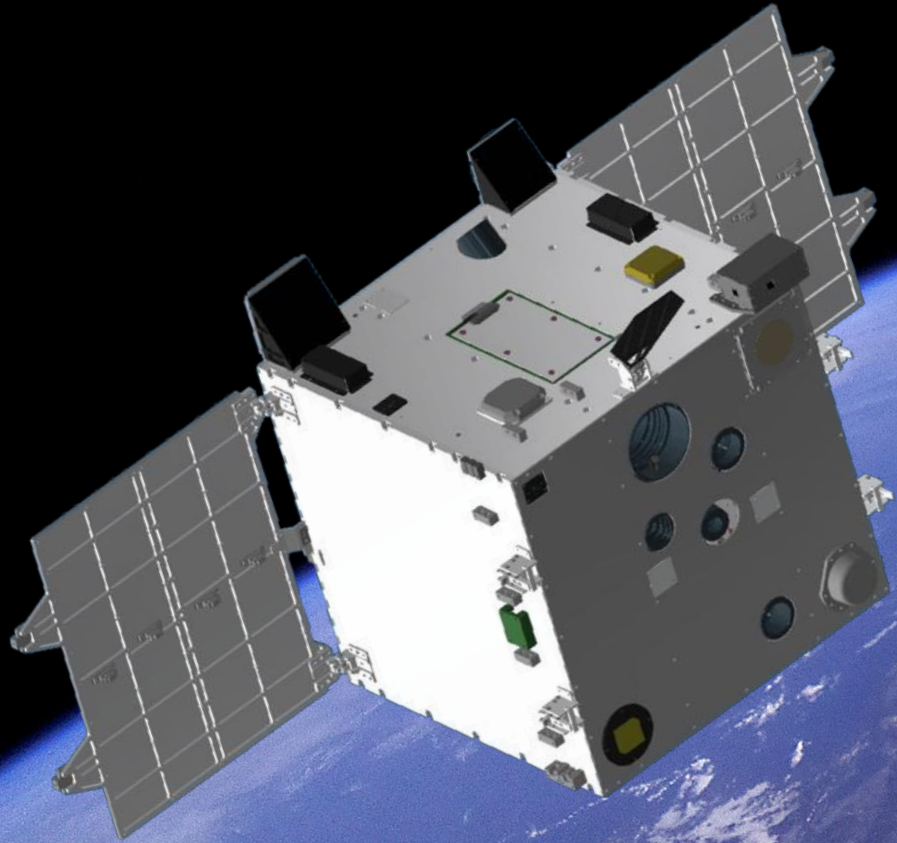


PETREL for Astrophysics and Carbon Business

Platform for Extra & Terrestrial Remote Examination with LCTF



Hirovuki Kobayashi

Kei Watanabe, Toshiki Ozawa, Kiyona Miyamoto, Yuki Amaki, Moe Yasuda, Keito Otsubo, Haruta Miki, Akihiro Tokuyasu, Daiki Kobayashi, Riku Nishio, Yusaku Ozeki, Katsuki Tashiro, Yusuke Arai, Ryo Saito, Asuka Ohira, Ryotaro Noto, Minori Fukuda, Yoichi Yatsu, Saburo Matunaga

(Tokyo Institute of Technology, Japan)

Hiroaki Kobayashi, Toru Nakano, Masashi Uo, Takashi Yoshikawa, Eriko Kusunoki, Yu Murata (I-NET Corp.)

Norihide Takeyama, Akito Enokuchi (Genesia Corporation)



Mission of PETREL Satellite

Earth Observation

Visible/Multi-spectral imaging



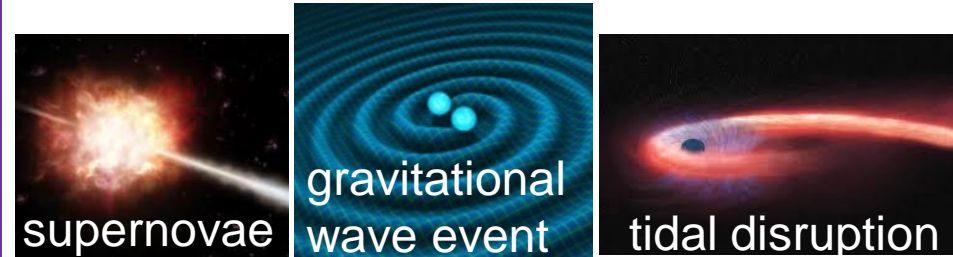
Multi wave length observation to monitor biological activity near coast.

Day Side

- Strip-map Attitude
- Spot-light Attitude
- Sun Oriented

Astronomical Observation

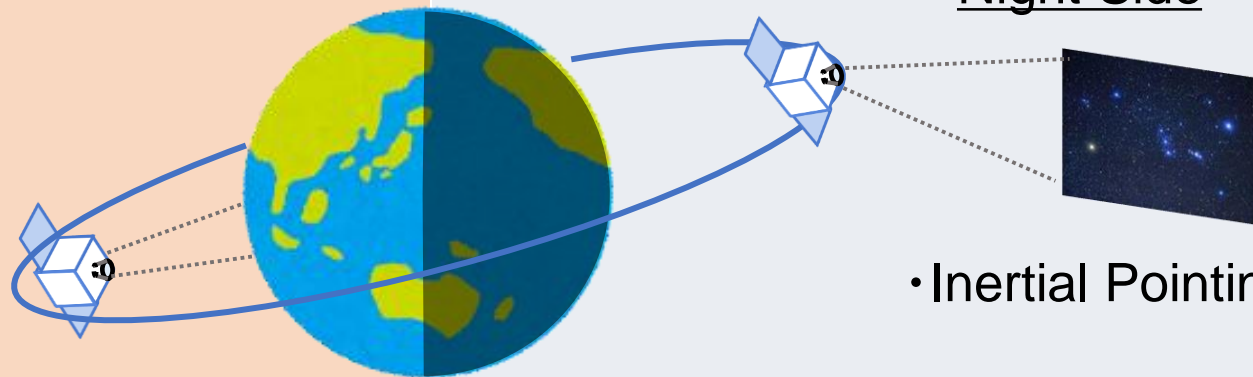
UV imaging (Transient Survey)



Transient event with short duration time. like supernovae, gravitational wave event.

Night Side

- Inertial Pointing



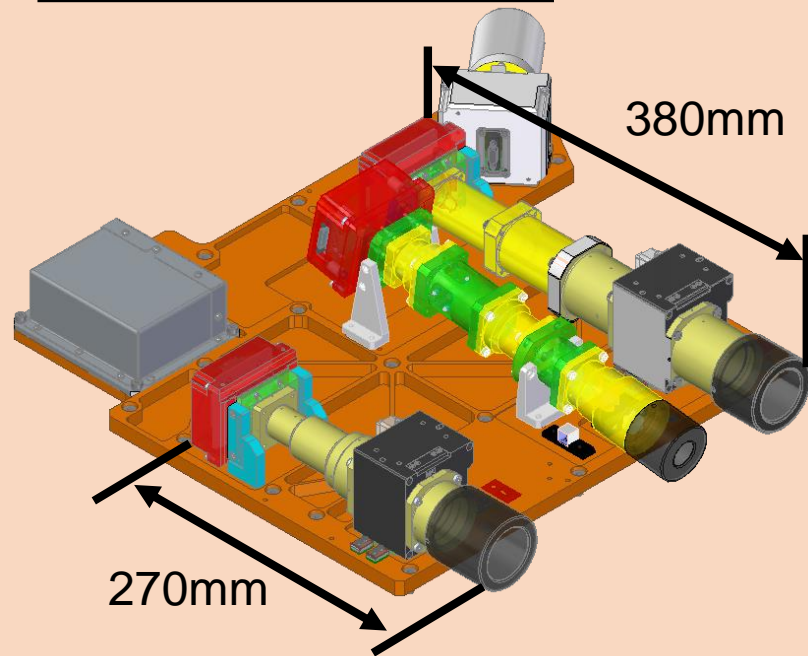
Different Attitude Control is required





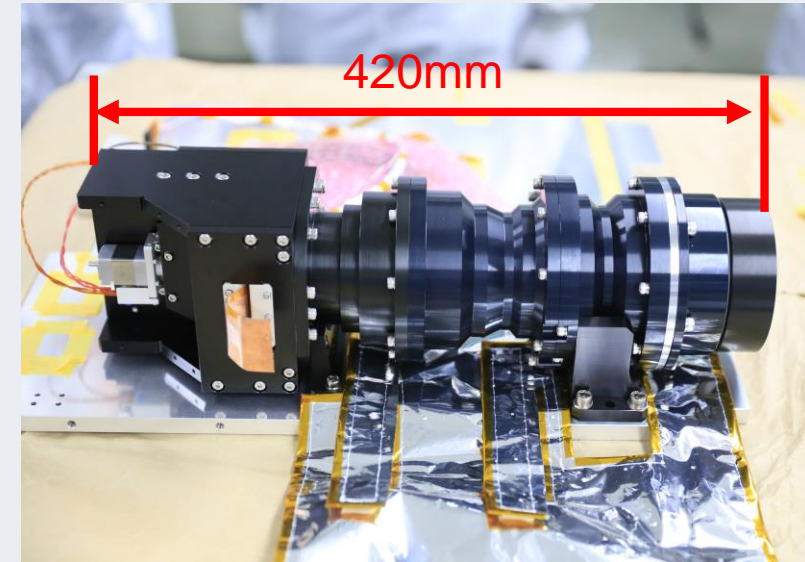
Mission Components

Earth Observation



- Multi Spectral Camera × 2
- Hyper Spectral Camera × 1

Astronomical Observation



- Ultra-Violet Telescope
(Required Temperature: $-20^{\circ}\text{C} \sim -40^{\circ}\text{C}$)

These Requirements are so hard.



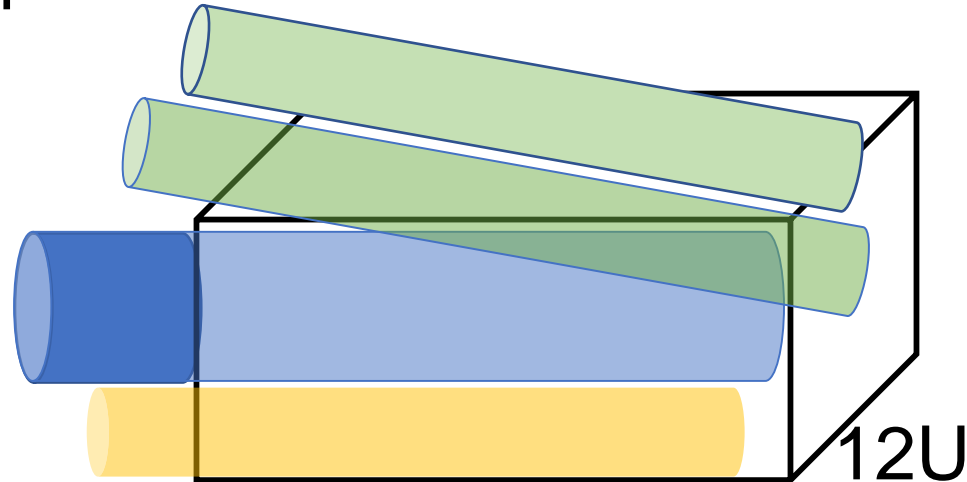


Mission Components

Earth Observation

Astronomical Observation

What's happen??



In addition

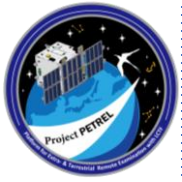
- Some placement requirements (FoV, Radiator, etc..)
- Different attitude control requirement
- A lot of camera data



20°C ~ -40°C)

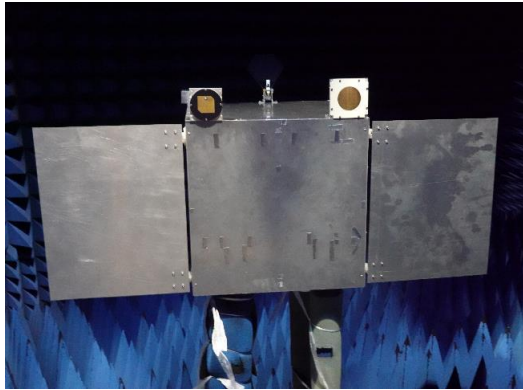
These Requirements are so hard.



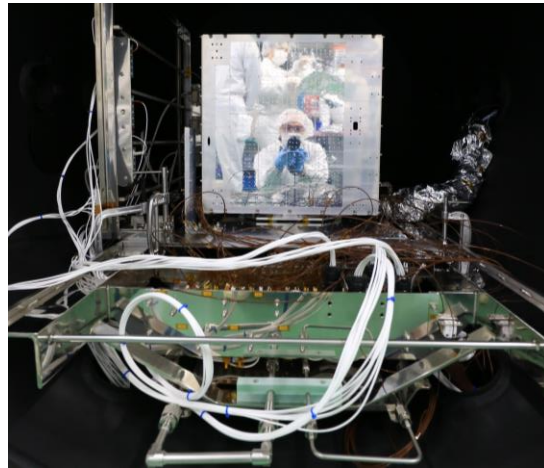


Development status

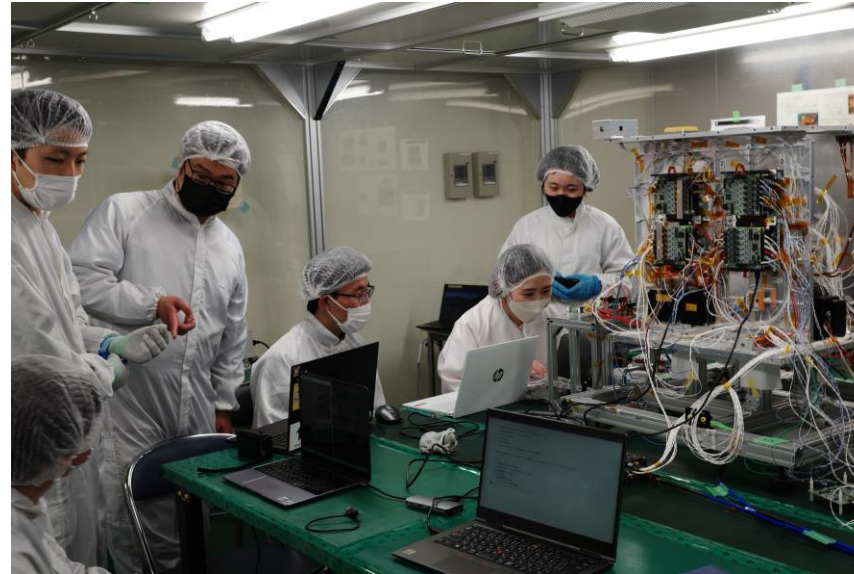
EM is almost finished.
Now we are conducting Flight Model development.



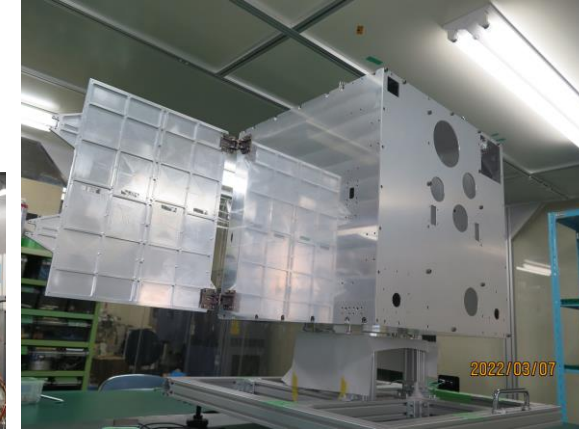
Antenna Pattern test



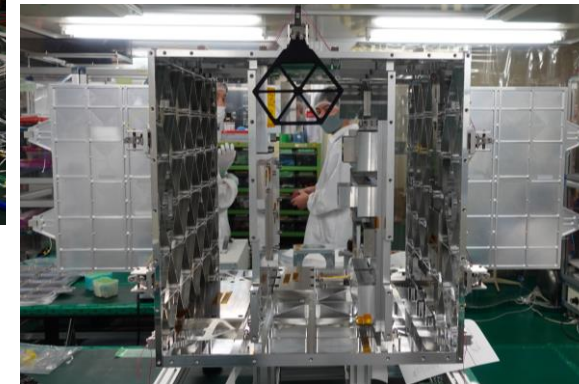
Thermal Vacuum test
of UV telescope



Electrical Integration test (EM)



Preassembling



SAP deployment test

<Future Work>

- Structure/Thermal redesign (launcher is changed)
- FM development
HiLS, End to End
- Environmental Tests (FM)
Vibration test, Thermal Vacuum test



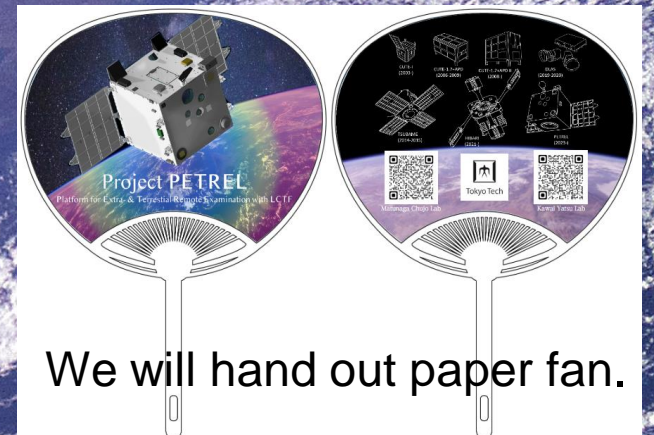
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Please come to

- **Japan Booth (230)**
- **Tokyo Inst. Of Tech (U17)**



We will hand out paper fan.

See You at TokyoTech Booth!

Small Satellite Conference