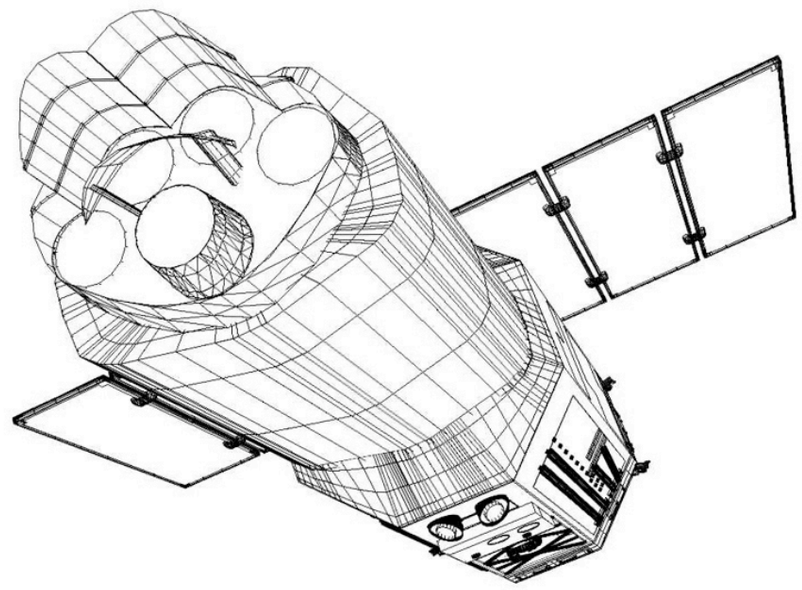
Suzaku Mission Status

Tad Takahashi
Deputy Project Manager
ISAS/JAXA

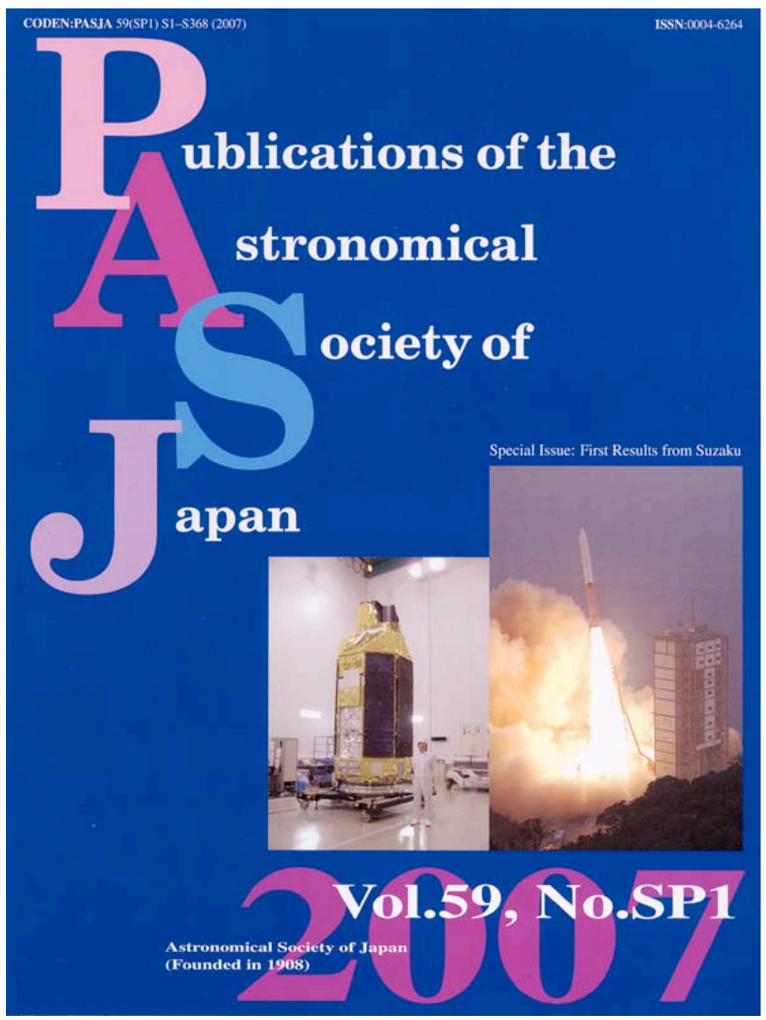
Suzaku

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

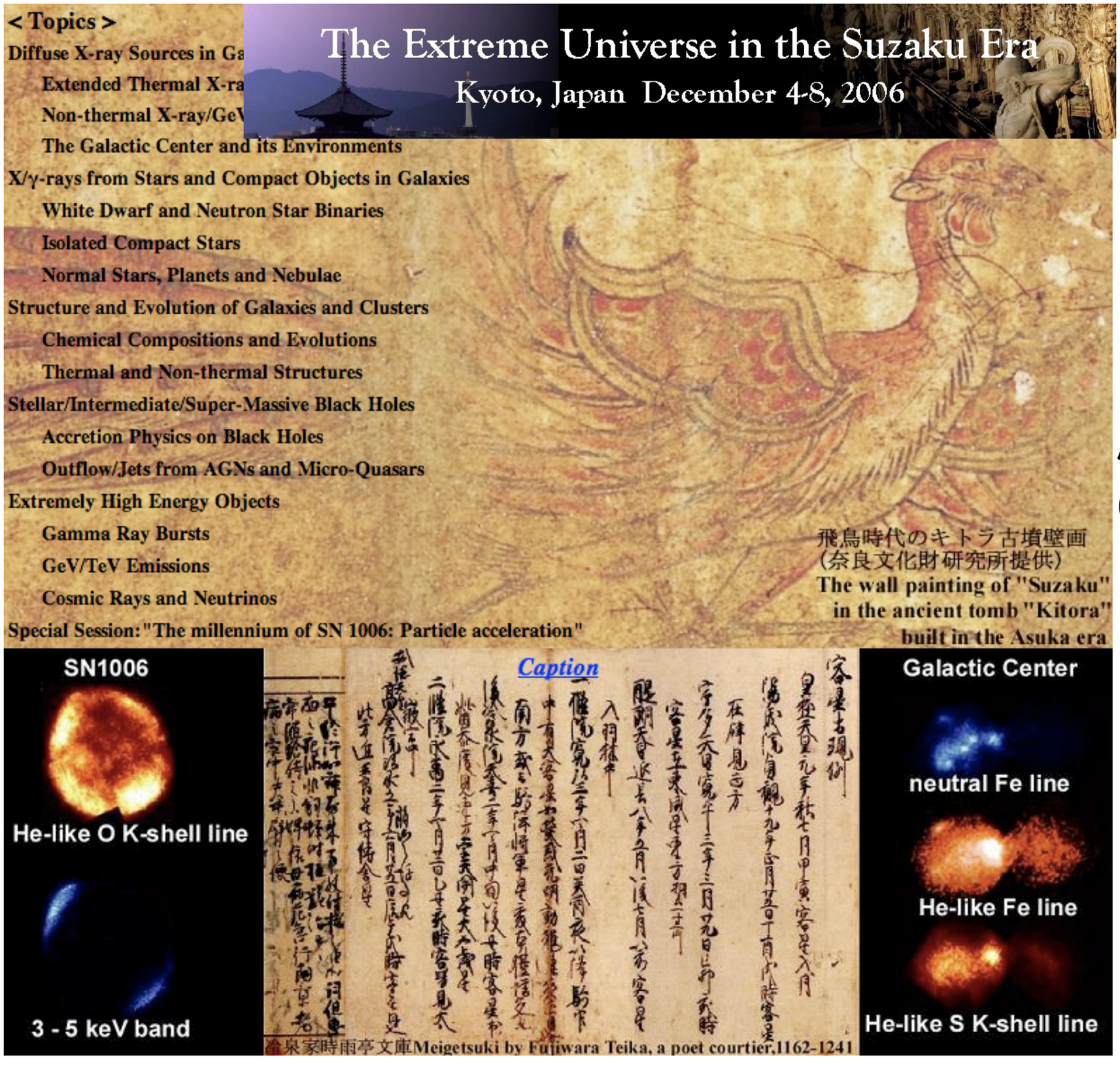


Suzaku Special Issue

- Scientific results from performance-verification observations (Aug 2005-Mar. 2006)
  - >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.



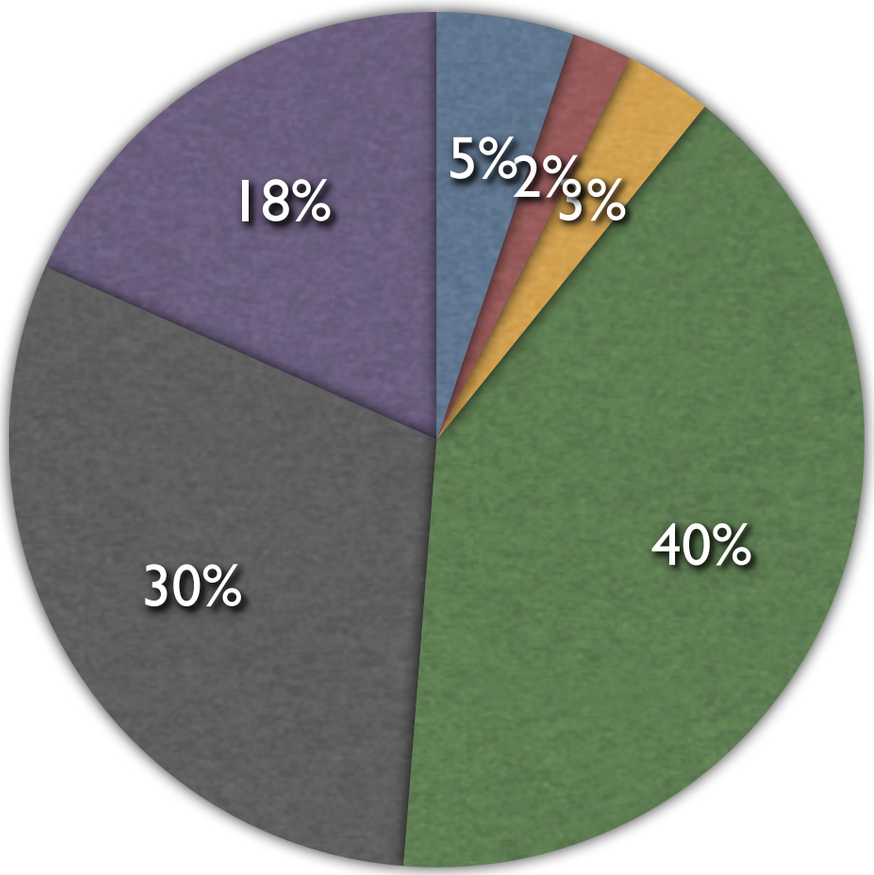
Suzaku Conference in Kyoto



Attendance 386
(Foreign attendance 134)

AO1 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

	Planned	Used
Calibration	400	802
Priority	532	353
Director's Time	666	516

(ks)

Priority	Approved	Observed	CarryOver
A	11472	6268	138
B	4682	4708	118
C	5307	2847	

Proposed TOO

SGR 1806-20	20k	2007/3/30
SGR 1900+14	20k	2006/4/1
GX339-4	100k	2007/2/12

DDT TOO

GRB060904A	2006/9/4
CXOU_J164710.2-455216	2006/9/23
IGR_J17497-2821	2006/9/25
XTE J1856+053	2006/3/18
GRB070328	2006/3/28

Operation

- 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. 2007.4.24 19:55

『すざく』運用当番：2007年5月（第7版）

2007年	5月		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
SSOC			火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	
下川辺隆史	東工大	D1	▲	▲																														4/26から
尾崎正伸	ISAS		●	●																														
佐藤浩介	東理大			○	●	●	●		●																									
北口貴雄	東　大	D2			▲	▲																												
吉野友崇	ISAS	D2					▲		▲																									
有元　誠	東工大	D2							△	▲	▲	▲	▲																					
渡辺 伸	ISAS									●	●	●	●																					
久保田香織	京　大	D1										△	△	▲		▲	▲	▲																
篠崎慶亮	ISAS												○	●		●	●	●																
木村俊介	ISAS	D1															△	△	▲	▲	▲		▲											
片岡 淳	東工大																	○	●	●	●		●											
杉田聡司	青学大	D2																			△		△	▲	▲	▲	▲							
江副祐一郎	理　研																						○	●	●	●	●							
中平聡志	青学大	D1																								△	△	▲		▲	▲	▲		
鈴木素子	JAXA																										○	●		●	●	●		
伊藤　健	東　大	D3																														△	▲	6/4まで
前田良知	ISAS																																●	6/4まで
受信時間帯（JST概略）			22-5時					20-3時					17-24時					15-22時					13-20時					10-17時						
USC																																		
Norbert Nemes	阪　大	D3	▲	▲	▲	▲	移	←受信終了後																										4/22から
中嶋　大	阪　大		●	●	●	●	●	●	●	●	●	移	←受信終了後																					4/26から
岸下徹一	ISAS	D2	受信開始前→		移	△	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	移	←なるべく遅く													
片桐秀明	広島大					受信開始前→		移	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	移	←なるべく遅く								
内田裕之	阪　大	D1											なるべく早く→			移	△	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	移	←なるべく遅く	
高橋弘充	広島大																早め→	移	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6/4まで	
関口晶子	ISAS	D1																										早め→	移	△	▲	▲	6/11まで	

●：上位ビット
▲：下位ビット
白抜：引き継ぎ、見習い

Sagamihara
ISAS

Kagoshima
USC

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.

34mϕ 20mϕ

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