FROM THE EARTH

B3 Department of Mechanical and Aerospace Engineering

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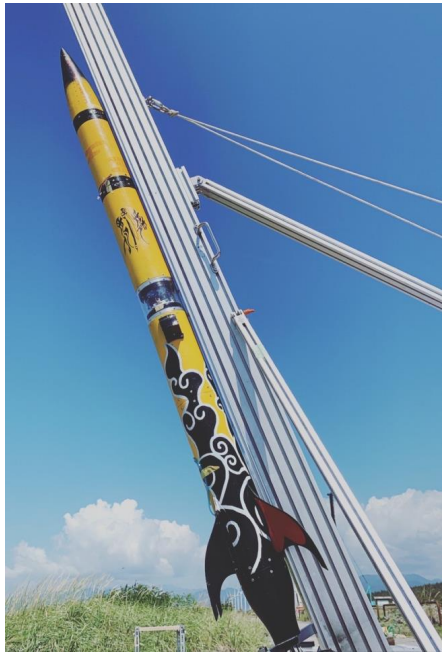
What is F.T.E. ?

We are a space activity circle

- ■We create hybrid rocket and CanSat !
- ■We provide space education !



Hybrid Rocket Project

What is Hybrid Rocket ?

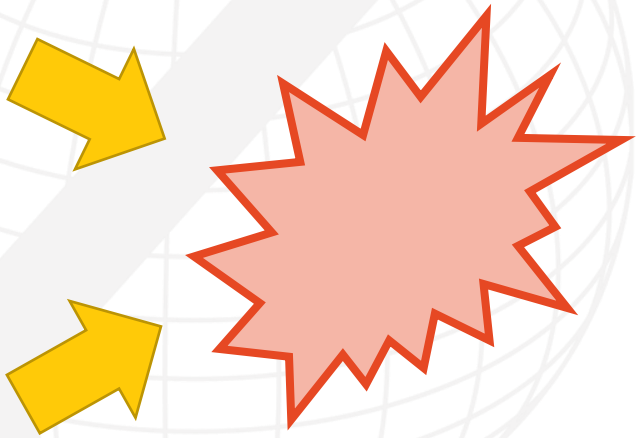
■Hybrid Rocket is new type rocket

Solid Fuel

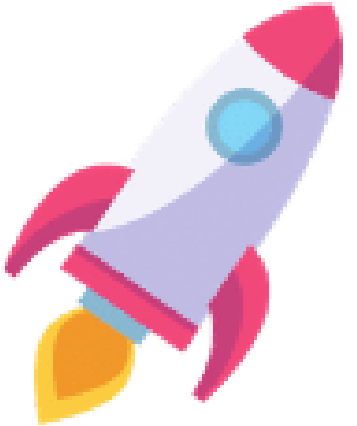
■ Acrylic, Plastic

Liquid Oxidant

■ N2O



Burning !



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■ **Safety**

■ **Easy Handling**

Achievement of Rocket

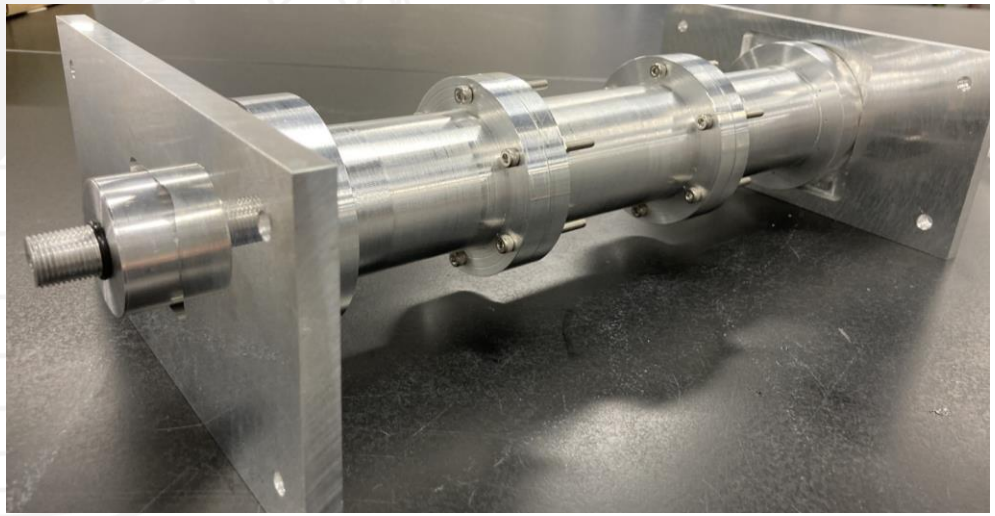
Self-Made Engine !

Conventional

■Off-the-shelf engines

New Challenge

■Self Made Engine !



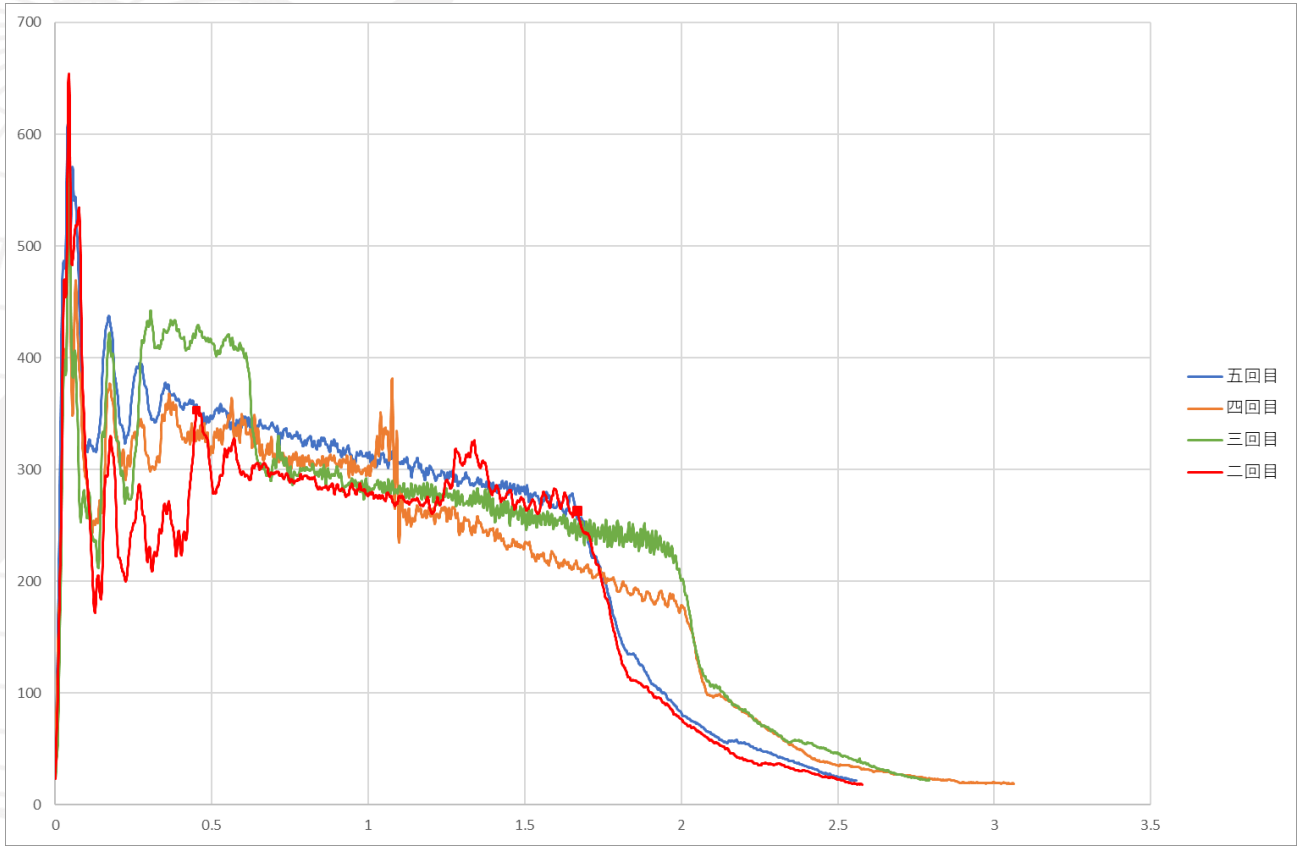
Achievement of Rocket

Combustion experiments

Achievement of Rocket

Combustion experiments

- Conducted experiments many times
- Successfully obtained reproducible data



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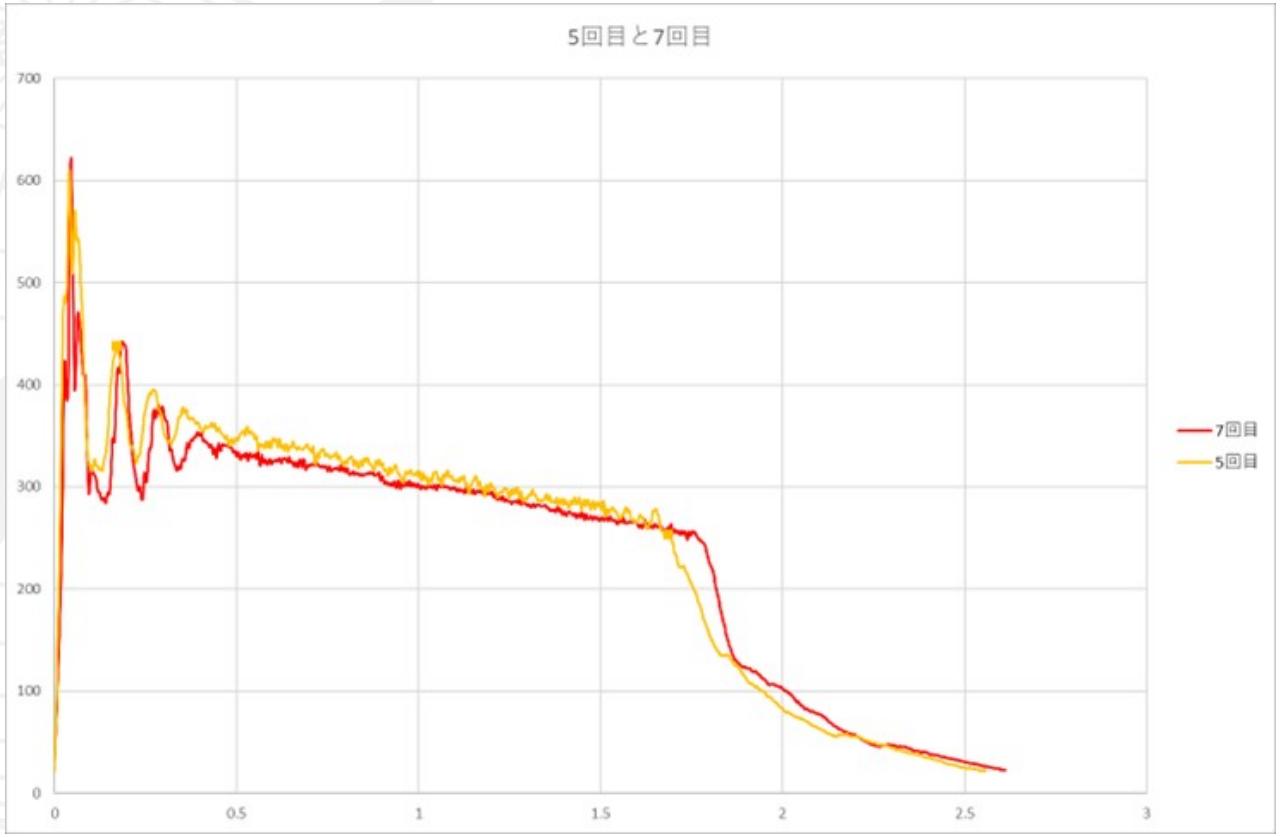


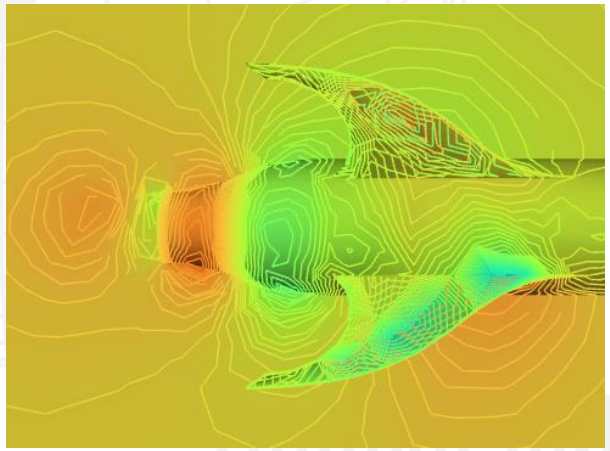
Noshiro Space Event !

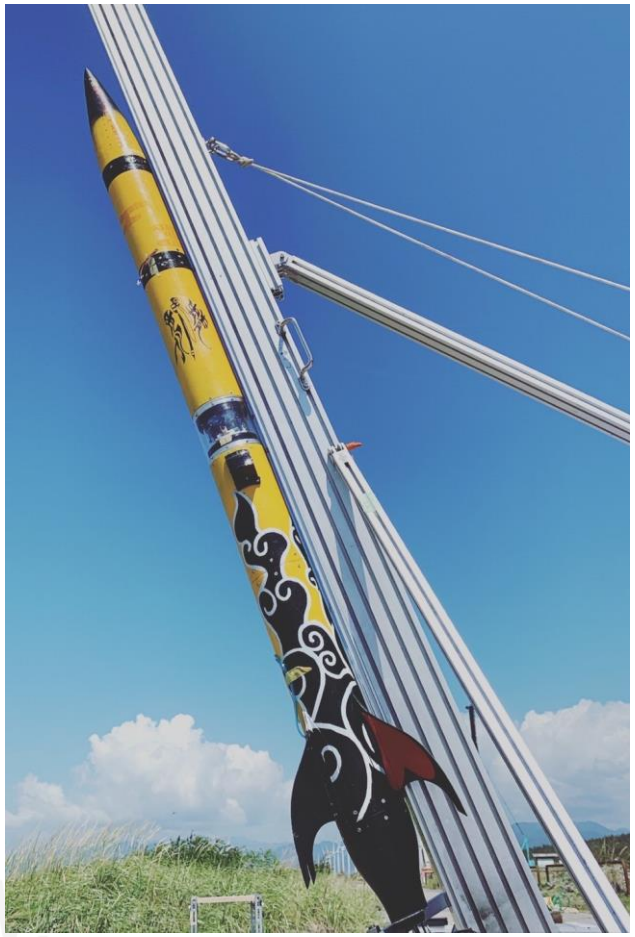
F.T.E.1 「蜻蛉」 “Dragon Fly”

■Objective is to acquire aerial footage

■Advanced **aerodynamic analysis**

→Failed to recover the aircraft because it was tilted by a gust of wind





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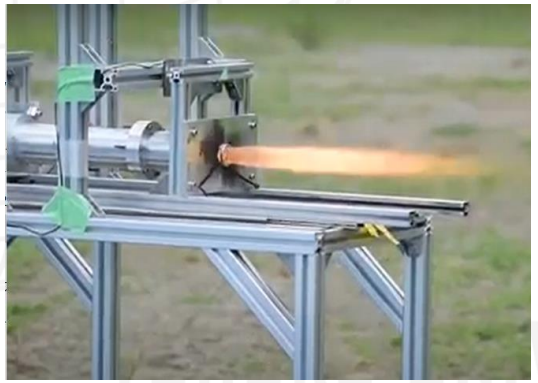
F.T.E.2 「灯」 “Light”

- Objective is to demonstrate the launch of **the self-made engine**
- Fuselage body made of CFRP

→Successful launch and data recovery despite bad weather conditions



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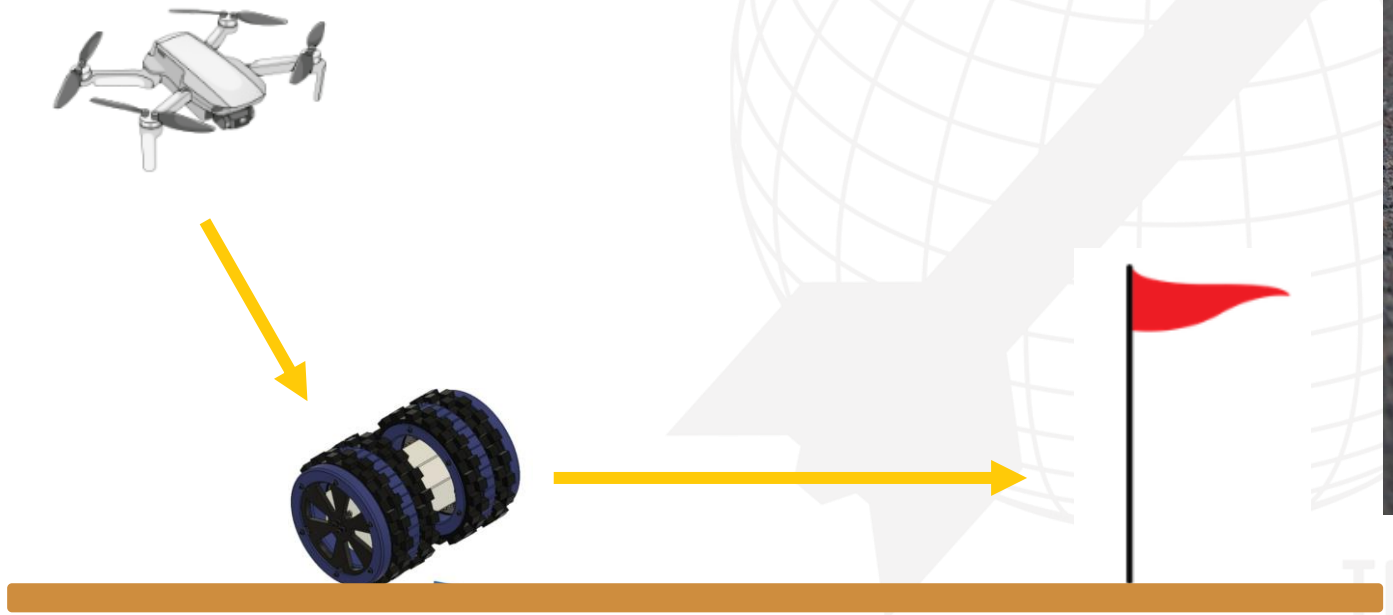
CanSat Project

What is CanSat ?

- CanSat is a simulated satellite
- Autonomy Running to the finish line



Noshiro Space Event

Runback CanSat

- Equipped with large tires
- Azimuth feedback control from GPS and magnetometer
- Finding goals using image recognition

→Successfully landed on the ground but was unable to drive due to tire deformation

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Social Enterprise Project

Rocket and CanSat classroom

- Convey the joy of space to local children !
- Communicated the fun of making things by making PET bottle rockets
- Due to popular demand, the event will be held twice, once in December and once in June

Social Enterprise Project

Photos

Thanks

Thanks to BHE's donation, we were able to work extensively.

Thank you very much.