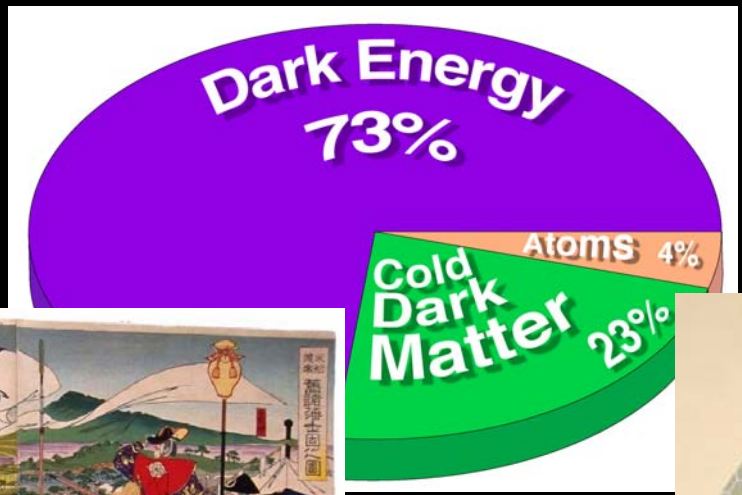
Future plans of Subaru and HyperSuprime-Cam / WFMOS



Yasushi Suto *Department of Physics, University of Tokyo*

WFMOS Science Team Meeting

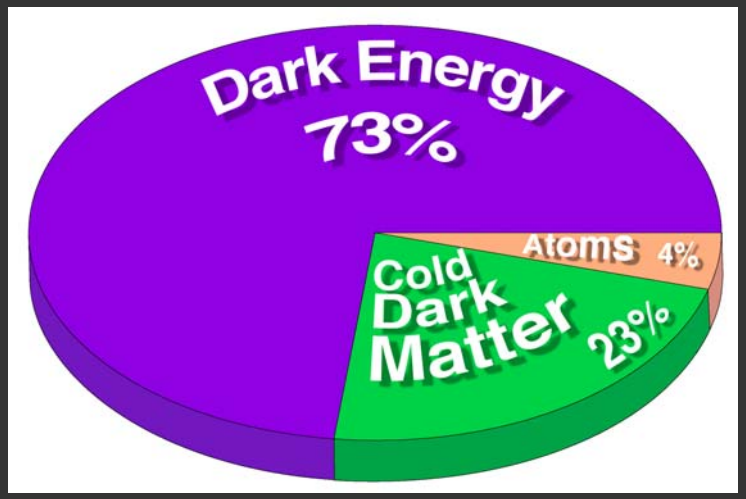
February 22, 2006 @ Caltech

Did we make progress at all ?

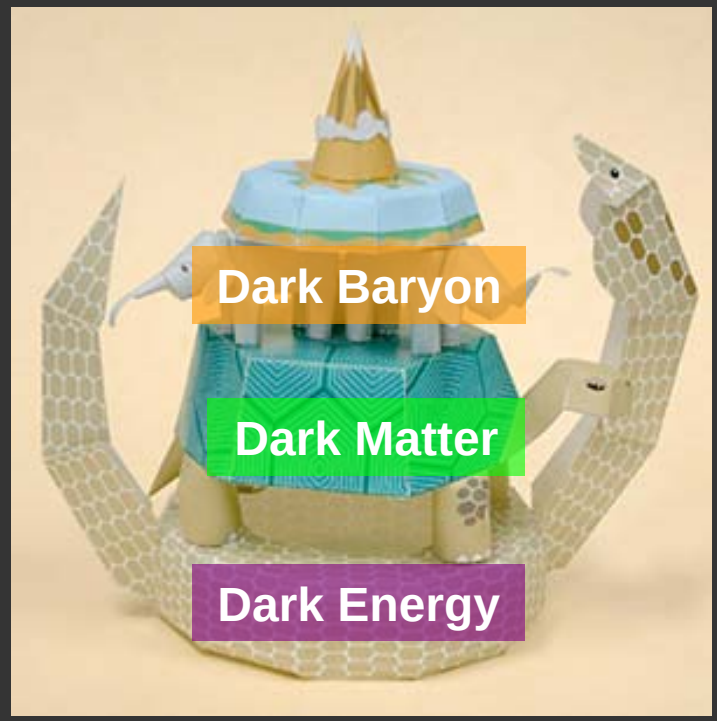
Egypt

Chinese

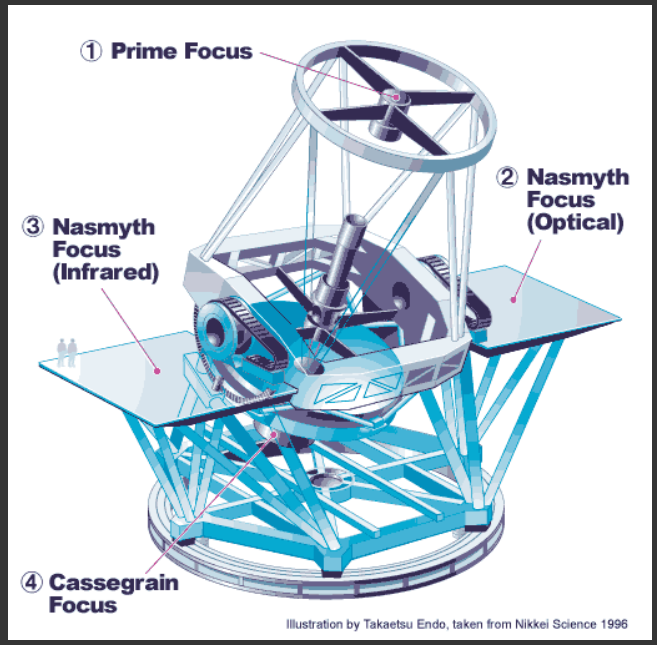
Indian

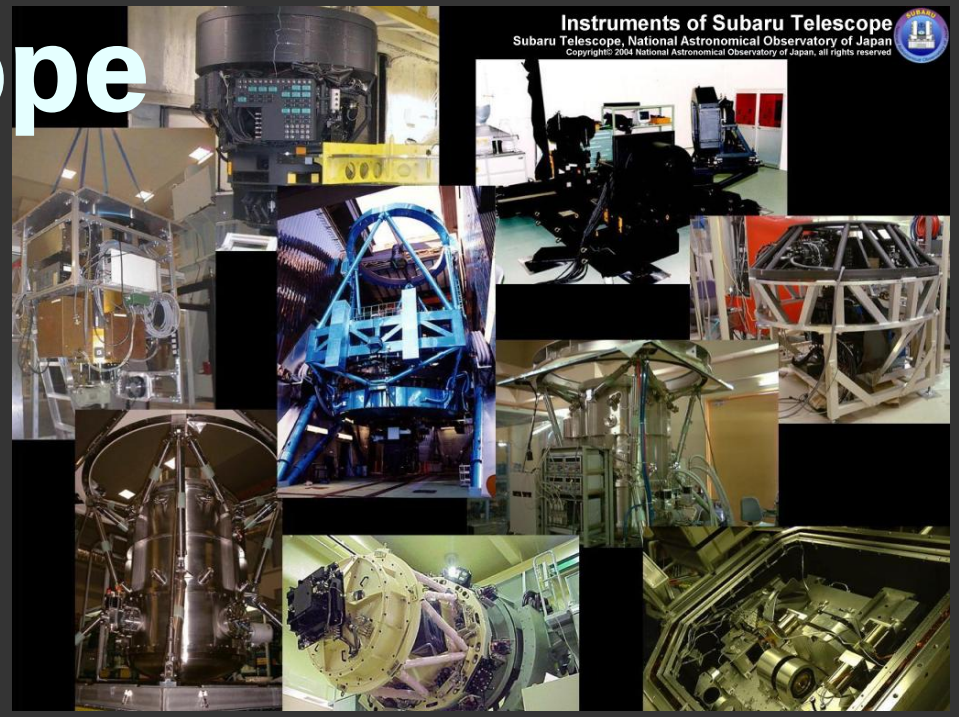


progress ?

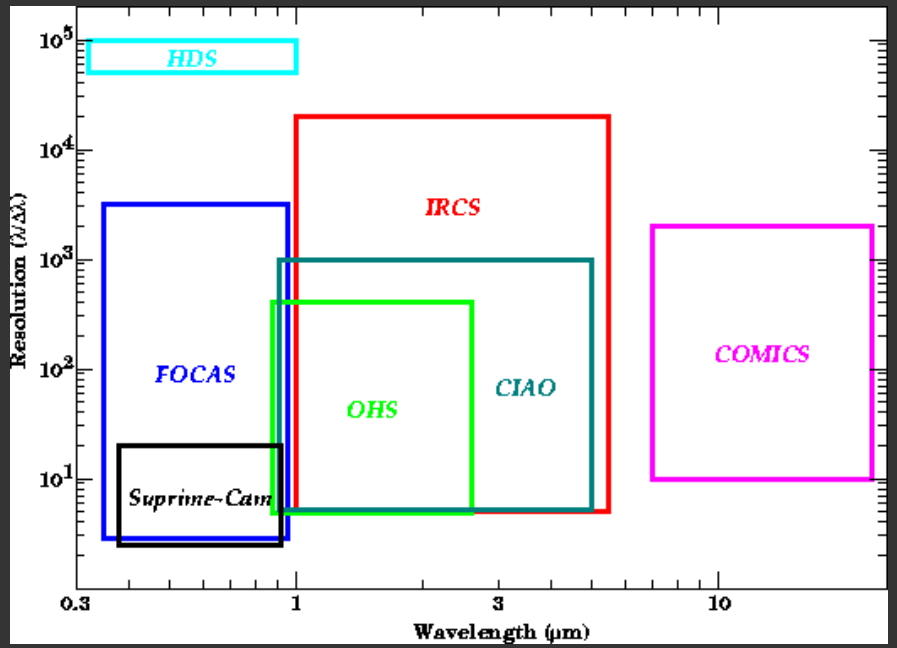


Subaru telescope





- **Primary Mirror**
  - Effective diameter : 8.2 m
  - Thickness: 20 cm
  - Weight: 22.8 t
- **Telescope Structure**
  - Height: 22.2 m
  - Maximum width: 27.2 m
  - Weight: 555 t



Current instruments

- Suprime-Cam - Subaru Prime Focus Camera - provides optical imaging over a large field of view with a mosaic of CCDs.
- HDS - High Dispersion Spectrograph - provides extremely high-resolution optical spectroscopy.
- CIAO - Coronagraphic Imager with Adaptive Optics - provides a near-infrared imaging capability in the vicinity of bright sources.
- AO - Subaru Adaptive Optics system - delivers diffraction-limited images in the near-infrared.
- FOCAS - Faint Object Camera And Spectrograph - provides optical imaging and longslit and multi-slit spectroscopy over a 6 arcmin field of view.
- CISCO - Cooled Infrared Spectrograph and Camera for OHS - provides imaging and low-resolution spectroscopy in the near-infrared.
- COMICS - Cooled Mid-Infrared Camera and Spectrograph - provides imaging and spectroscopy from 8-20 microns.
- IRCS - Infrared Camera and Spectrograph - provides imaging from 1-5 microns, and low-resolution and echelle spectroscopy over the same range.
- MOIRCS - Multi-Object Infrared Camera and Spectrograph - provides imaging from 1.2-2.3 microns over a 4 arcmin x 7 arcmin field of view.

http://subarutelescope.org/Observing/Instruments/index.html

Major projects

- Subaru Deep Field (Suprime-Cam, FOCAS)
- LBG and LAE at z=3-6 (Suprime-Cam)
- High-z SN search (Suprime-Cam)
- Cosmic/cluster weak lensing (Suprime-Cam)
- Direct imaging of proto-planetary disks (CIAO)
- The most metal-deficient stars (HDS)
- Extrasolar planet search using the radial velocity method: N2K consortium (HDS)

Future instruments

- FMOS
  - Fibre Multi-Object Spectrograph
  - NIR 400 objects spectrograph (first light 2006?)
  - PI: T.Maihara ⇒ ?
- Hi-CIAO
  - High Contrast Instrument for the Subaru Next Generation Adaptive Optics
  - upgrade of CIAO + AO on Subaru (first light 2007)
- HyperSuprime-Cam: (see Komiyama's presentation at Kona)
  - PI: S.Miyazaki
- WFMOS ???

Decision making process

- No definite rule
  - open discussion at Subaru users' meeting (in August and December) is very important
  - Subaru Advisory Committee, Subaru TAC
- "Subaru's strategic working group in the next 10 years"
  - 1st meeting on Dec. 27, 2005
  - 2nd meeting on Feb. 2, 2006 (FMOS & WFMOS)
  - 3rd meeting on Feb. 24, 2006 (planets)
  - preliminary attitude by the end of the Japanese academic year (end of March 2006) ?

Requirements for WFMOS to get support by Japanese astronomers

- Scientific merits
  - all interested Japanese cosmologists are welcome to join and contribute
  - Japanese should work hard so that more than half of the major scientific outcome will be published in PASJ as a natural consequence
- Peaceful symbiosis with other projects
  - avoid negative impacts on other projects
  - minimum structure change and short shut-down time of Subaru for the modification
- Budget ? support from physics community ?