Suzaku Mission Status

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Wide band X-ray spectroscopy from 0.3 keV to 600 keV

Suzaku Special Issue

  - >30 scientific papers were published/accepted in refereed journals. (More than ASCA publications at the same stage.)
  - From the Earth’s magnetosheath (d ~ 6000 km !) to active galactic nuclei and clusters of galaxies.
Suzaku Conference in Kyoto

The Extreme Universe in the Suzaku Era
Kyoto, Japan December 4-8, 2006

< Topics >
Diffuse X-ray Sources in Galaxies
Extended Thermal X-ray Structures
Non-thermal X-ray/GeV Emission
The Galactic Center and its Environments
X/$\gamma$-rays from Stars and Compact Objects in Galaxies
White Dwarf and Neutron Star Binaries
Isolated Compact Stars
Normal Stars, Planets and Nebulac
Structure and Evolution of Galaxies and Clusters
Chemical Compositions and Evolutions
Thermal and Non-thermal Structures
Stellar/Intermediate/Super-Massive Black Holes
Accretion Physics on Black Holes
Outflow/Jets from AGNs and Micro-Quasars
Extremely High Energy Objects
Gamma Ray Bursts
GeV/TeV Emissions
Cosmic Rays and Neutrinos

Special Session: "The millennium of SN 1006: Particle acceleration"

Attendance 386
(Foreign attendance 134)
AOI Observations

Calibration
Observatory
Director’s Time
AO:Priority A
AO:Priority B
AO:Priority C

We use Director’s time to compensate the time due to the loss of 1 XIS
We owe many PhD students/PostDocs and Assistant/Associate Professors in Japan, who are to act as a duty scientist (Touban or Advocate in Swift). Once a shift is assigned, they are asked to make operation commands required for each observation (including GO) and does Quick Analysis for health care of the satellite.
Mission Status

• Observatory Status : Nominal

• Ground Station Status : Nominal

• We do not see any failures in the satellite

• There are some detector-related issues to be reported
Update of the on-board software

AOCS (attitude/orbit control system)
Software updated on Feb 19-21, 2007

Purpose

Avoid misidentification of tracking stars in SAA.
Consistency check between 2 STT data is added.

AO1 period (2006/4 - 2007/3)

Safe-hold mode : 1 (2 in total)
Attitude offset: 2 (2 in total)

These will be avoided

Note

The other safe-hold mode was due to the operation error. We revised command generation software to avoid such human error.
Repair of the ground station (USC)

Some of the contact passes were canceled due to:

• Strong wind: April 20, June 15
• Hardware trouble: April 25
• Thunder & power failure: July 5, Sept 5

Following countermeasures were taken for more stable mission operations:

• Some of the ground equipments were updated for both the 34m and 20m antenna.
• Grounding of the building and equipments was improved to prevent any damage due to lightening.
Operational countermeasure to the DR trouble

• We experienced data loss due to the malfunction of the data recorder.
  – April 10 & 13, 2007 (Recording was abnormally stopped)
• DR uses 3 memory boards, which work cyclically like an endless tape. It turned out that, in a rare occasion, DR failed to switch from the memory board #2 to #0.
• The cause was thoroughly investigated, and is well understood now.
• We decided to start recording from #0 every day to prevent switching from #2 to #0.
• No data loss is reported since then.
Issues to be reported

- **XIS Contamination (optical blocking filter)**
- **Trouble in one of Four XIS detectors**
- **Recovery from the degradation of XIS spectral performance by Charge Injection**
- **Developed a new method to improve the attitude determination (Now we have “designed” image capability)**
- **Reduction of bias voltage of PIN detectors (50 %) due to an increase of low energy noise**