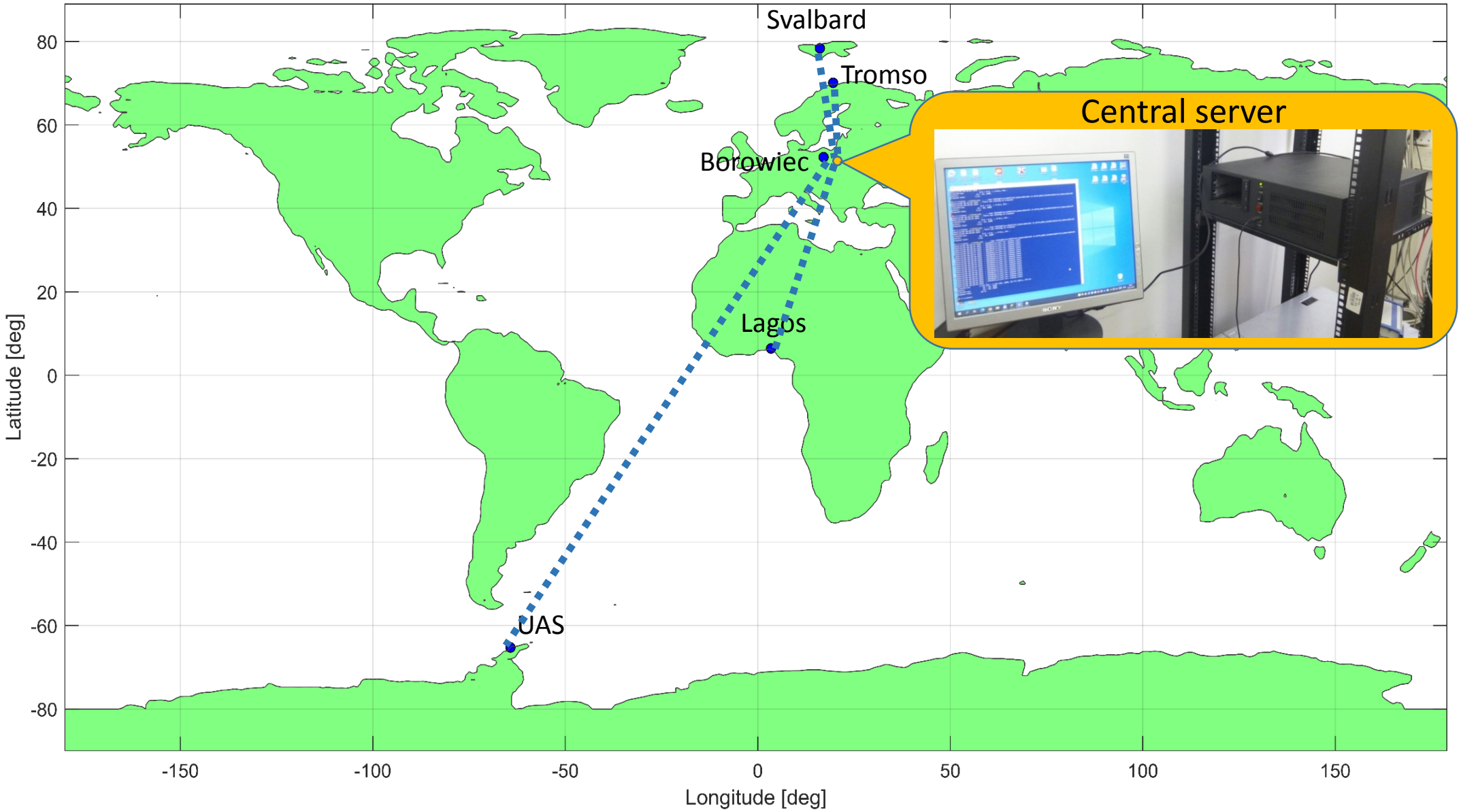


Diagram of data transfer with central database storage

geospace.com.ua

HF receiving site

HF receiving site

HF receiving site

Google Drive

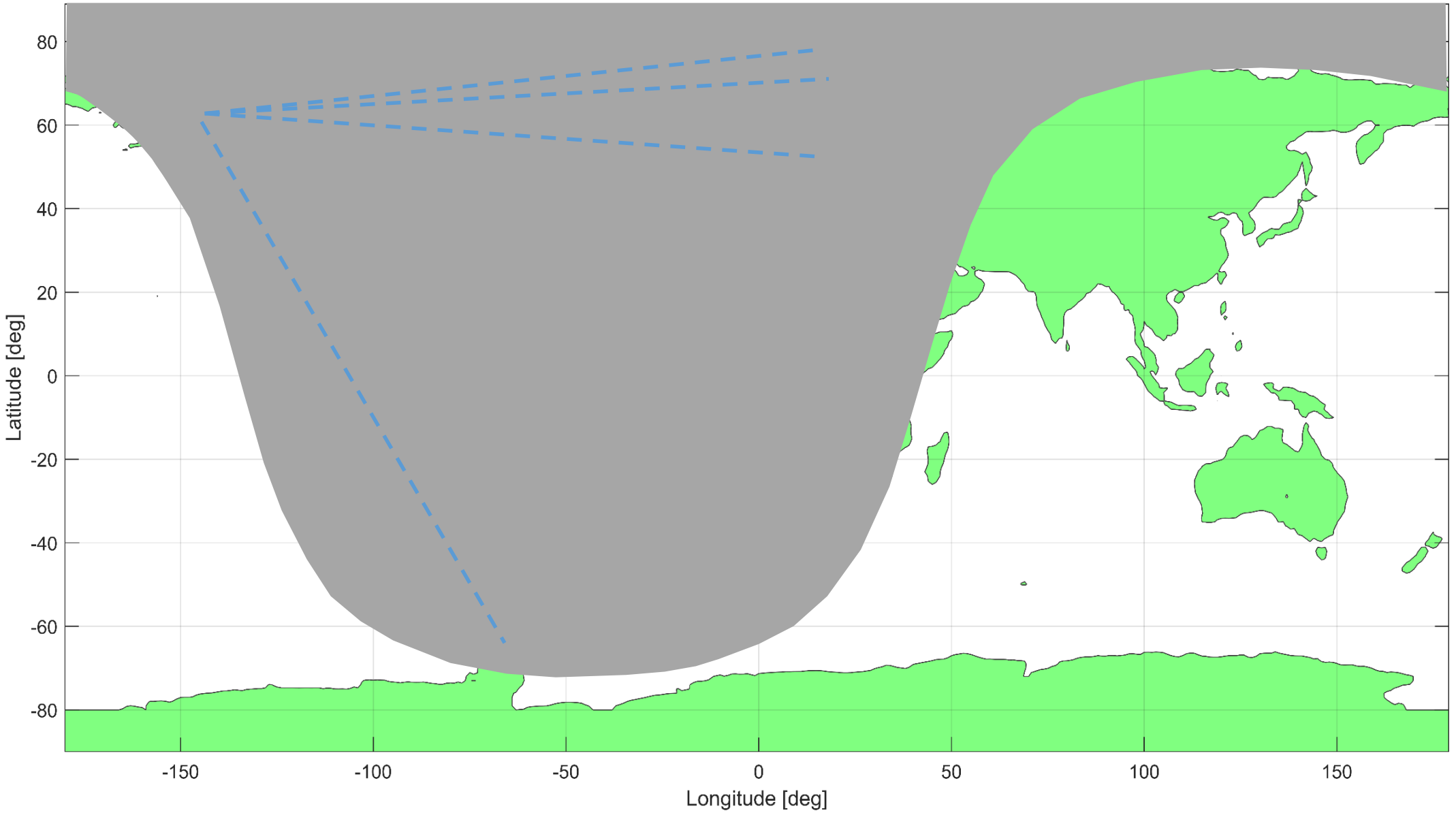
Central server

Database Storage

Remote control and access

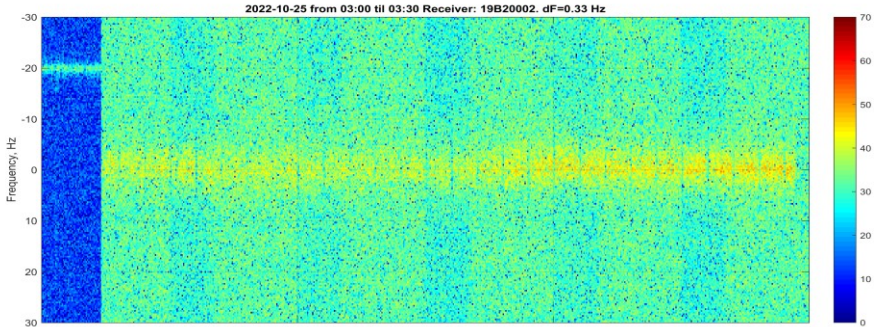
Preliminary results of HAARP heating campaign (18-28/10/2022)

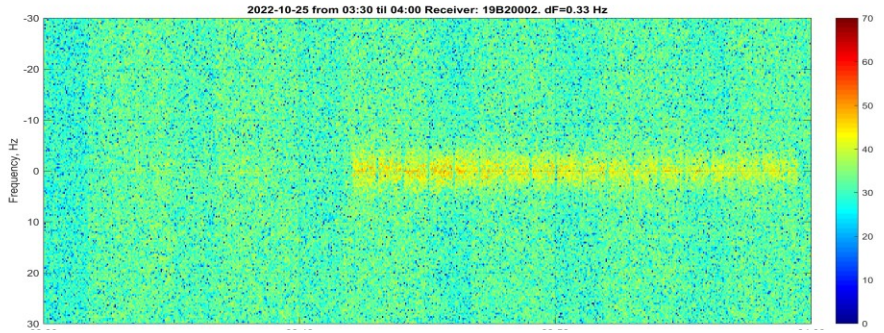
03:00 UT 25/10/2022



4.25 MHz

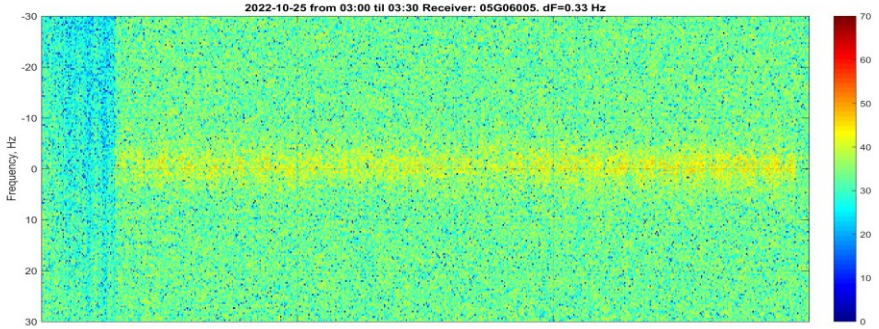
Borowiec

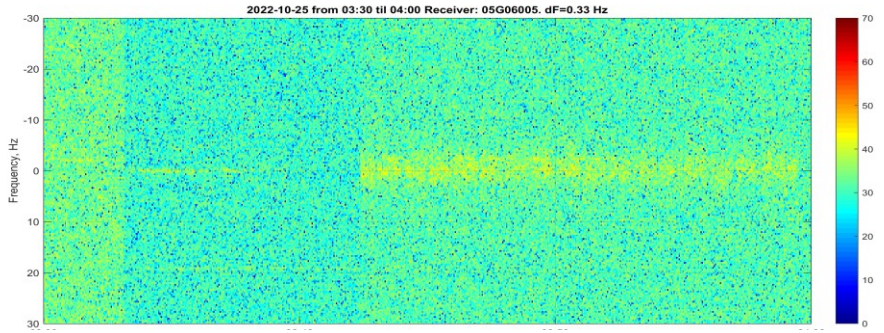




Borowiec

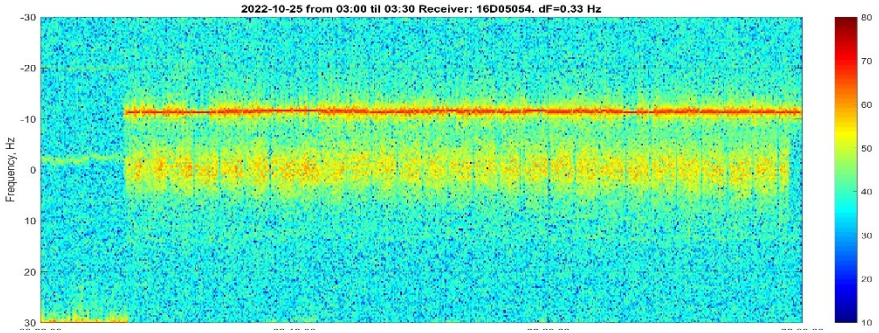
Tromso

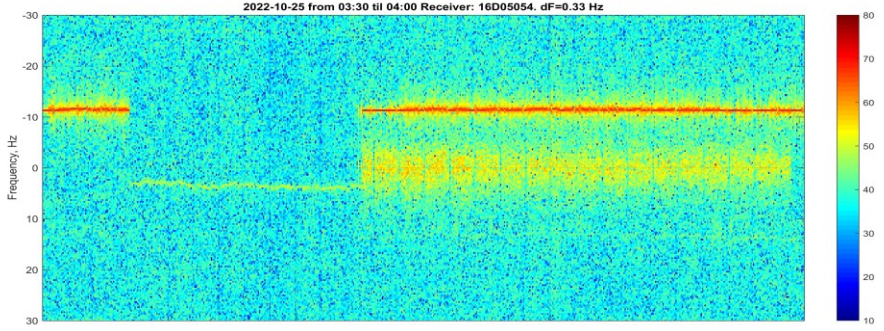




Tromso

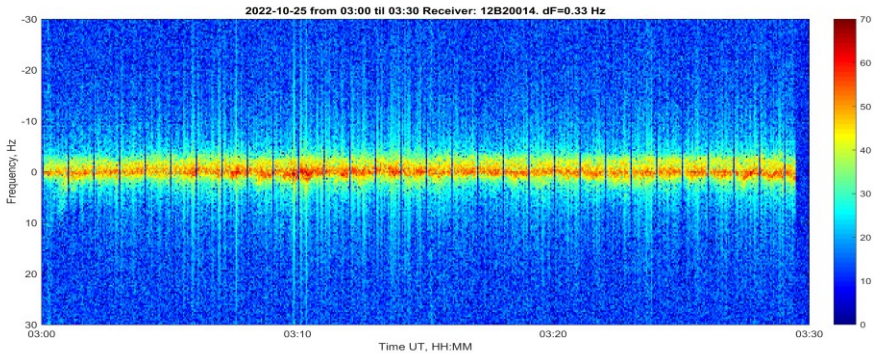
Svalbard

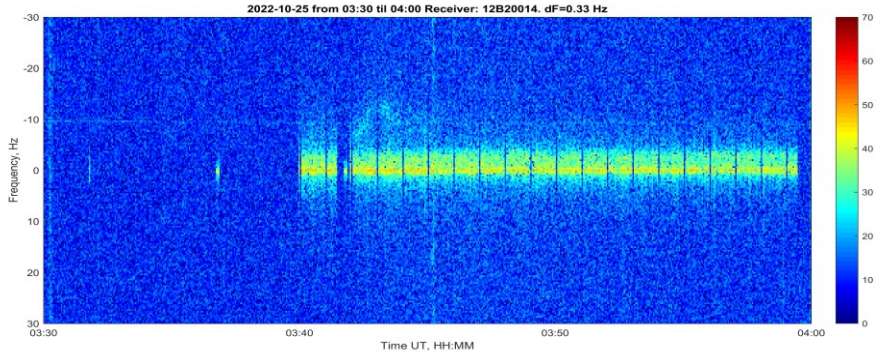




Svalbard

UAS

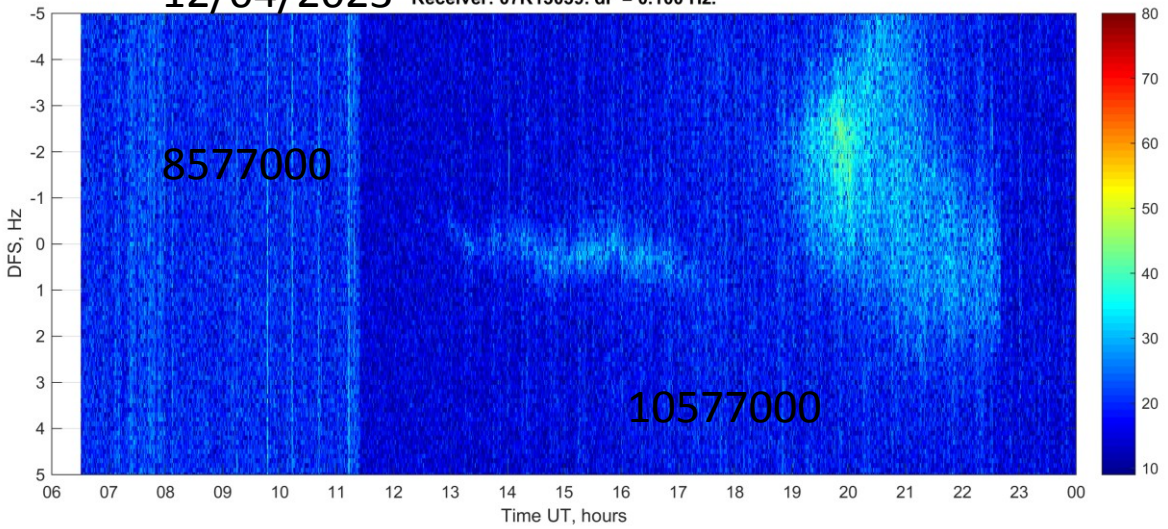




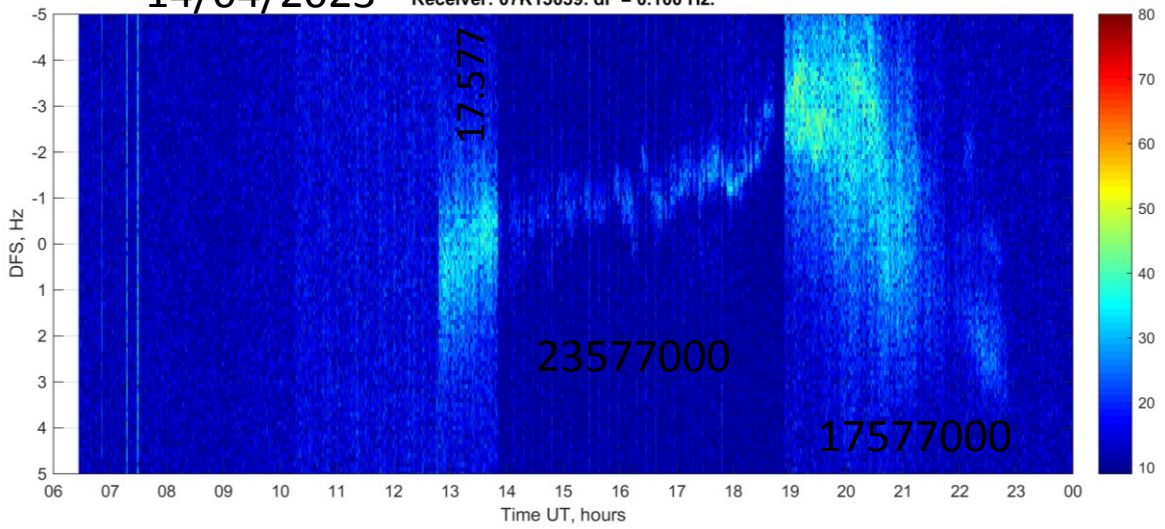
UAS

Received signal from UAS in Borowiec during Antarctic expedition

12/04/2023



14/04/2023



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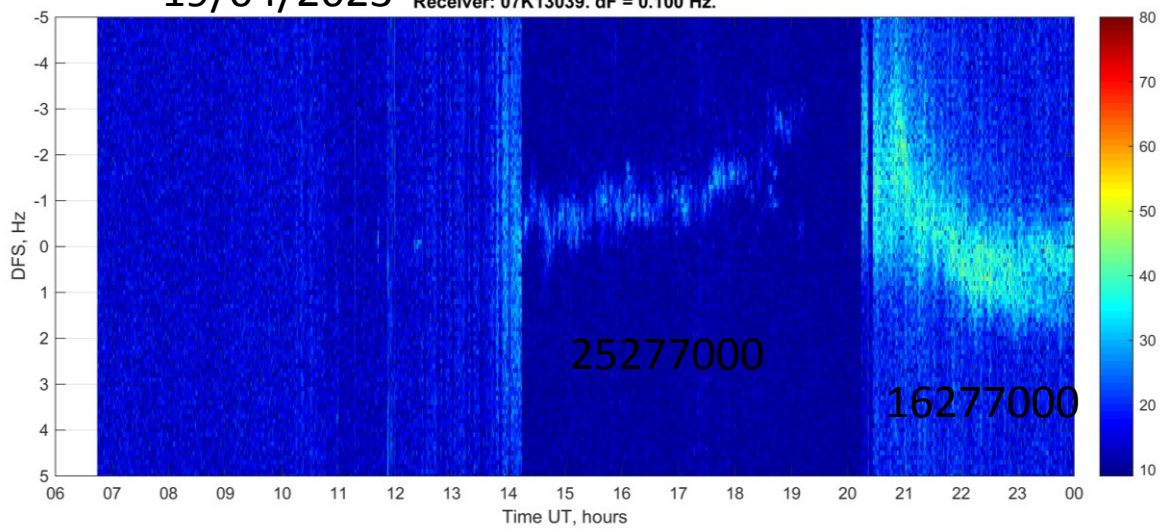

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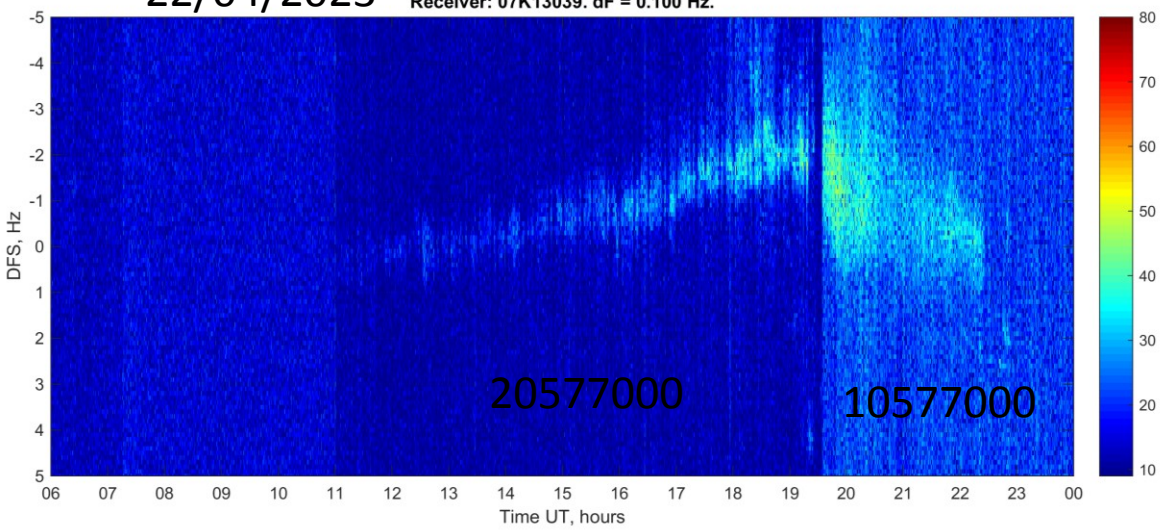

Thank you for attention!