Symposium on Planetary Science 2013, Poster core time: 13:30-14:30 on Thursday, Feb. 21, 2013

Current Status of Movement of the Iitate 60-cm Telescope to Haleakala, Hawaii

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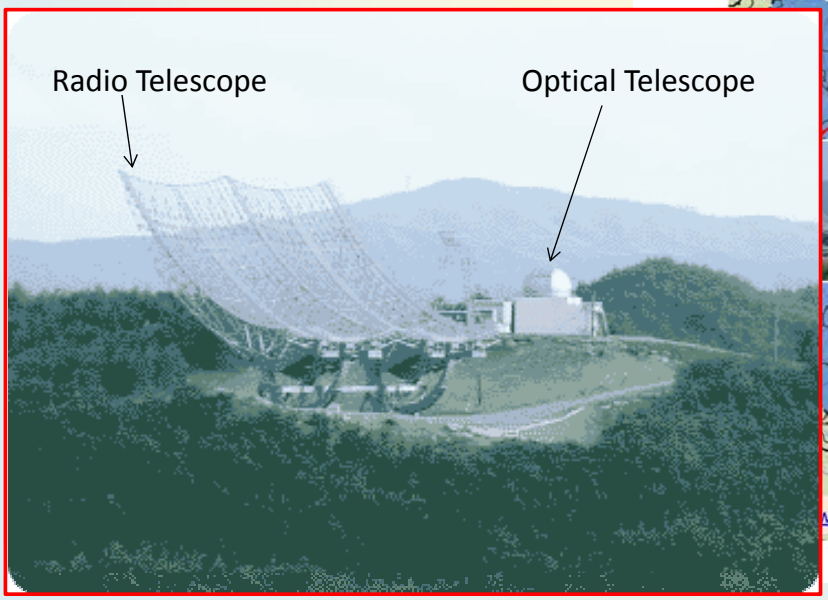
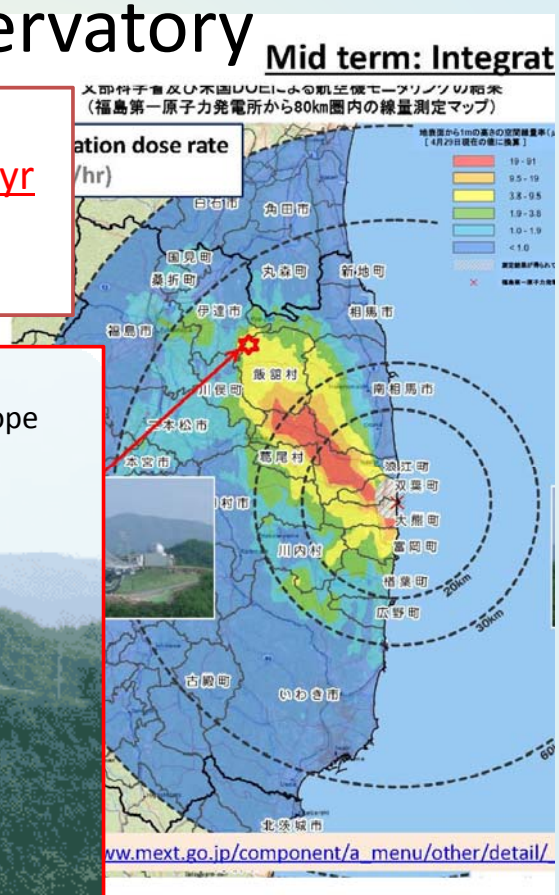
Our Iitate Observatory

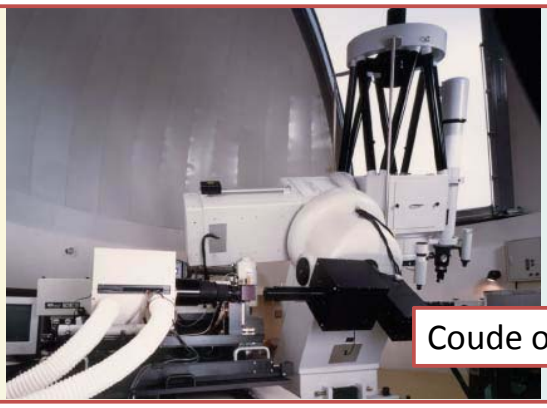
Radiation dose rate
- Current value : 3.5μSv/hr = 30mSv/yr
  (5 μSv/hr 1 year ago)
- Inside a building: 0.2 μSv/hr





Iitate 60cm Cassegrain / Coude Telescope

Role
- Continuous measurement of planets
- Test bed for newly developed instruments
- Education of graduate students

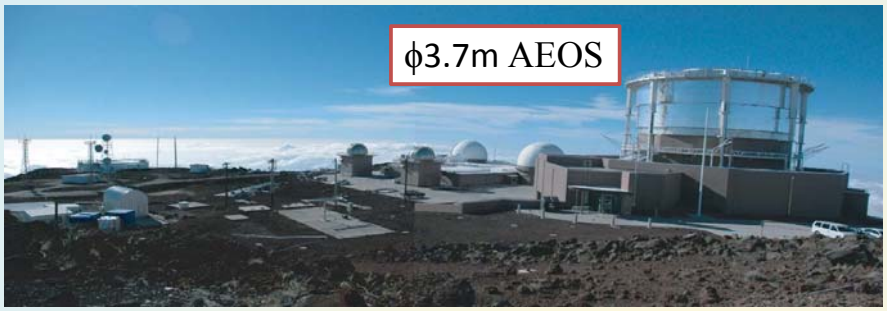


Coude output

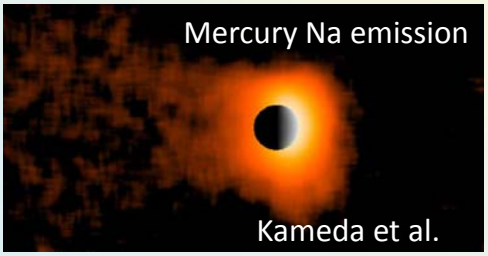
Manufacturer : Mitaka Koki. Co., Ltd.
Aperture: ϕ600mm(Vis), ϕ 575mm(IR)A
Mount: German
Focus: Casegrain (Cs), F/12, f=7200mm
Coude (Cd1-Cd3), F/24, f=14400mm

Haleakala Science City

Good seeing! 90% clear sky! Dry conditions!



Haleakala Observatory
North Latitude 20° 42.5'
East Longitude 203° 44.5'
Altitude 3000m



ϕ40cm Schmit-Casegrain

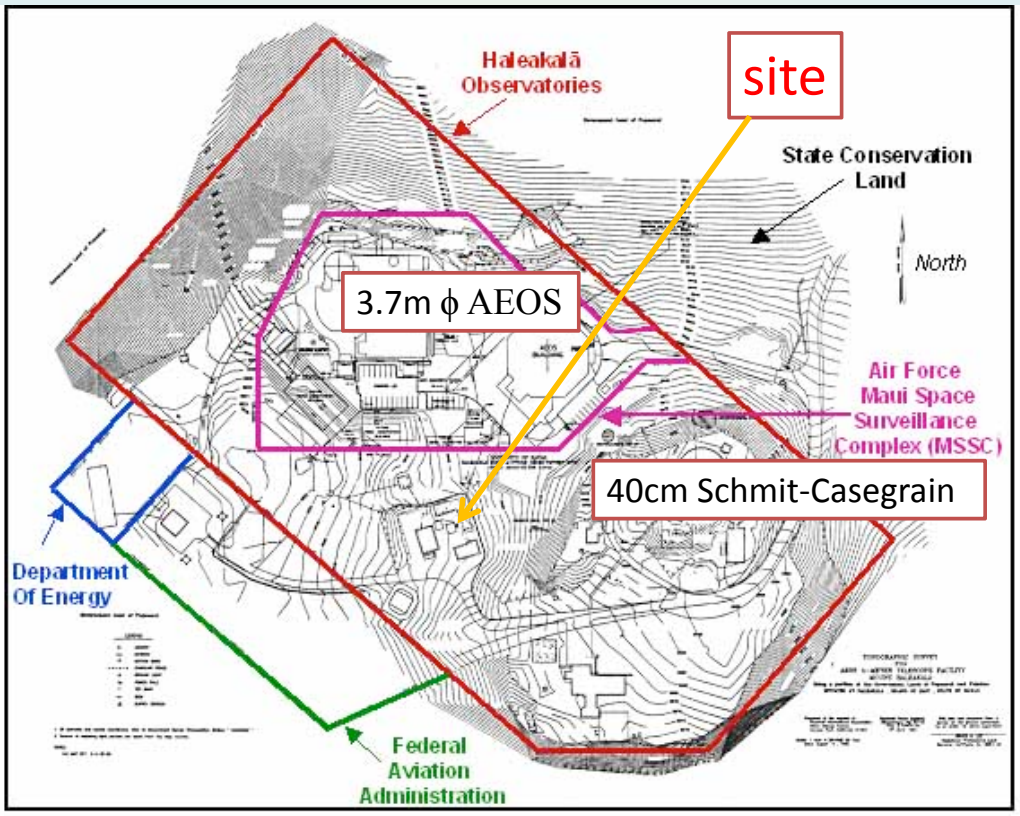
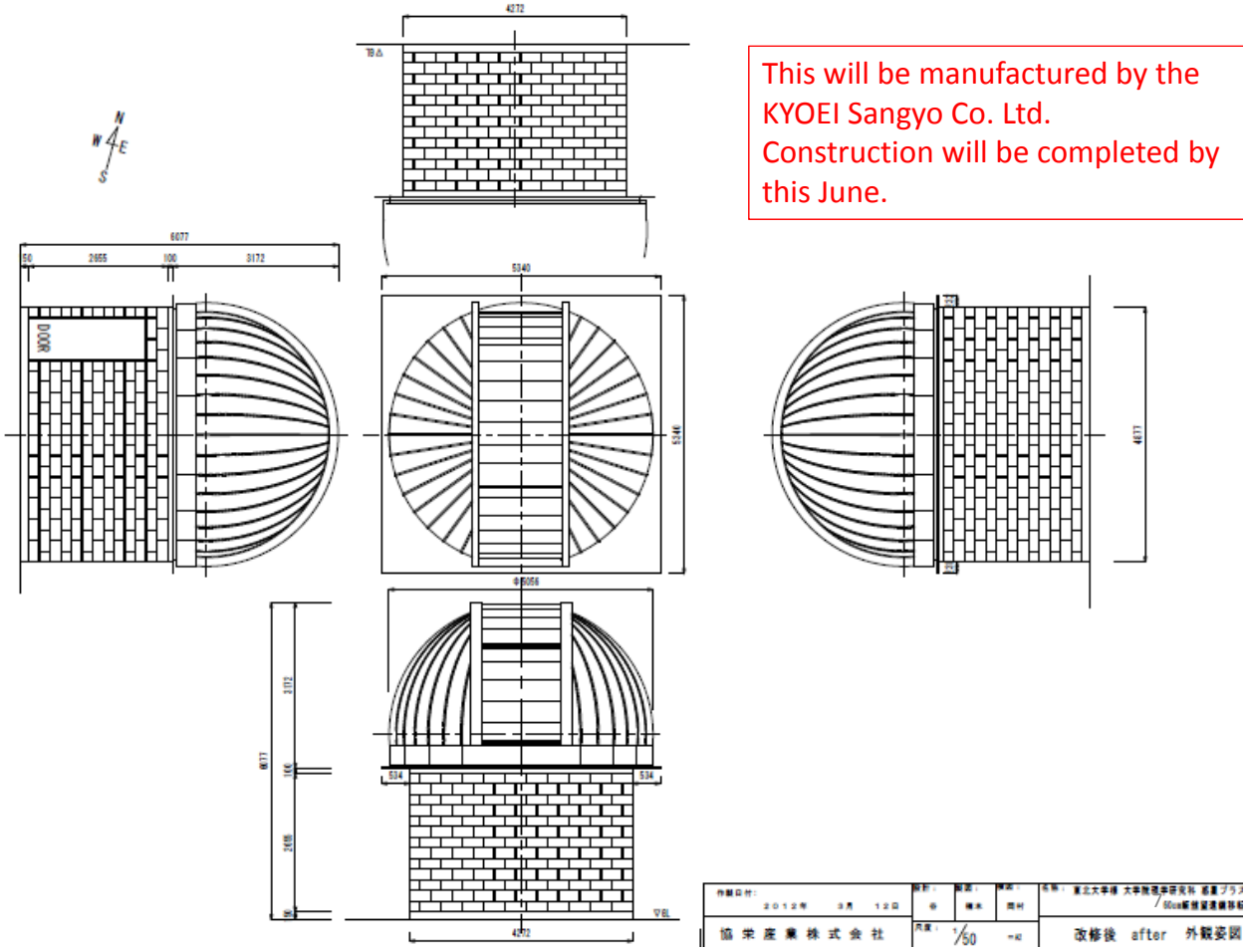
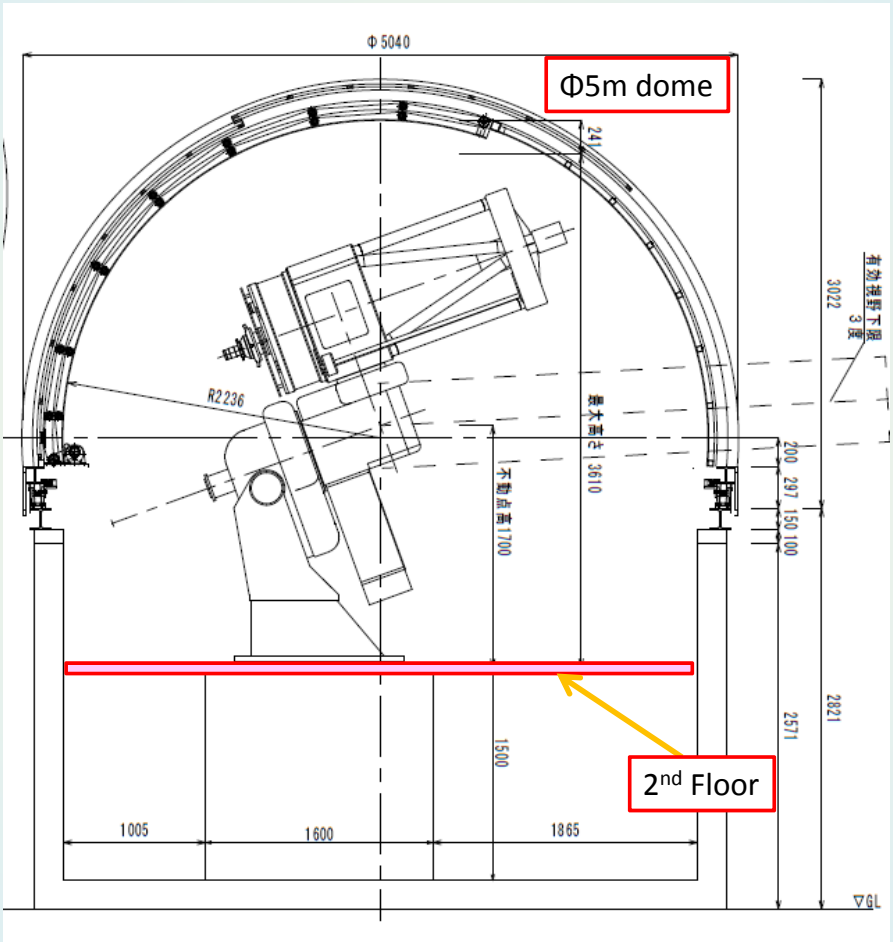


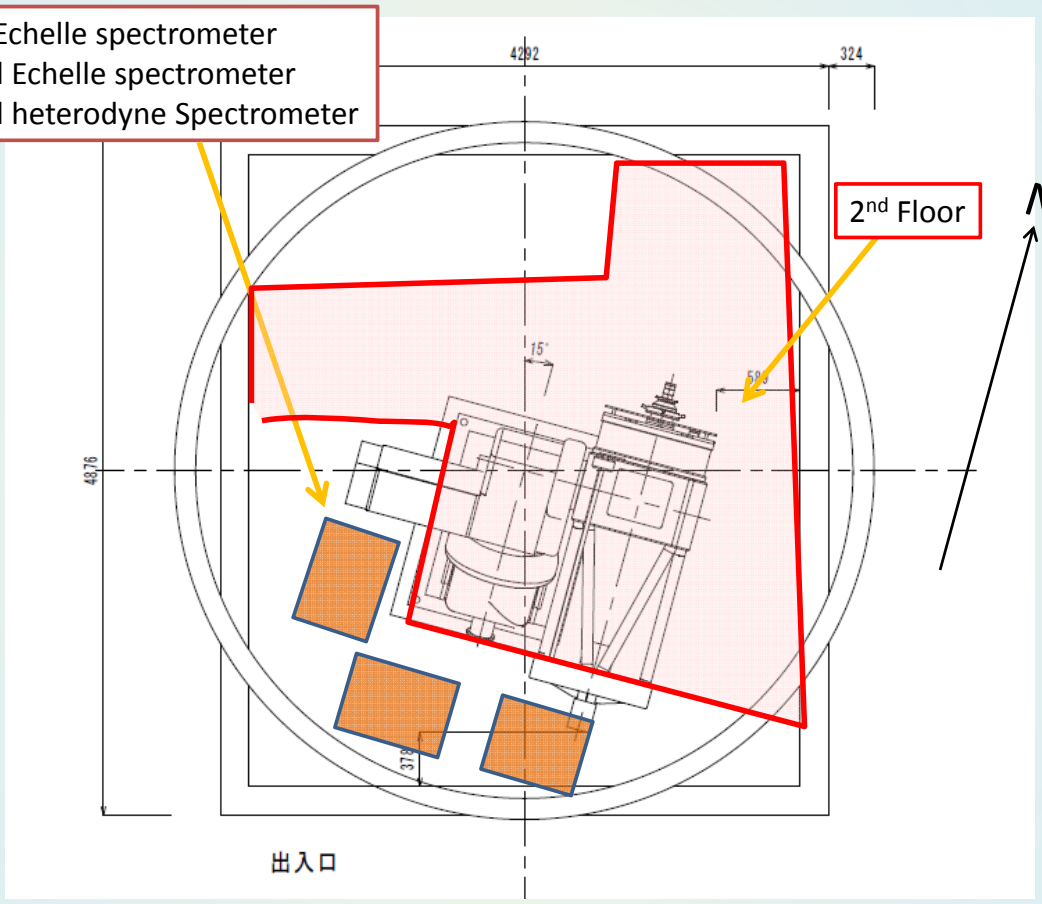
Figure 2-1. University of Hawai'i Haleakalā Observatories and Adjacent Properties



This will be manufactured by the KYOEI Sangyo Co. Ltd.
Construction will be completed by this June.



- Visible Echelle spectrometer
- Infrared Echelle spectrometer
- Infrared heterodyne Spectrometer



Instruments(1/3)

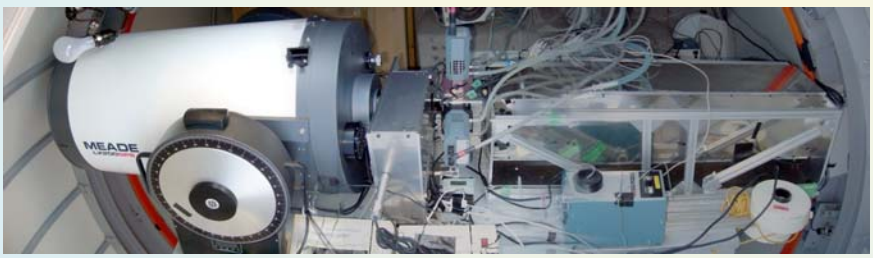
- Visible high-resolution Echelle Spectrograph (now operated with the 40cm telescope)

FOV: long slit with 10’ or 2-D spectrograph with optical fibers

Resolution : ~50,000

Wavelength : 3nm width,

covering from 550nm to 900nm



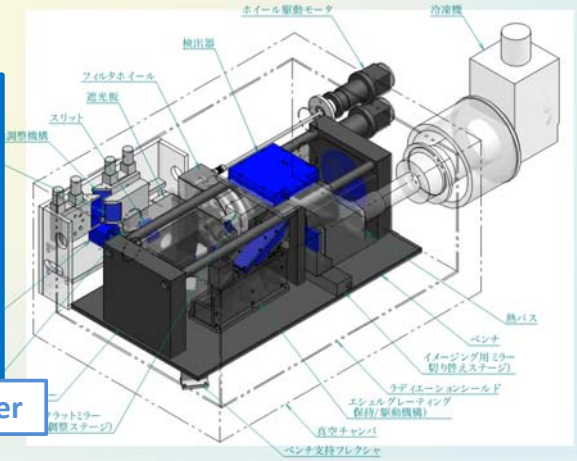
Instruments(2/3)

- Infrared high-resolution Echelle Spectrograph

Slit length	50 arcsec
Spectral resolution	20,000
Wavelength	1 – 4 μm
Velocity resolution	0.5 km/several min integration (Jup. H_3^+)
Imaging mode	available
size	800x500x400 mm

Echelle grating drive mechanism

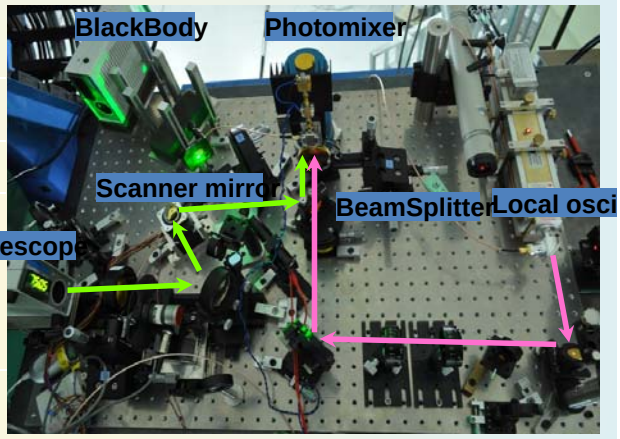
Image-spectrograph changer

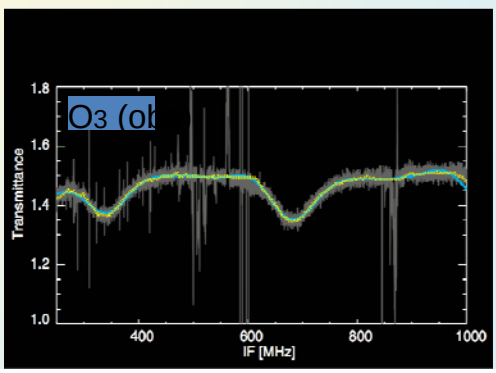


Instruments(3/3)

- Mid-infrared heterodyne super high-resolution spectrometer

Wavelength	7 – 11 μm
Resolving power	> 10,000,000
Operating range	8.0, 9.6, and 10.3 μm
Sensitivity	~3,000 K (λ=10.3μm)
Detector	MCT photo-diode
- Bandwidth	3,000 MHz
Back End	FFT digital spectrometer
- Bandwidth	2,000 MHz
- Channels	16,382 (61 kHz resolution)
Field of View	1.7 arcsec (1.5m ϕ telescope)
Size, weight	1100 x 700 x 700 mm, 80kg





Schedule in 2013

		2013											
		1	2	3	4	5	6	7	8	9	10	11	12
Dome & Building	Facility Use Agreement with Hawaii University	singed											
	Conservation Ditrict Use Application		submitted		permission								
	Foundation work, Pedestal, Wall Rainforcement												
	Dome												
Electlicity													
Telescope	Carrying out from Iitate Observatory												
	Modification of mount												
	Shipping to Hawaii												
	Installation, Adjustment												
Instruments	Visible Spectrometer												
	Heterodyne Spectrometer												
	Near-infrared Echelle Spectromter												

▲ Launch of EXCEED

← EXCEED campaign

Potential collaboration

- Project for the ϕ1.8m off-axis telescope (PLANETS)
- 3.7m φ AEOS + a visible Echelle spectrograph
- IRTF, SUBARU, etc. on Mauna-Kea