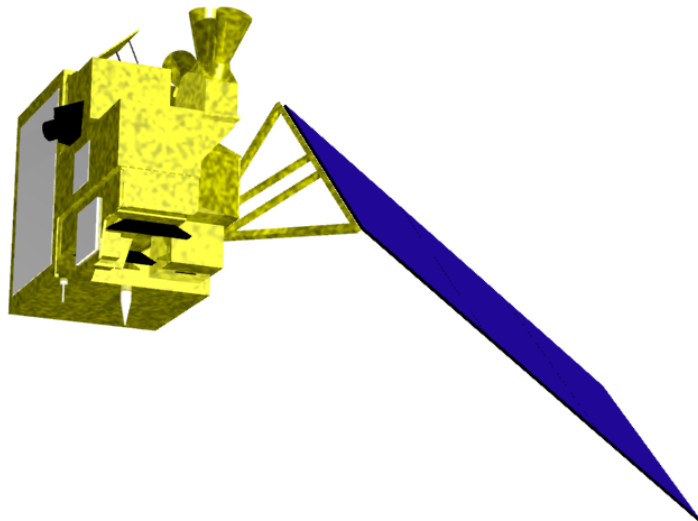# GOSAT Mission Objetives

- · To contribute to policy development within Ministry of Environment (MOE) by estimating the source and sink of Green House Gases (GHGs) at sub-continental scale and by verifying the reduction of GHG's emission which is required by the Kyoto Protocol.
- To contribute to the advancement of earth observation technologies for future missions.
    - High reliability bus-system
    - High speed data handling system
    - High resolution Spectrometer
              ($0.1cm^{-1}$ Over 20,000 channels)

GOSAT Targets

- Observation of CO2 density during the first commitment period (2008 to 2012) of the Kyoto Protocol for 3-month average with relative accuracy of 1% (4ppmv) at sub-continental spatial resolution.

- Reduction of errors by half in identifying the GHGs' source and sink at Sub-continental scale with the data obtained by GoSat in conjunction with that from the ground-based instruments.
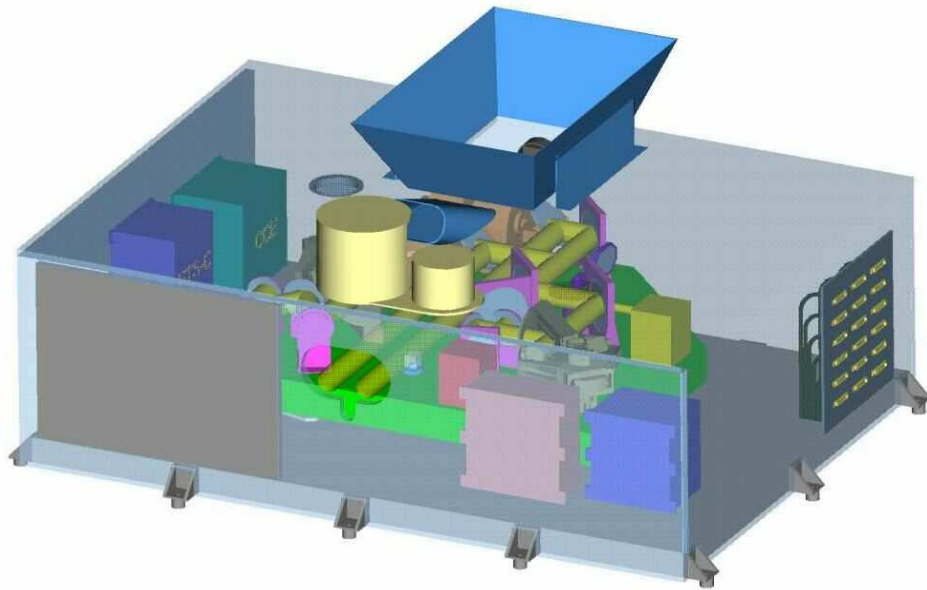
GOSAT Spacecraft

size	1.5m × 1.5m × 3.5m
weight	1650[kg]
Power	300 W
Altitude control	3 axes control
Telemetry and Command	（S band) Command ：1[kbps] 　　　　HK telemetry：32.8[kbps] （X band）Mission Telemetry： 　　　　120 [Mbps]
life	5 years
Orbit	Altitude 618 [km] Inclination 65 deg Non Sun Synchronous （3 days revisit）
Launch	Feb, 2008, by H-II rocket

Mission Sensor

Greenhouse gases
Observing Sensor

Cloud and Aerosol Sensor
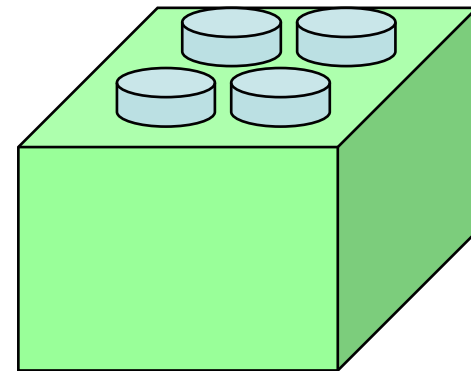
Specifications of Greenhouse gases Observing Sensor

Ground Pointing Mechanism and Fore optics	Configuration	2-axes scanner (fully redundant)				
	Scanning	Cross Track (±35 deg) Along Track (±20deg)				
	Field of view	IFOV 8 km、 88 km (Interval) 790 km (scan width) (latitude of 30 deg)				
Fourier Transform Spectrometer	Speed	0.7～1 (Interferogram)/sec				
	Spectral band	1	2	3	4	5
	Coverage (cm^{-1})	12900-13200	5200-6400	4800-5200	2000-2500	660-2000
	resolution (cm^{-1})	0.5	0.2	0.2	0.1	0.1
	SNR	～600				
	Detector	Si	InGaAs	InGaAs	InSb	PC-MCT
	Calibration	Solar Irradiance, Deep Space, Moon			Blackbody, Deep space	

Detector: 2 per band for the redundancy and polarization

Spectral Coverage

GOSAT Spectral Coverage