

Reply to the questions

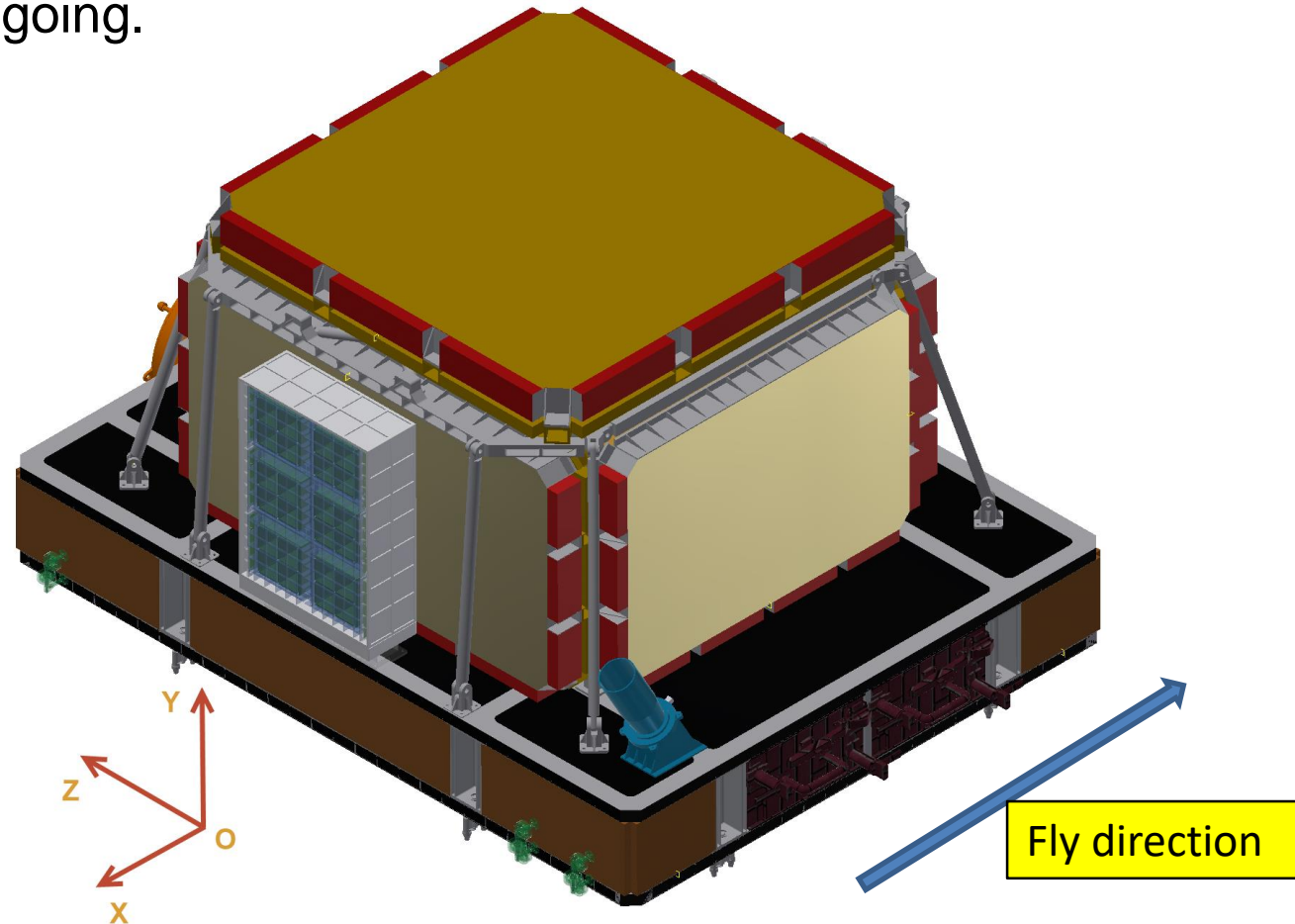
# Overall dimension of HERD

- Overall dimension of HERD :3000mm\*2300mm\*1550mm(include TRD)
  - It's still under coordination

Instrument	Configuration	Envelope* (mm)	Mass*(kg)
CALO	7497 crystals	950*950*800	1767
FIT	7 super-layers on TOP; 7 super-layers on 4 sides	1140*1140*180 1130*750*180	367
PSD	Two 5mm tile (10*10cm <sup>2</sup> ) layers on all 5 sides	1750*1750*50 1460*1000*50 1830*1000*50	225
SCD	4 super-layers on all 5 sides	1750*1750*115 1460*1000*115 1830*1000*115	502

# Coordinates of HERD payload

- OY axis points to zenith following traditional coordinates of CSS.
- Change of TRD position is for the convenience of in-orbit replacement. Engineering feasibility study is ongoing.



# HERD mechanism environment during launching

- Sinusoidal vibration

Frequency range (Hz)	Amplitude or acceleration
4~10	5 mm
10~17	2g
17~75	3.4g
75~100	2g
Rate of scan acceleration (oct/min)	4

- Random Vibration

Frequency range (Hz)		10-50	50-300	300-2000
Power spectral density	acceptance test	3 dB/oct	0.00625	-12 dB/oct
Total RMS	acceptance test	1.52 grms		
Test duration	acceptance test	60s		
Accelerated directions		3 axis		

- Acceleration

Axial acceleration	7.5g
Transverse acceleration	2g (Perpendicular to each other)
Loading speed	≤0.5g/s
Test duration	2min

- The environment of HERD mounting surface is estimated by CSU , which will be probably updated later .

# HERD Prototype

- The requirements of each device
- I will update the platform model after all the requirements are gathered

device	Dimension (mm)	Movement (mm)	Rotation (°)	weight	notes
CALO	1100*900*700	280*280	360	350kg	
FIT	/	/	/	/	
PSD	614*614*66.8	300*300	none	7kg	
SCD	150*100*25	Along guide rail	0,30,60;	30kg	
TRD	200*200*230	150*200	~180		
PS trigger		none	none		Installed separately?

