Jurgen Vanhamel

Dr. (PhD) Msc. Ing. Jurgen Vanhamel

Bio:
- 46 years old
- Belgian citizen

- Assistant Professor @ TU Delft (the Netherlands), Faculty of Aerospace Engineering, Space Systems Engineering section
- Visiting Professor @ KU Leuven (Belgium), Faculty of Engineering Technology, Electronic Circuits and Systems (ECS) section
- Coach of Aether (student project: re-entry cubesat) @ KU Leuven (Belgium), Technovation hub vzw

Experience:
- Civil professor at Belgian Defence; electronics, avionics, antenna design, radar, transceivers, …
- Electronics Engineer @ Royal Belgian Institute for Space Aeronomy (BISA) for PICASSO cubesat mission, initial design of SLP (Sweeping Langmuir Probe)
- System Engineer @ BISA for ALTIUS-mission
- Programme Manager @ BISA for EnVision – VenSpec-H
- Development of NO_2-camera @ BISA (ground-based instrument)
- Development of ASPA @ BISA (ground-based instrument)
- Assistant Professor @ TU Delft
- Yearly guest lecture @ TU Berlin

- Collaborated in two space-contacts with astronaut Frank Dewinne , and one with Jasmin Moghbeli.

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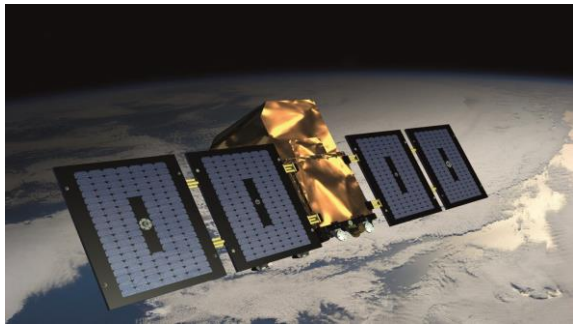
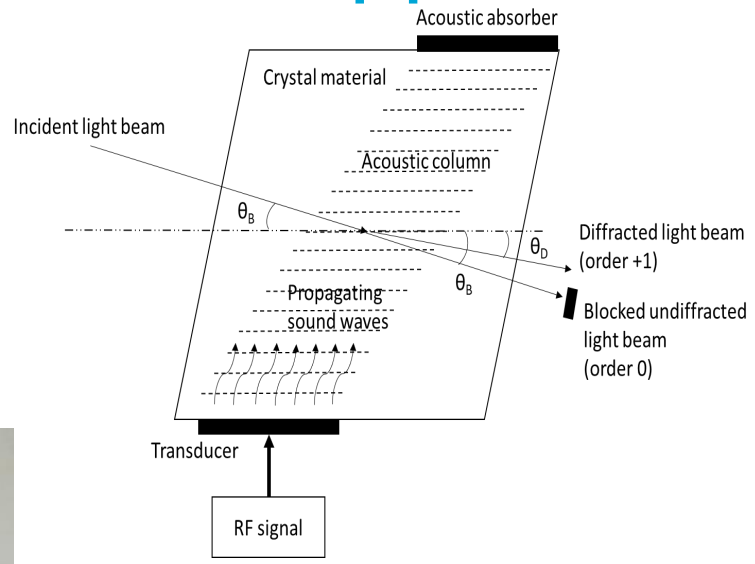
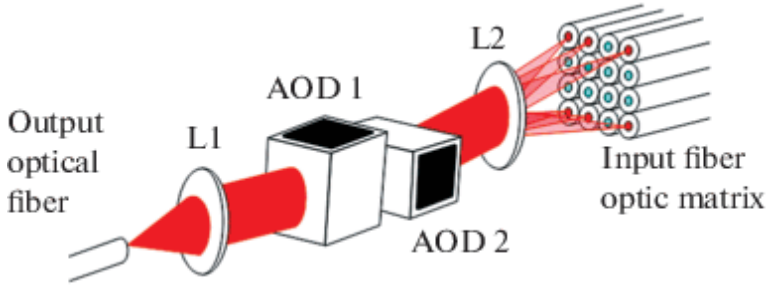
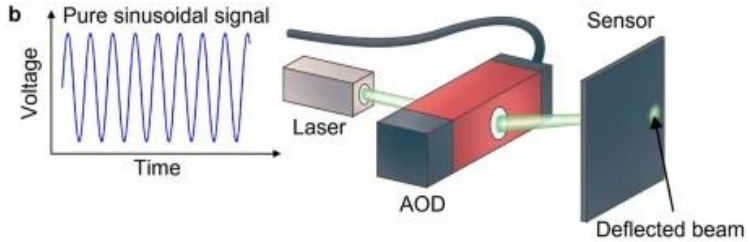
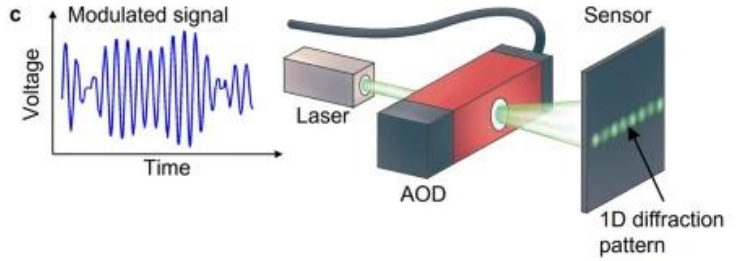
RF for driving AO devices and other applications





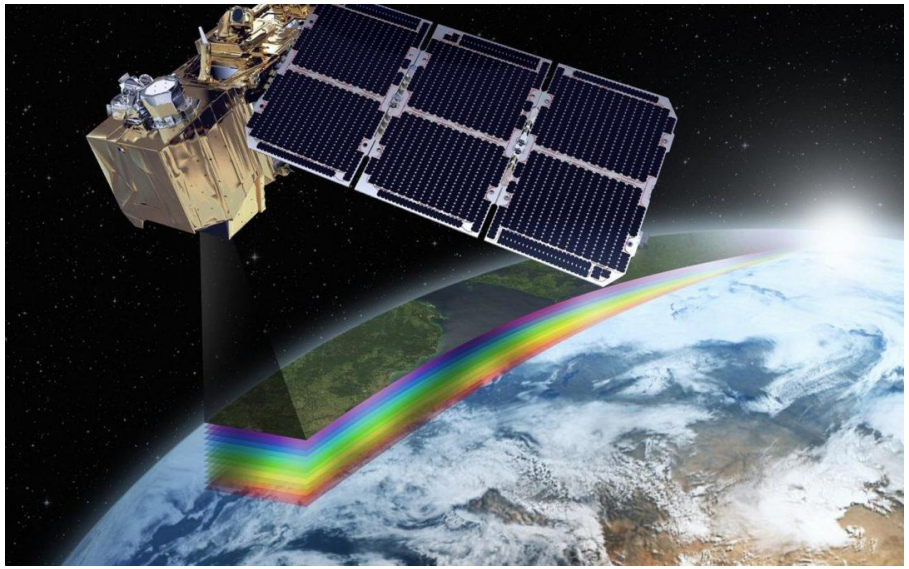


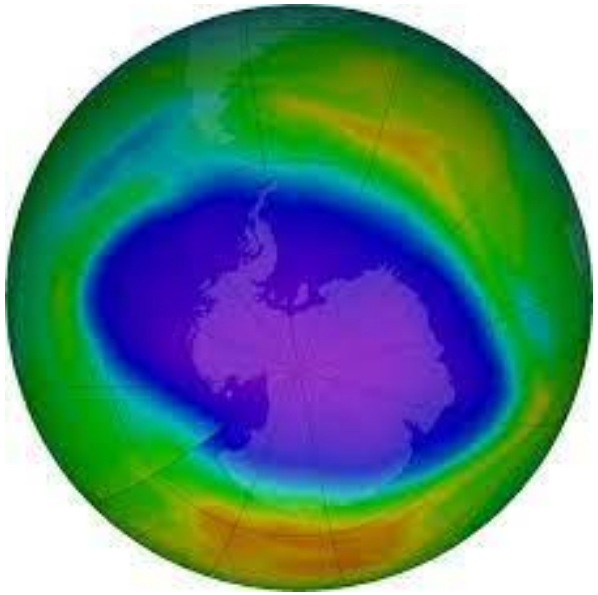


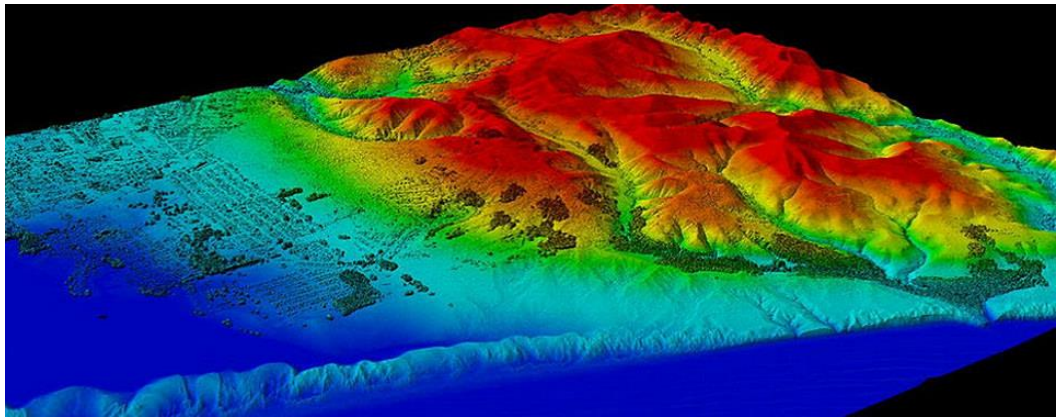


Usability

Used for remote sensing from ground/space







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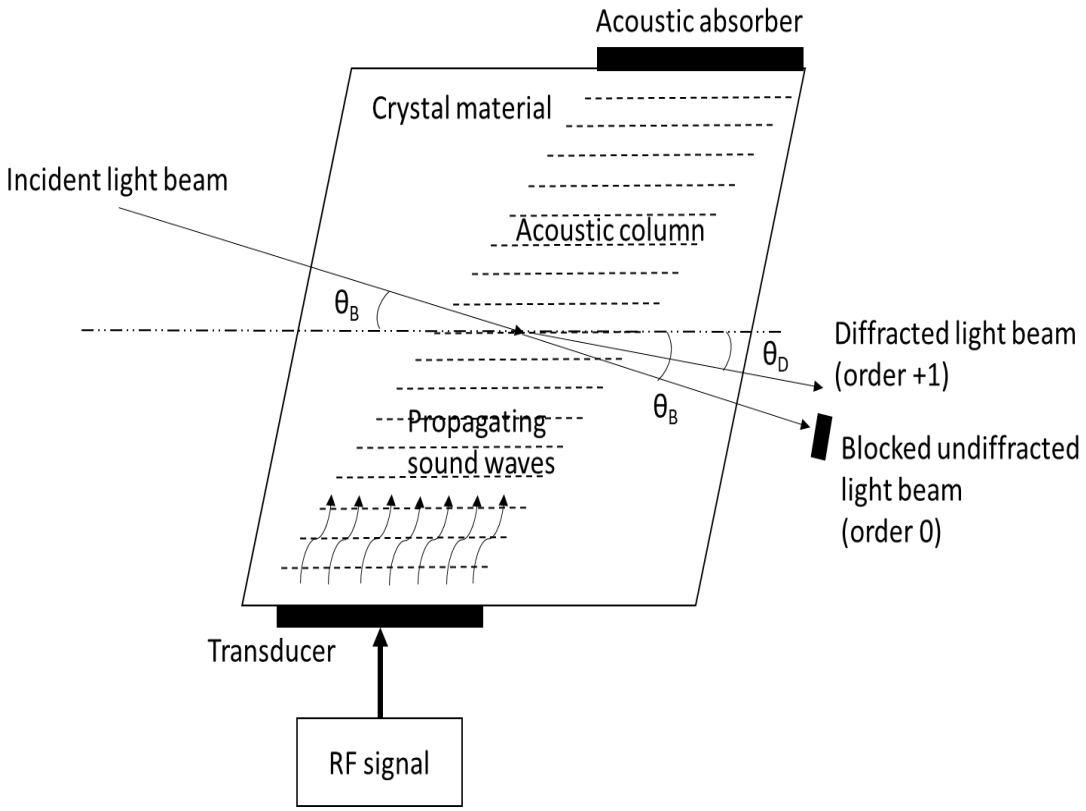
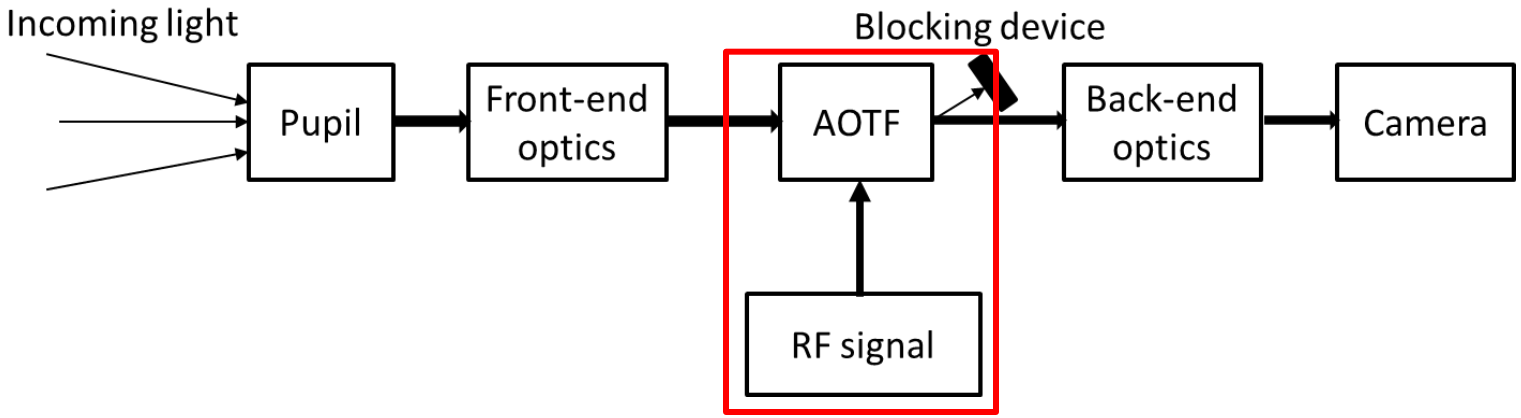
AO Setup





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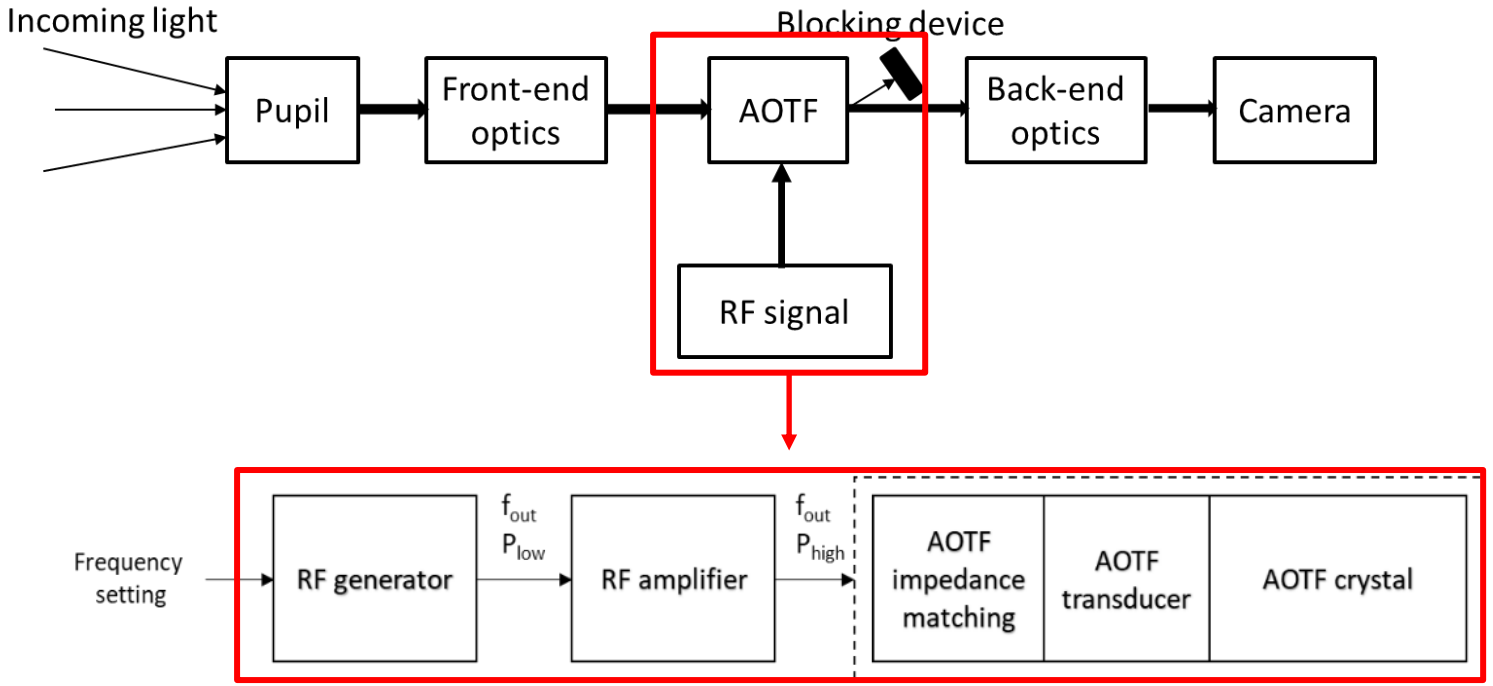
Miniaturization of the RF chain for AO devices



Design RF generator/amplifier:

- Space qualified
- Flexibility
- Miniaturize (volume + mass)

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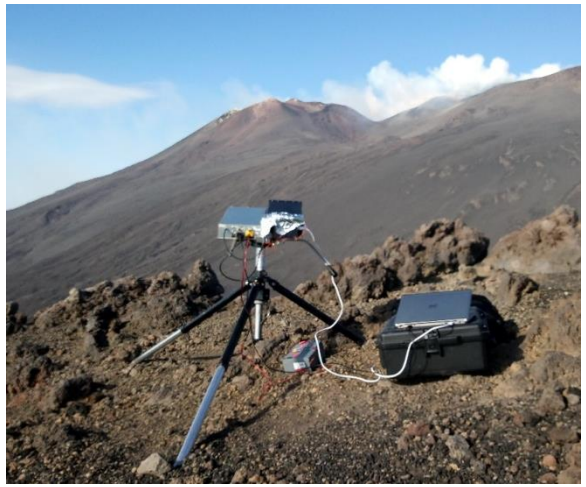
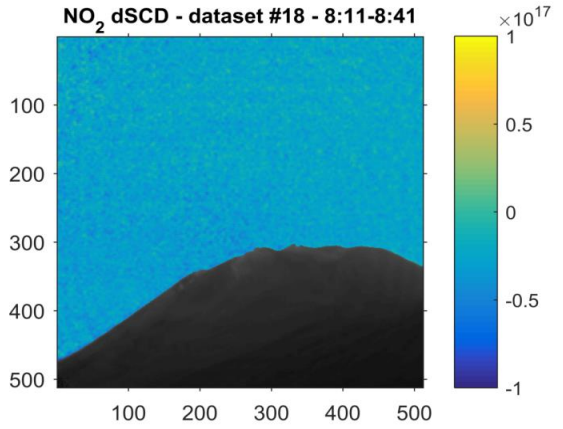
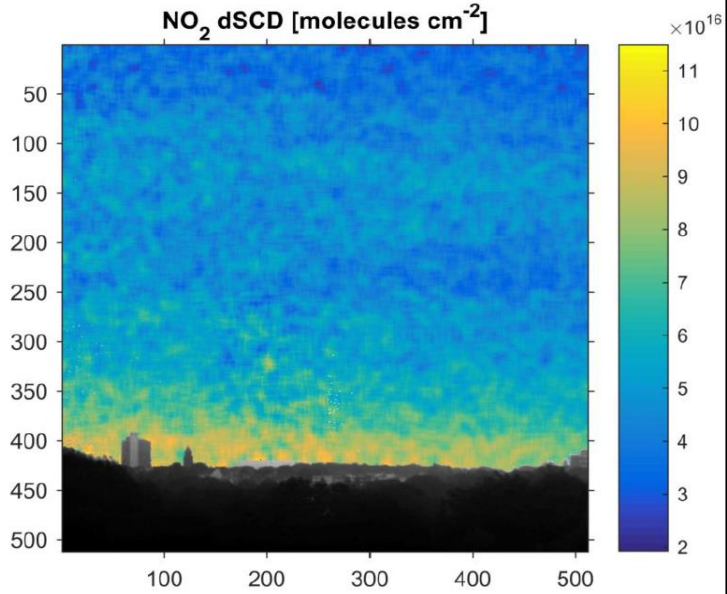
Applications

- NO_2 instrument
- Polarized auroral emission instrument
- Solar Spectral Irradiance instrument
- SO_2 instrument







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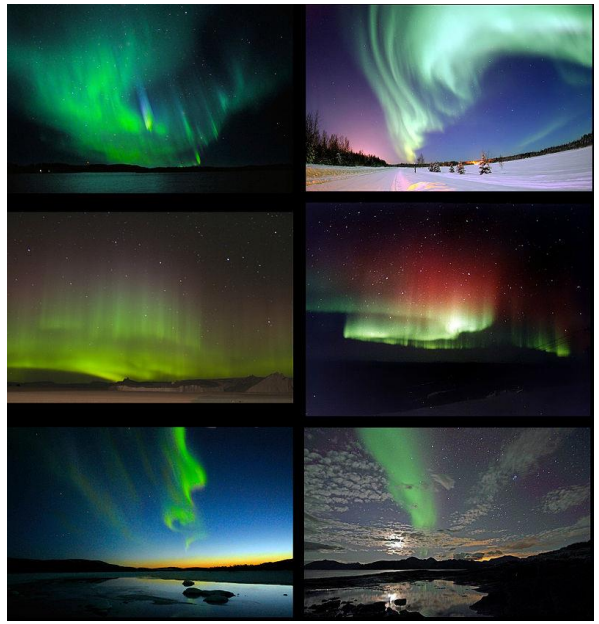

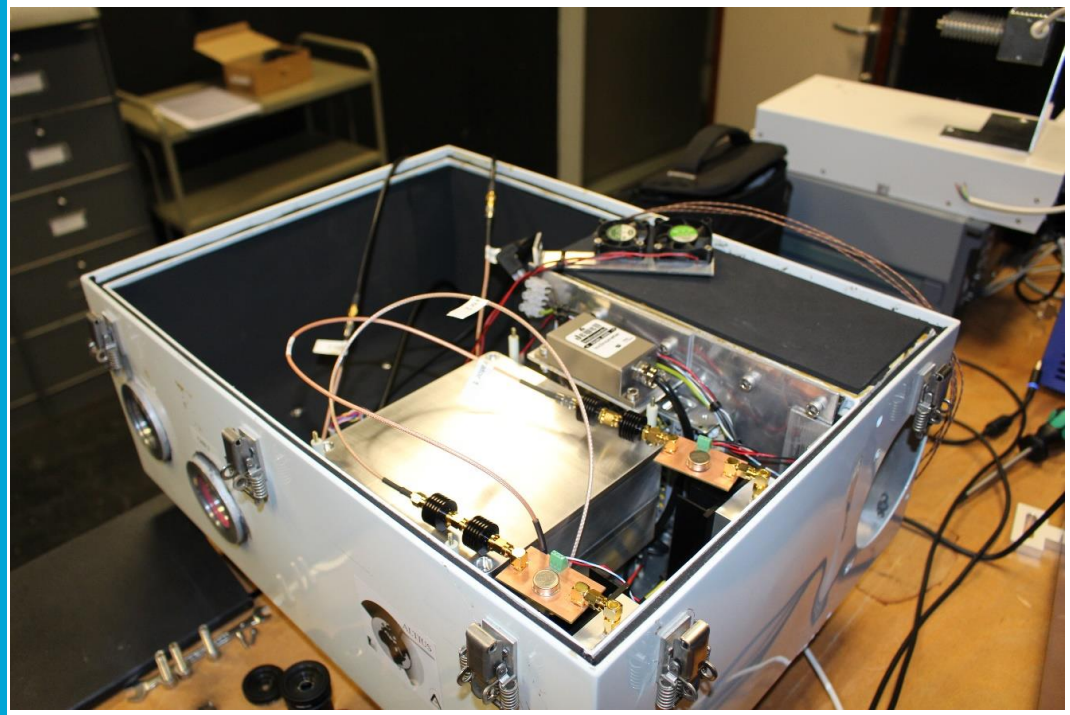

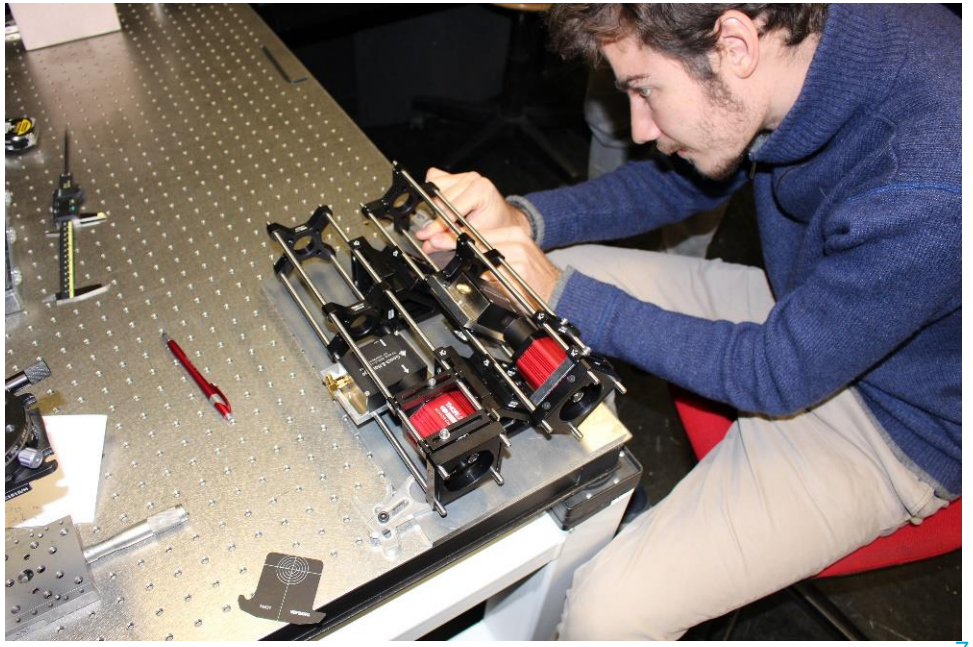

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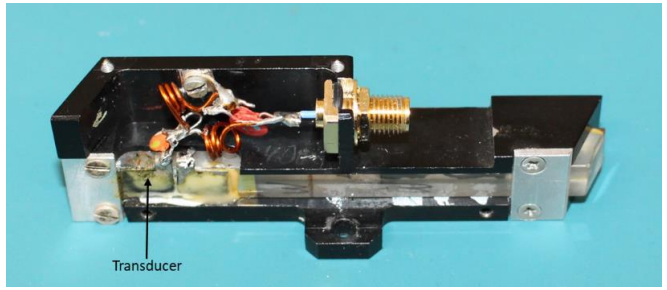
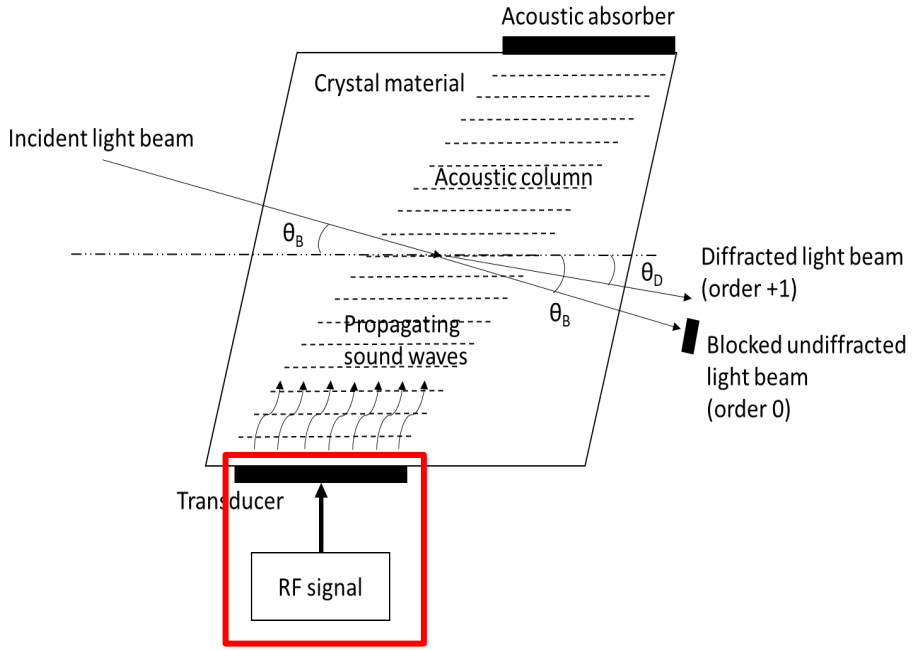
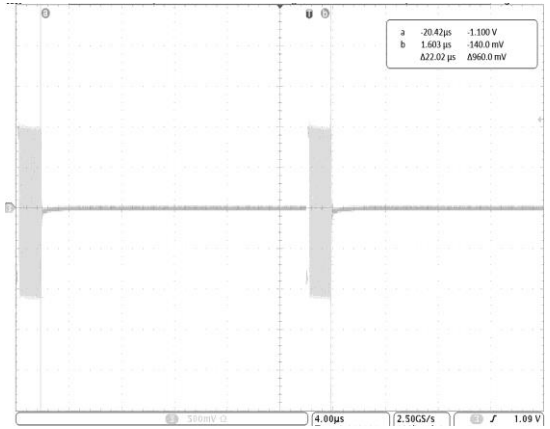
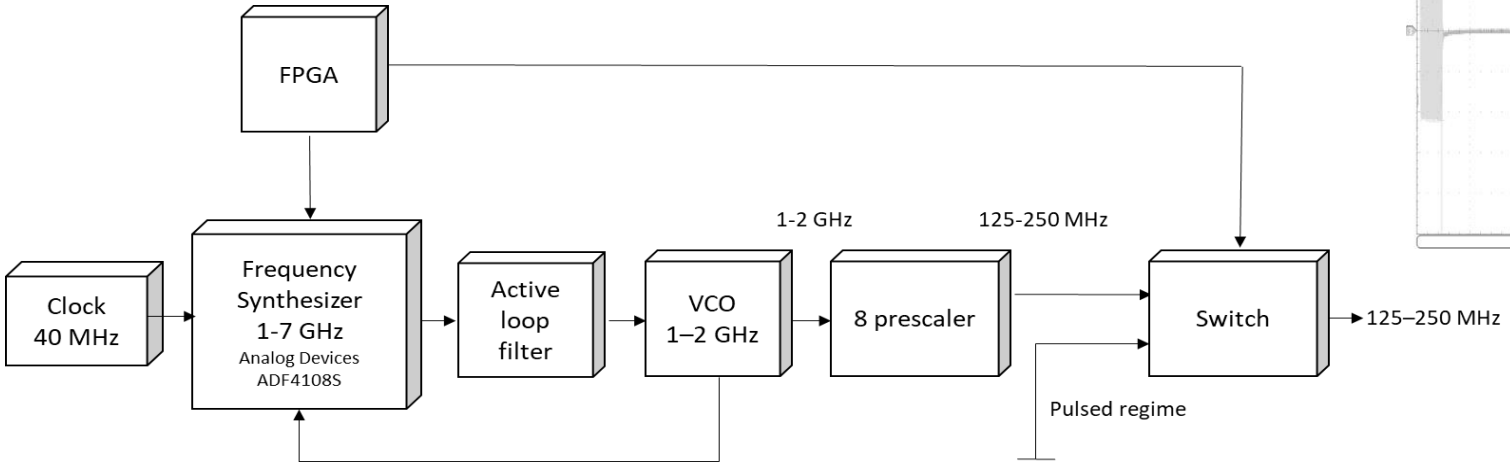


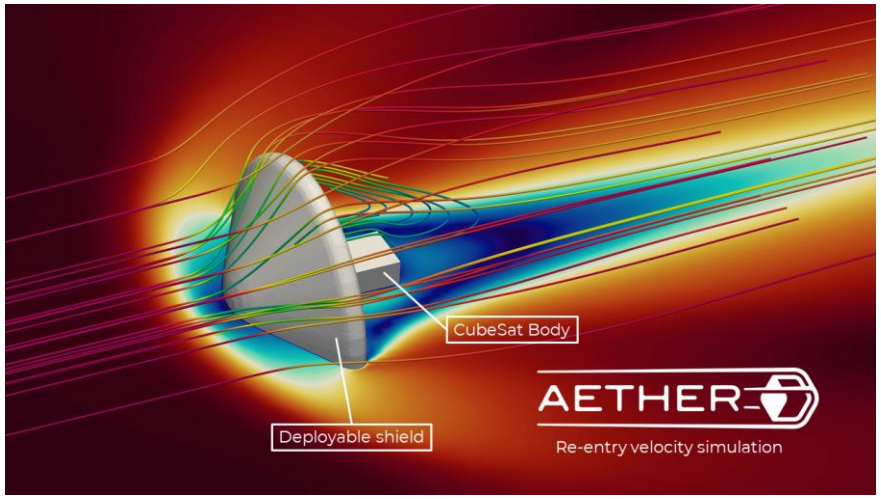


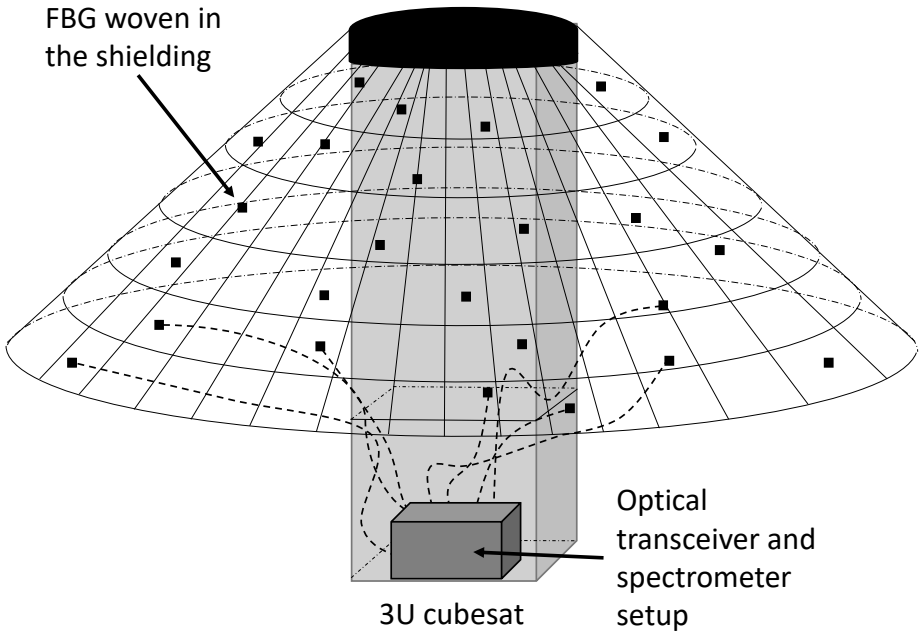


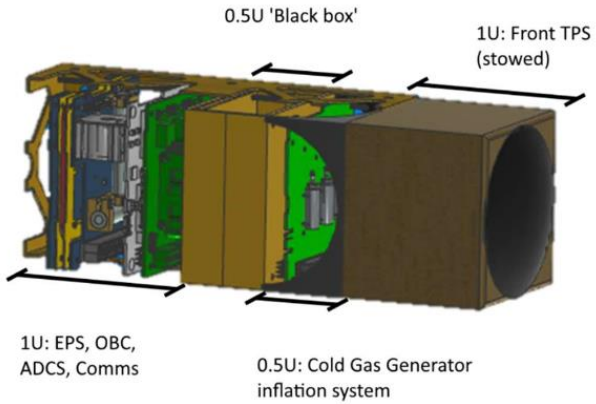


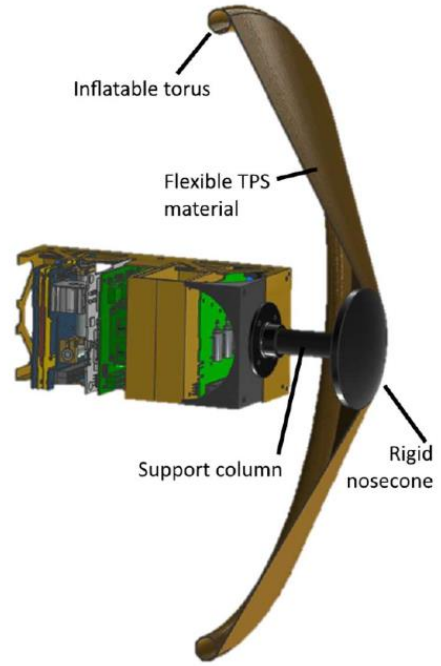
Applications

Aether project – reentry cubesat









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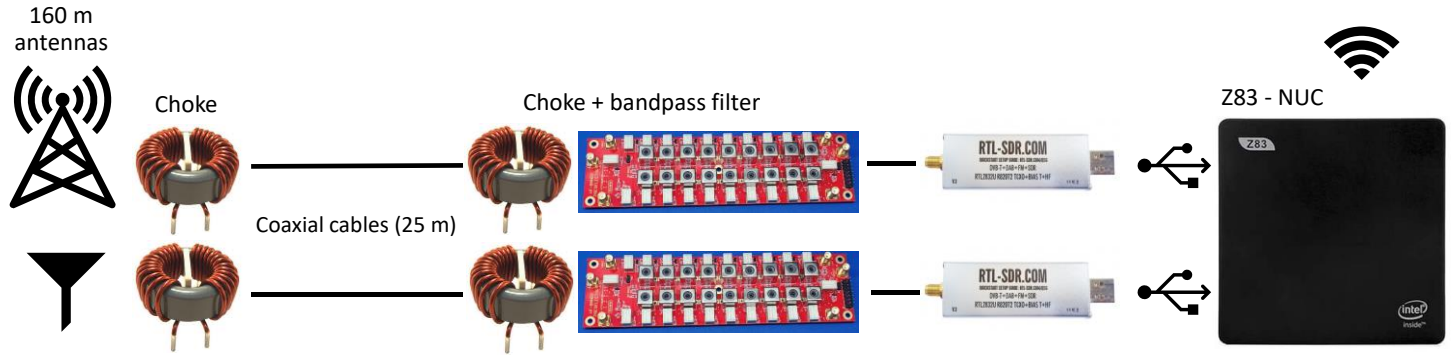
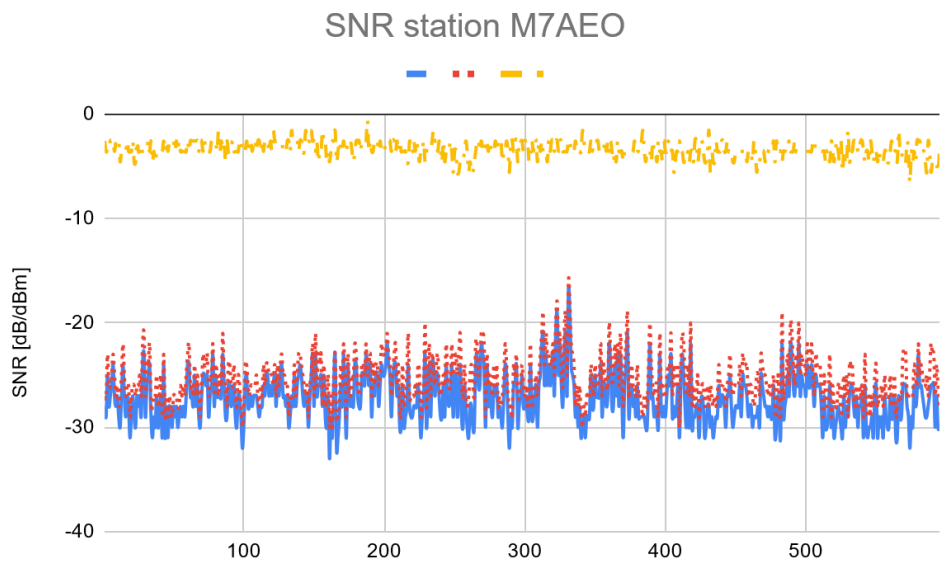
Space Weather

Using RF signals in order to monitor the status of space weather.

- ➔ Monitor status space- and ground-based technological infrastructure
- ➔ Investigate specific atmospheric behavior and variations (sporadic E, layer variation, etc.)





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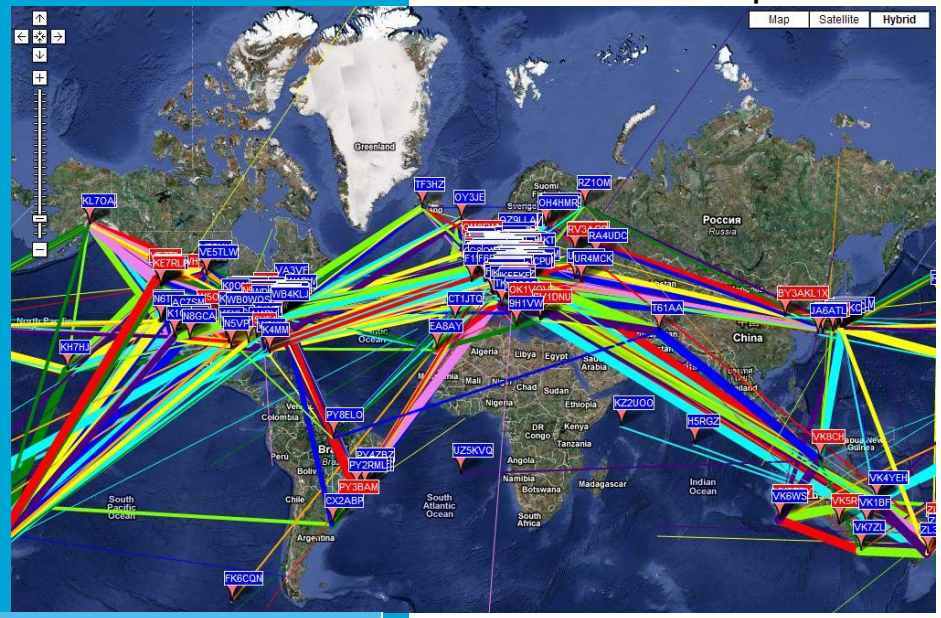
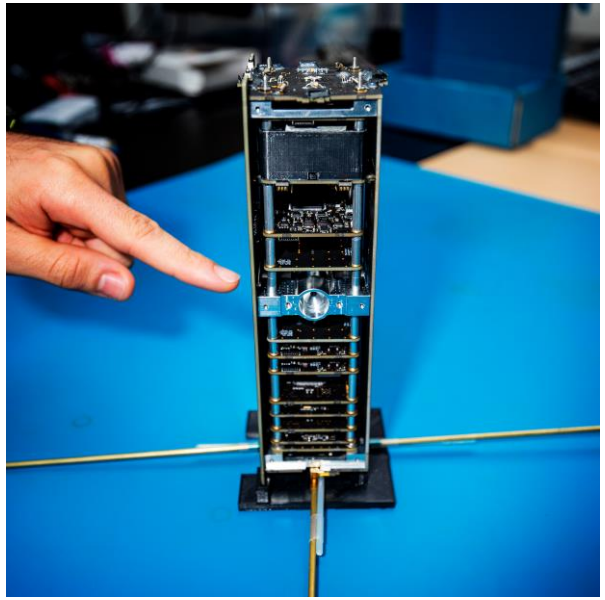
Space Weather

Using RF signals in order to monitor the status of space weather.

➔ Design specific instrumentation to monitor sporadic E (Delfi-PQ based approach)

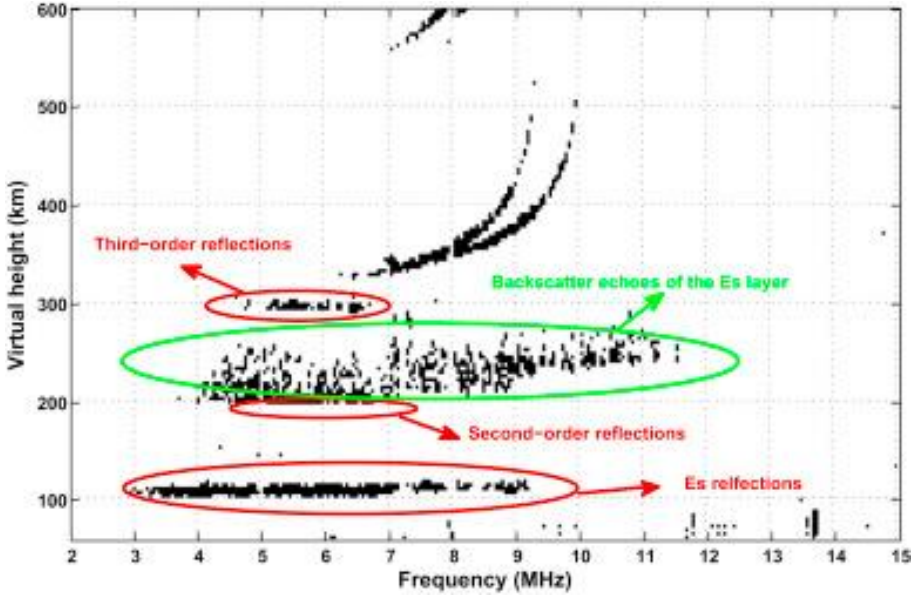
RABSII – Radio Amateur Beacons aboard a nanoSatellite for the Investigation of the Ionosphere





Challenges:

- Data analyses
- Signal reception ➔ database



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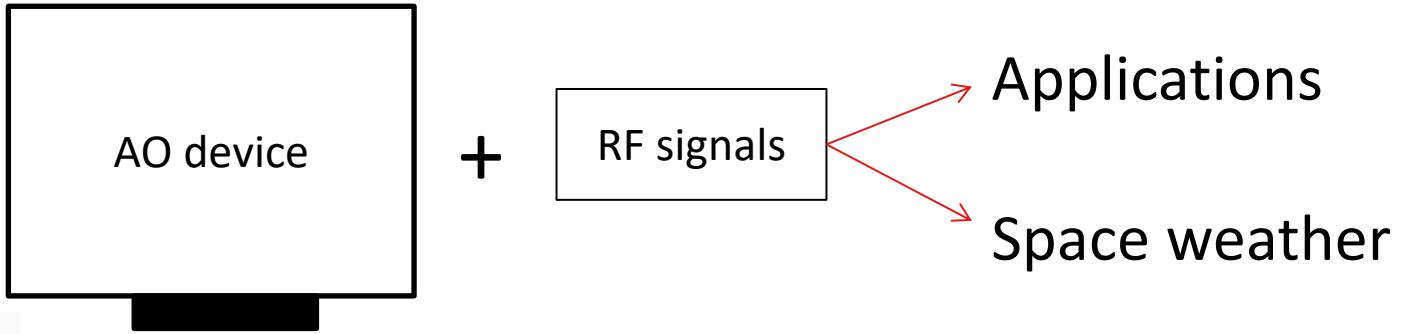
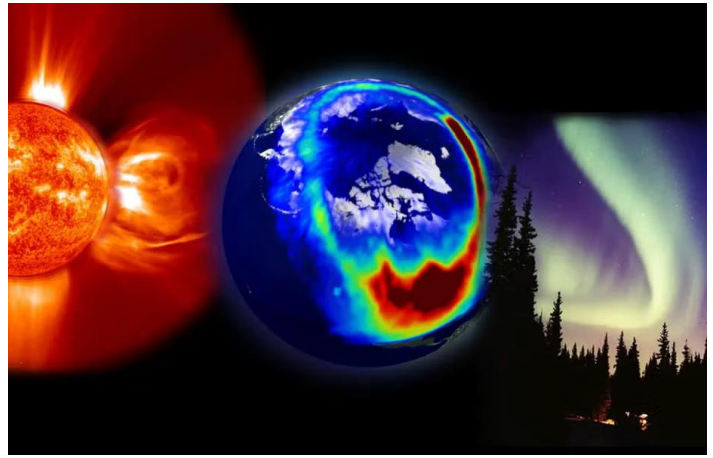
Future ideas





Contact details:

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