

# すばる望遠鏡 アーカイブシステム(STARS)の更新

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## My talk will cover ...

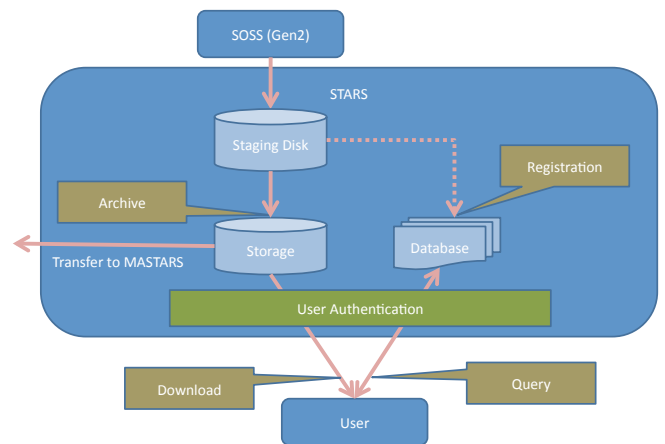
- What is STARS for.
- Why we are making a new version of STARS.
- What STARS 2 looks like.

## What is STARS?

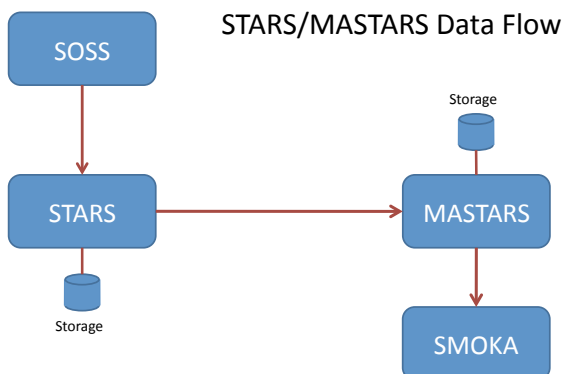
- STARS = Subaru Telescope Data ARchive System
- MASTARS = Mitaka Advanced STARS

### Goals

- Archive all the engineering/science data obtained by Subaru Telescope.
- Provide observation data to the observers.



## STARS/MASTARS Data Flow



## Archive all the engineering/science data obtained by Subaru Telescope

- Archive all the **raw** engineering/science data.
- Archive QDAS data (processed data).
- Archive status data and log from the telescope and the instruments.
- Reduced data is not archived (exception = QDAS).
- All the archived data will be kept during the lifetime of the STARS project.

## Provide observation data to the observers

- Query (Search) function is equipped.
- Data taken within a proprietary period (18 months) can be accessed only by the observers.
- Data of which proprietary period (18 months) expired can be accessed by all the STARS users.
- STARS accounts are given only to observers and eligible staff members.
  - STARS is not made as a public data server for “opened” data.
- In a broad sense, giving observation data with a media (tapes or DVD) is a part of STARS function.

## STARS account

- A STARS account for each PI must exist. If the account does not exist, a new account is created.
- A STARS account for Col is created upon a request from the PI. Even if the account of Col exists, the access privilege to the data is created only by a request from the PI.
- STARS account made for observers won't expire. STARS account made for a staff member won't expire even after he/she leaves Subaru as long as he/she accesses STARS for science purposes. STARS account made for a staff member will be closed if he/she no longer has to use STARS.

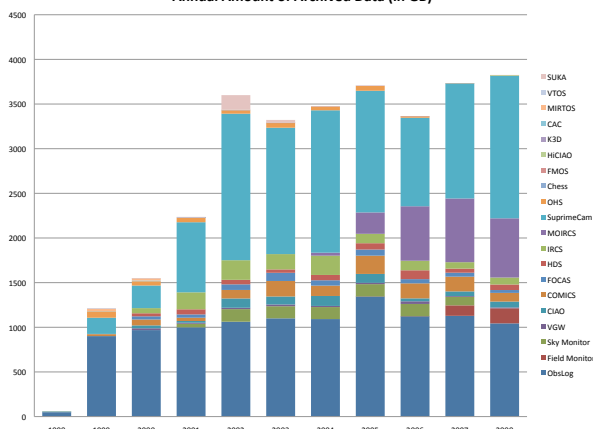
### How much STARS/MASTARS has been used



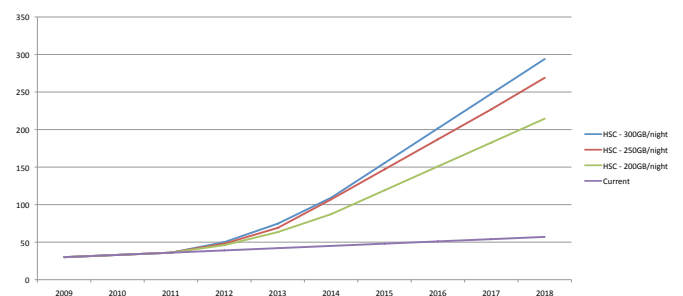
### How much STARS/MASTARS has been used

	# Transfer STARS	# Transfer MASTARS
Jun-08	48	28
Jul-08	97	70
Aug-08	125	140
Sep-08	78	59
Oct-08	87	14
Nov-08	86	28
Dec-08	40	24
Jan-09	61	56
Feb-09	46	42
Mar-09	45	8
Apr-09	70	148
May-09	63	88

### Annual Amount of Archived Data (in GB)



### STARS Archive Projections through 2018 (in TB)



## Why We Need MASTARS ?

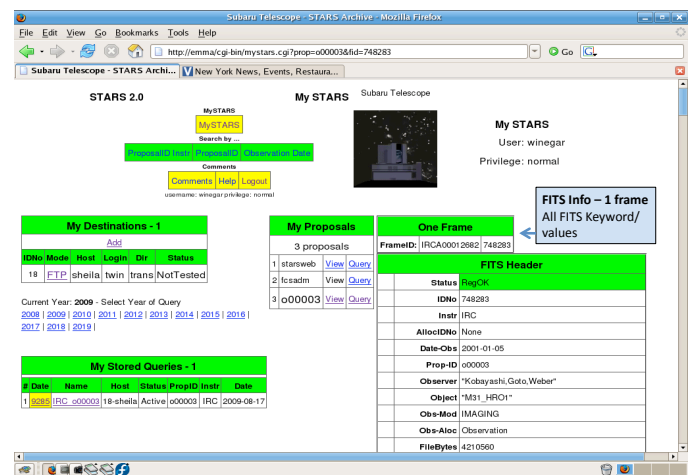
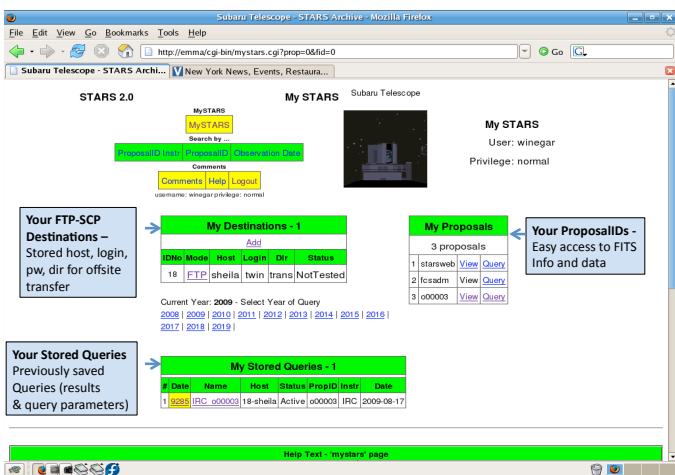
- Data security – Three sets of data in two physically isolated locations are ideal (More copies on more locations are even better).
- We can give faster access of data to Japanese observers, the dominant STARS users.
- MASTARS archive can be maintained by experts in ADC, NAOJ.

## Why We Need STARS 2 ?

- Reducing the cost by using open-source software such as Linux OS and MySQL (comparing with Sun OS and Oracle) and by in-house development.
- In-house development benefits modifications and upgrades that would meet observatory/user needs.
- Current hardware for STARS 1.4 will be gone by February 2013.

## Screen Shots

Feature Highlights



Many parameters for query Instrument, PropID, FrameID range, ObsDate range, FITS Keyword=values

Stored Queries are 'named by user' Query parameters are also stored, can be recalled in new query

Seq	Frame ID	ProposalID	Date Obs	ObsTime	Observer	Obs Mode	Obs Alloc	Object	Data-Typ	Calib?
1	IRCA00012682	o00003	2001-01-05	23:24	*Kobayashi, Goto, Weber	IMAGING	Observation	"M31_HRC1"	DITHERING	0
2	IRCA00012686	o00003	2001-01-05	23:24	*Kobayashi, Goto, Weber	IMAGING	Observation	"Orion182-332"	DITHERING	0
3	IRCA00012687	o00003	2001-01-05	23:24	*Kobayashi, Goto, Weber	IMAGING	Observation	"Orion182-332"	DITHERING	0
4	IRCA00012691	o00003	2001-01-05	23:27	*Kobayashi, Goto, Weber	IMAGING	Observation	"Orion182-332"	DITHERING	0

Query User (ID): winegar (9285) Copy Search Params

Access data (insecure-token): <http://c0:DSKR-DwVbNL@emma.subaru.nao.ac.jp/data/subUEIFQz>  
 (secure-LDAP): <http://emma.subaru.nao.ac.jp/data/subUEIFQz>

Seq	FrameID	Status	Count	MDS
1	IRCA00012682	Query	1	None
3	IRCA00012687	Query	3	None

Right-Click file to 'Save Link' locally

DownloadTar	all routes included	SPQuery.tar
Primary UH	UH http only	uhm.txt
Primary UH	UH https	uhns.txt
Backup T1	T1 http only	t1m.txt
Backup T1	T1 https	t1ns.txt
Internal STN - http	internal http only	oc3n.txt
Internal STN - https	internal https only	oc3ns.txt

or you can download files singly from the complete Directory Listing

Name	Last modified	Size	Description
<a href="#">IRCA00012682.fits</a>	17-Feb-2002 21:34 4.0M		
<a href="#">IRCA00012686.fits</a>	14-May-2002 17:39 4.0M		
<a href="#">IRCA00012687.fits</a>	17-Feb-2002 20:12 4.0M		
<a href="#">IRCA00012691.fits</a>	17-Feb-2002 20:12 4.0M		

Download Manager - DownThemAll For Firefox Add 'fits' to images filter

Parallel Download With Progress bars

URL Task	Percent	Progress	Dimension	Est. time	Speed	Parts
IRCA00012682.fits	100%	Complete	4.02 MB/4.02 MB	Complete	0/s	0/5
IRCA00012686.fits	100%	Complete	4.02 MB/4.02 MB	Complete	0/s	0/5
IRCA00012687.fits	100%	Complete	4.02 MB/4.02 MB	Complete	0/s	0/5
IRCA00012691.fits	100%	Complete	4.02 MB/4.02 MB	Complete	0/s	0/5
IRCA00012695.fits	100%	Complete	4.02 MB/4.02 MB	Complete	0/s	0/5

Each Stored Query sends PI Email

1 tar file attachment - All Wget input files + UNIX 'Auto-download' Program with authentication

Data Access - Insecure authentication - can be forwarded to Co-I

Future: Automatic data delivery PI email sent after every observation

Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://emma/cgi-bin/login.cgi

http://emma/cgi-bin/login.cgi New York News, Events, Restaura...

# STARS 2.0 Subaru Telescope ARchive System



### STARS 2 Development Schedule

Mar 2009	STARS 2 Review – Mitaka
May 2009	STARS 2 Review – Hilo
July 2009	Query Release – Support Scientists
Sept 2009	Query Release – Subaru/MTK
Nov 2009	Query Release – Observers

courtesy of the  
Subaru Telescope  
National Astronomical Observatory of Japan

