

New exploration X-ray Telescope

Astro-H Status

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ASTRO-H Overview

ASTRO-H will be a major international x-ray observatory.

JAXA Mission with participation from NASA and ESA (through SRON)

Observing time will be made available to Japan, ESA and NASA communities.

Mass ~ 2500 kg

Power ~ 3.5 kW (EOL)

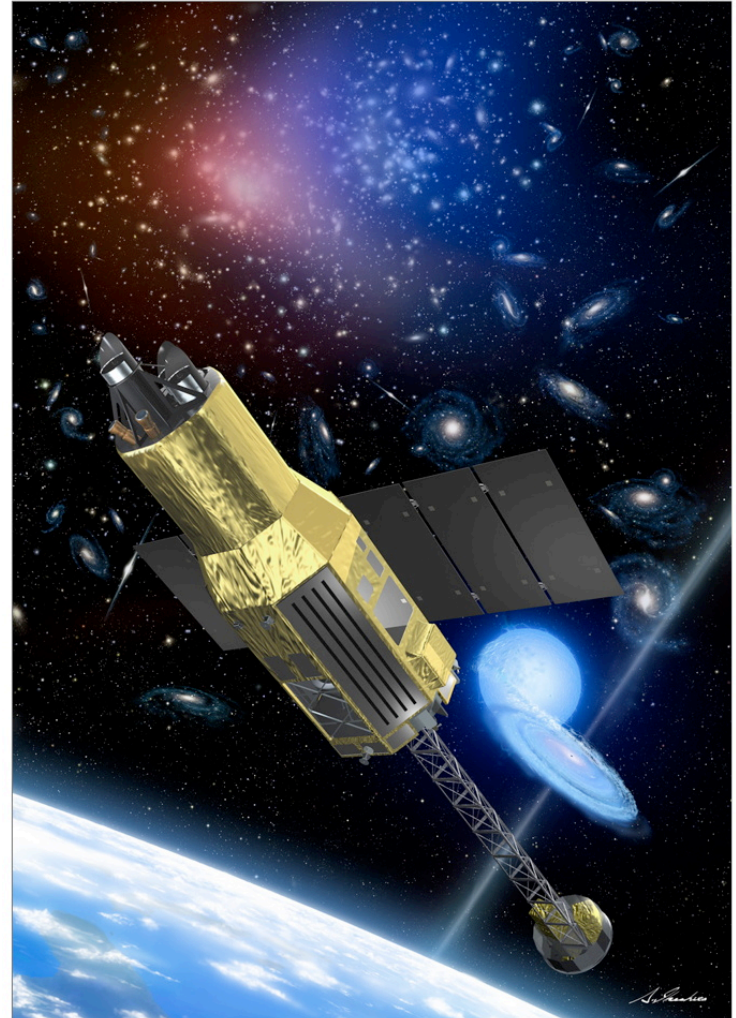
Length ~ 14 m (when fully deployed)

Mission lifetime ~ 3 yr (required), 5 yr (goal)

Launched on Japanese H-IIA from Tanegashima

2016, 550 km, circular, 31 deg

Very broad band x-ray spectroscopy with high sensitivity.



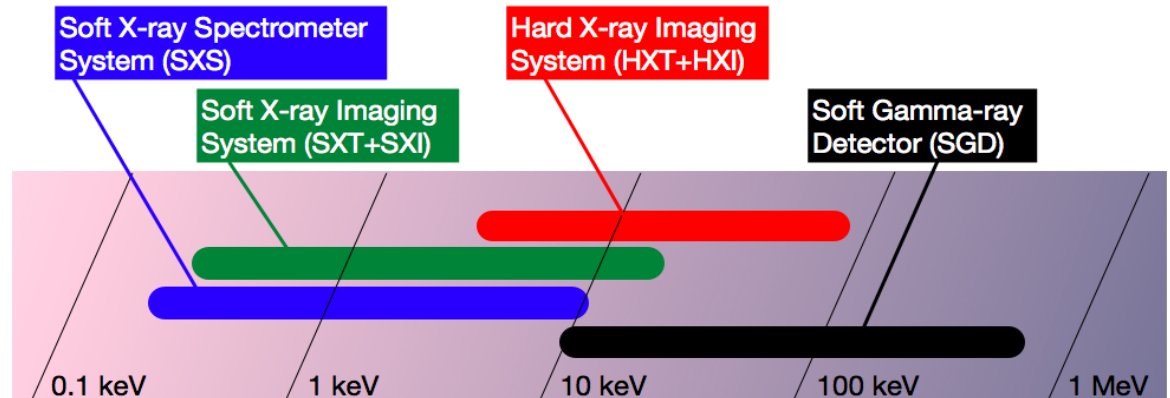
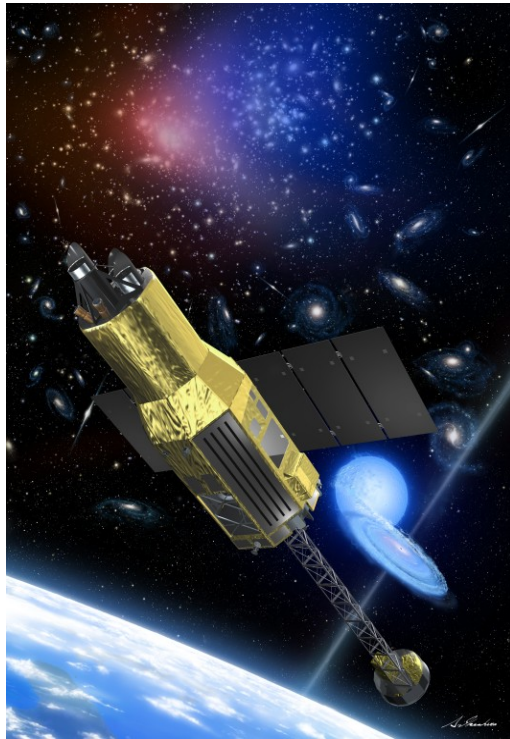
Astro-H Objectives

Scientific objectives :

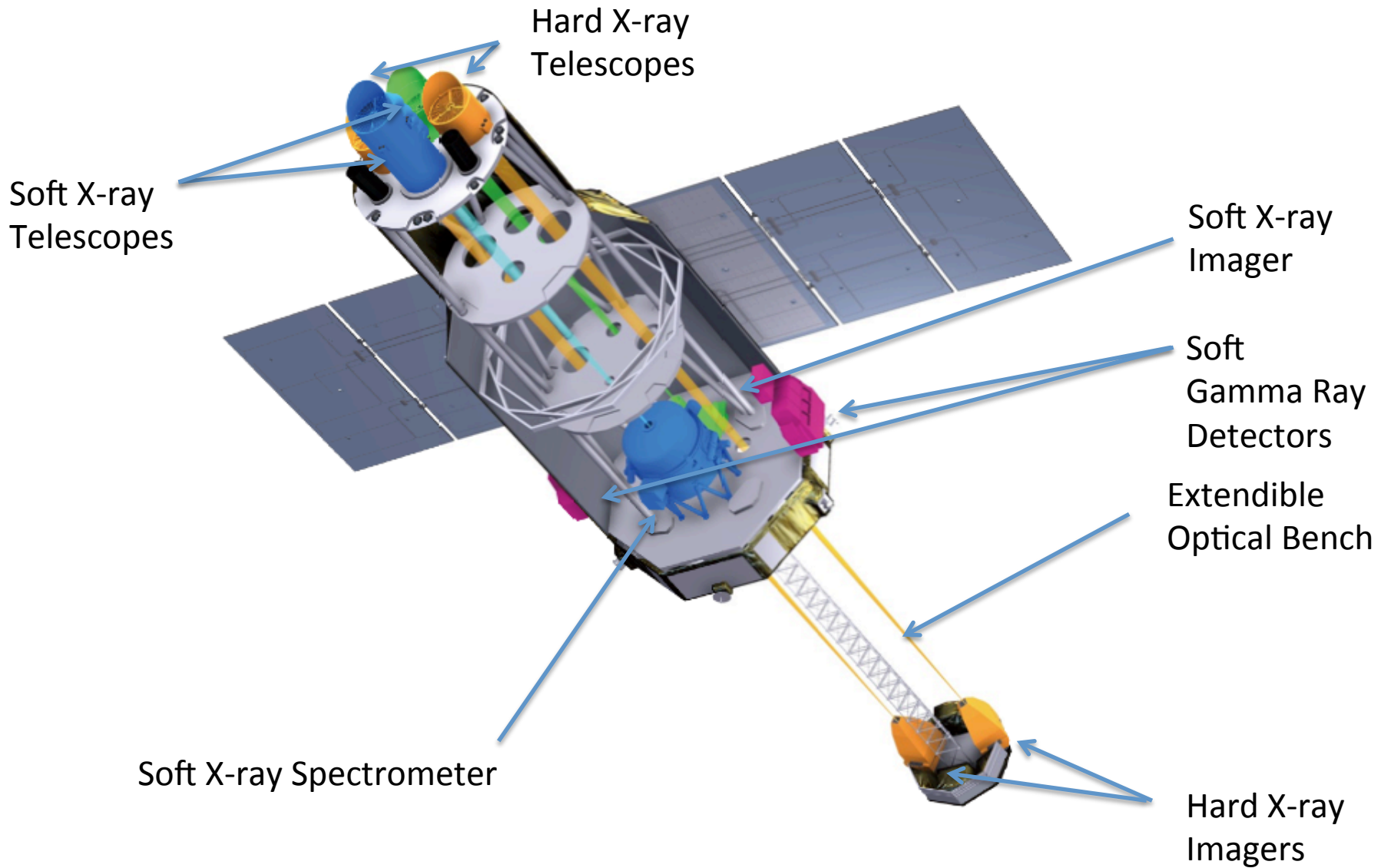
- Revealing the large-scale structure and its evolution of the Universe
- Understanding the extreme conditions in the Universe
- Exploring the diverse phenomena of the non-thermal Universe
- Elucidating dark matter and dark energy

Key features :

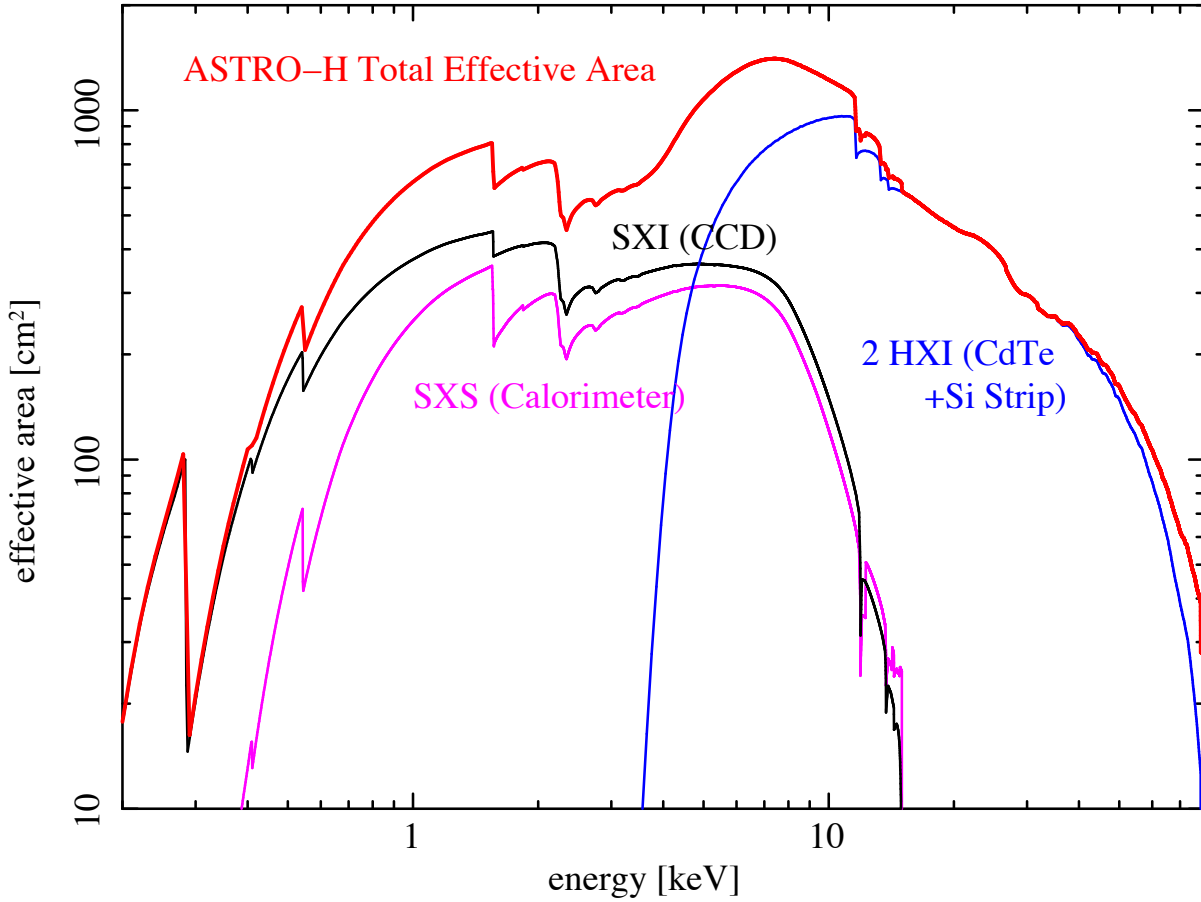
- High resolution spectroscopy with X-Ray Microcalorimeter
- Hard X-ray focusing imaging
- High sensitive wide-band spectroscopy (0.3-600 keV)

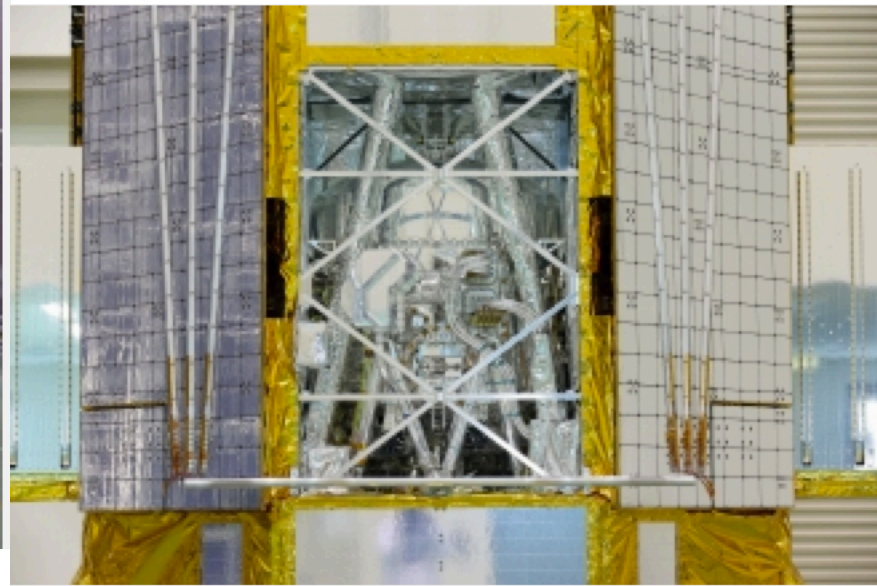


A Tour of Astro-H

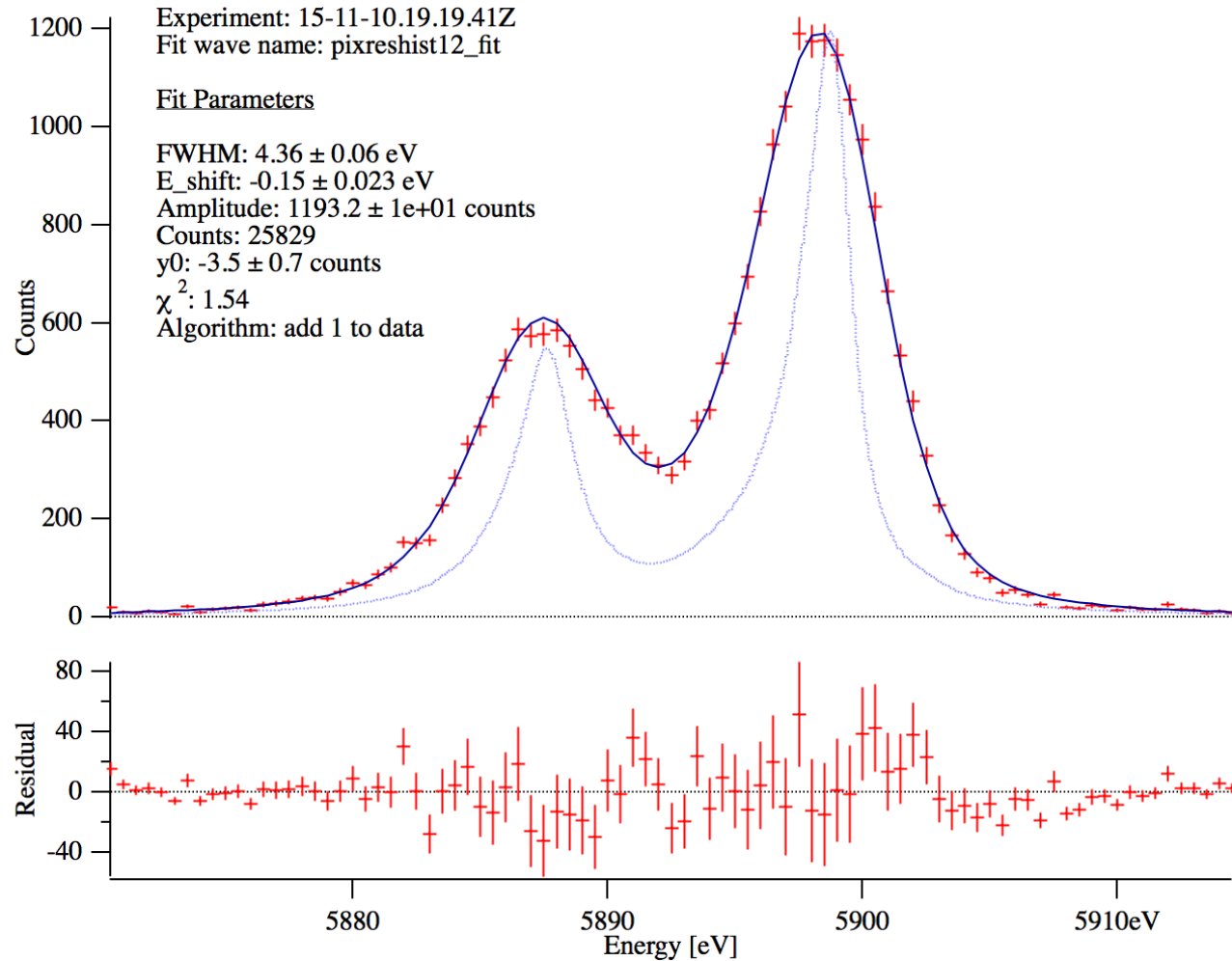


Effective area of ASTRO-H imaging instruments





SXS resolution during pre-ship functional test (October 2015)



ASTRO-H arriving at Tanegashima



ASTRO-H Schedule to Launch

1/12 – Media event at launch site

1/18 – Fill hydrazine tank

1/21 – Launch Readiness Review

1/23 – Remove non-flight items, final visual inspection

1/24 – Attach spacecraft to rocket

1/25-28 – Attach fairing

1/27 - KDP-E at NASA HQ

2/2 – Battery charging

2/7 – Operational check of SXS; low-temperature top-off of LHe

2/11 – L1 performance check

2/12 – Move to launch point point

2/12 – Launch 17:45 JT (5:45 EDT)

ASTRO-H Post-launch Schedule

L+~1 week	SXS “first light”
L+~1 week	EOB deployment
L+~1 month	All instruments on SXS gate valve open Begin 2-month calibration phase
L+3 months	Begin 6-month PV observation phase
L+9 months	Begin AO1

ASTRO-H GO Program

- US scientists have access to generous data share: ~50 percent of data
- Cycle 1 announcement will be released on April 1, 2016
 - PV target list will be released by announcement date
 - US scientists only respond to NASA call; scientists from elsewhere propose to either simultaneous ESA or JAXA call
- Proposals will be due on July 1, 2016
- J/US merging in October, 2016
- Observations will begin in mid November, 2016
- Two stage proposal process – observing, budget
- Total budget for Cycle 1 is \$5M (to cover 50-100 proposals)

ASTRO-H Special Session at HEAD

- HEAD meeting in early April: we will know the basic performance of the observatory and instruments.
- Meeting coincides with the release of the Cycle 1 call for proposals.
- Session program:
 - T. Takahashi (ISAS/JAXA) – Overview of Observatory properties and performance and (very) early results
 - R. Kelley – (GSFC) Overview of SXS properties and performance
 - K. Mukai (GSFC/CRESST) – Cycle 1 details