

FROM THE EARTH

B3 Department of Mechanical and Aerospace Engineering
Kota Matsuhashi(vice-representative)
Kotaka Nagayama(Rocket PM)

TOHOKU UNIV.

What is F.T.E.?

We are a space activity club

- We create hybrid rockets and CanSat
- We provide space education



**Breakthrough
to the atmosphere**

**Dreams and inspiration
for all**

Hybrid rocket Project



Solid Fuel

■ Acrylic, Plastic



Liquid Oxidant

■ N₂O



Burning !



© costs, safety

What is necessary for technological innovation

- rocket production
- engine development

TOHOKU UNIV.

Production part

蕾 (Tsubomi)

--Mean bud--



Ray

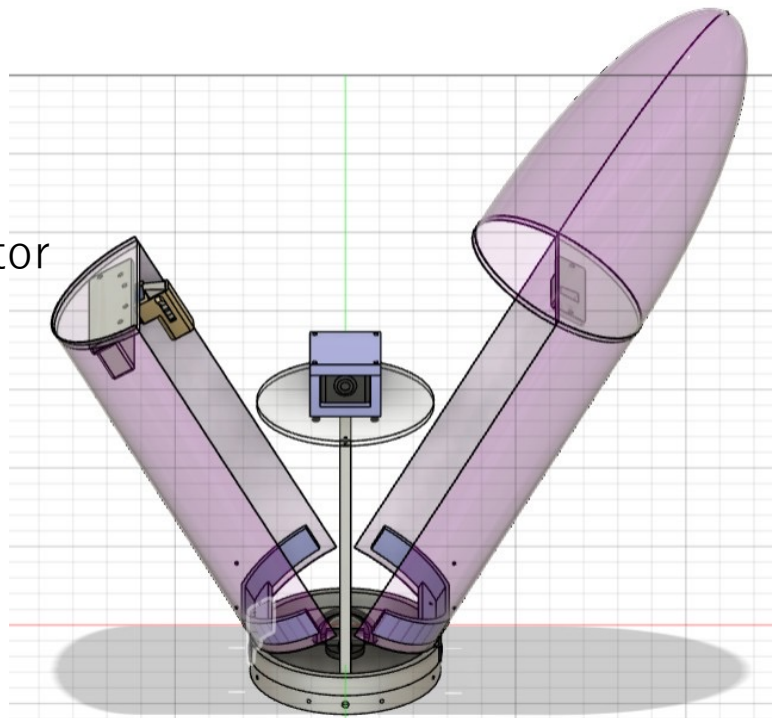


蕾 (Tsubomi)

Main Mission

Demonstration of fairing mechanism

Crow, Servomotor



Noshiro space event!

Success criteria

Middle success

: Launch → ◎

Full success

: Fairing operation → ◎

Advanced success

: Recovery with no damage → ○



Mission logo



12AY (RAY)

—12th aircraft
dedicated to high-altitude missions!—

Main Mission : Reaching high altitude



Completed aircraft



Mission logo



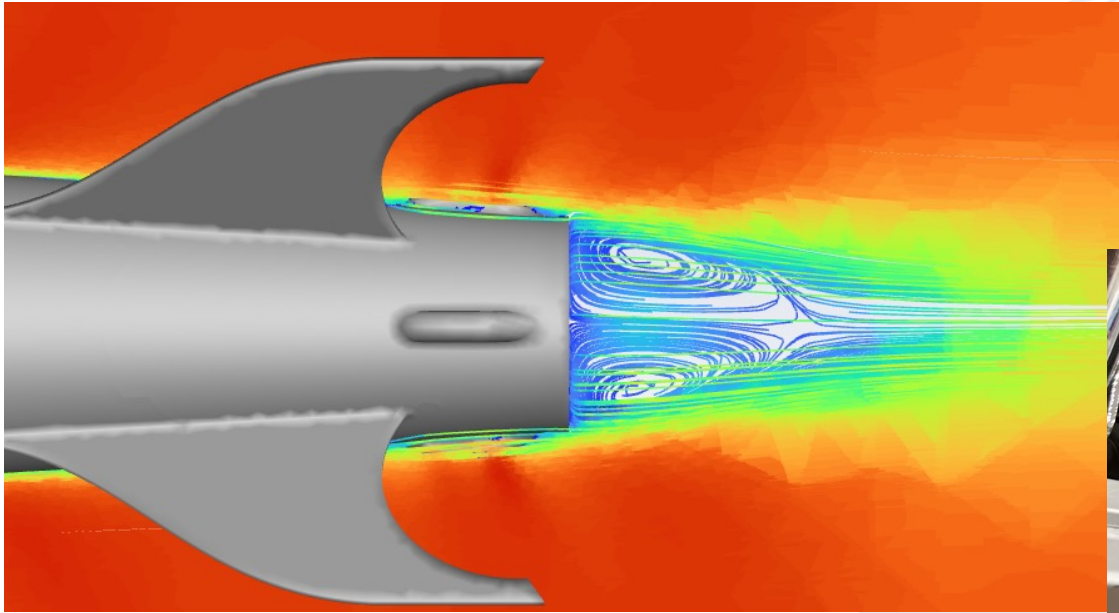
Past aircrafts



TOHOKU UNIV.

Designing · making

Plaster



Combustion test



RAY's achievement and result

Achievement

- aircraft completed
expected altitude→6000m
- successful combustion test

Result

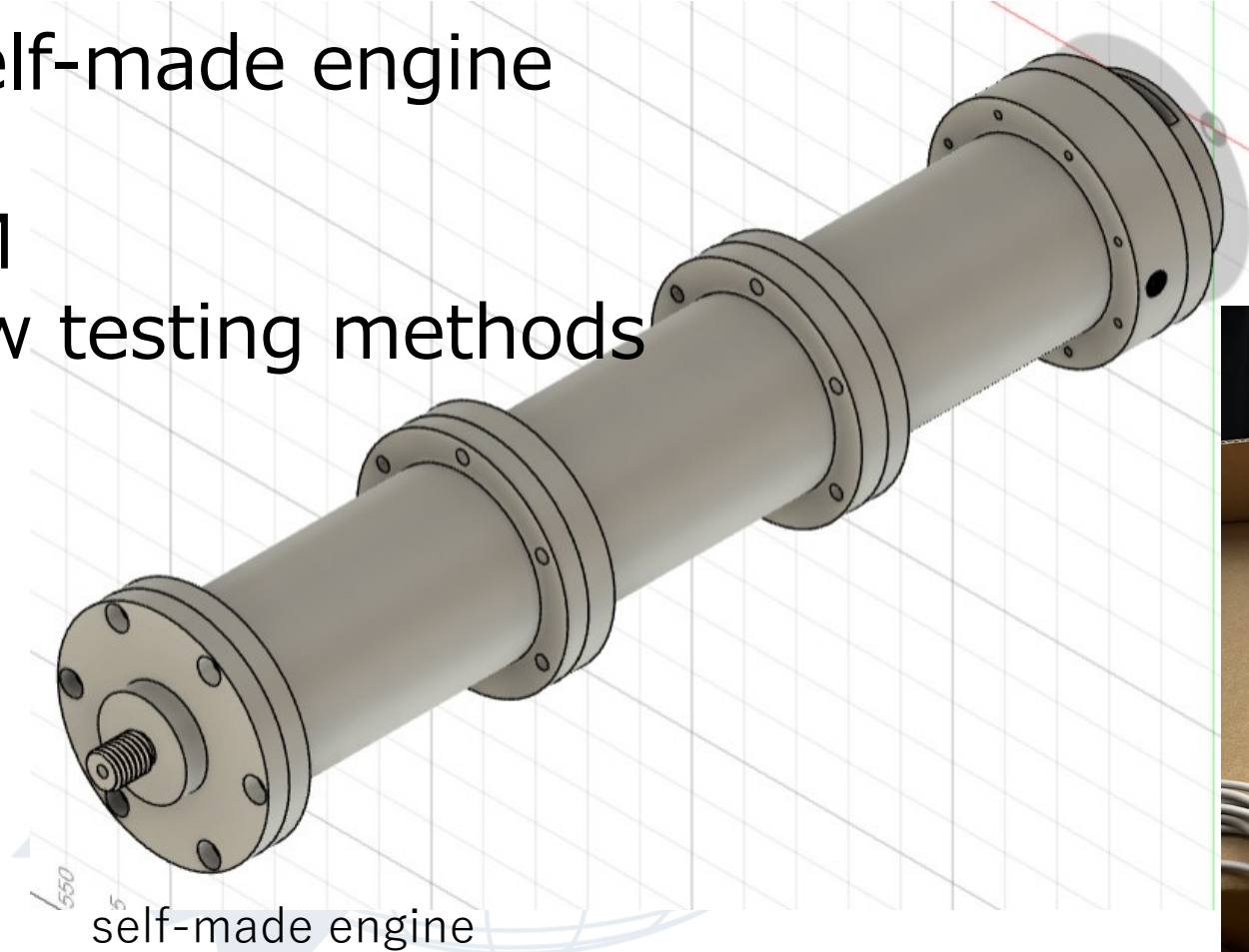
Without permission to launch
—test for FM was not suitable

TOHOKU UNIV.

Future engine development

Achievements of self-made engine

- Production of EM
- Development flow testing methods and equipment



Connecting to pressure gauge



CanSat Project

CanSat
rover designed for planetary exploration

Competition

1. drop by drone
2. Run to goal after landing

Result

Ran over 30m



8m22cm(from the goal)



CanSat Project

↓ Noshiro Space Event



During measurement



Social Enterprise Project

Rocket Class

Making and launching rockets

- Model rockets, PET bottle rockets, etc...

CanSat Class

Rover operation in the field


- Tire shapes can be devised
- We provided for the first time this year



Social Enterprise Project



Thanks



Thank you for
listening and your cooperation

TOHOKU UNIV.