

SAC' s suggestions for Effective Use of Archived Data

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SMOKA as the Data Archive System for Subaru Data

- ★ **SMOKA**: **S**ubaru **M**itaka **O**kayama **K**iso **A**rchive System
- ★ Operated by ADAC/NAOJ (and observatories)
- ★ Providing raw and a partly calibrated data(SuprimeCam)
- ★ About 160 users (2004) ~60% are Japanese users
- ★ >300 GB / month data download(increasing year by year)
(~2-3 times of nightly data production rate(~8GB/nts.))
- ★ Scientific output(13 papers/ 1 thesis)

For the detailed Nakata-kun will present on **SMOKA/NAQATA** later.

Current Remarkable Problems

- Not much Scientific Output
- Too little output based mainly on archived data
- Few Japanese PIs (Many are related to /collaborate with UH astronomers)
- No scientific output from users who downloaded much data

Where are the causes ?

- Unmatched Data Quality against user' s needs

- ★ They are not ready to use

- Not cataloged/Not Calibrated/Not Mosaiced

- No/little information/guarantee for correct/appropriate calibration**

- No other way than gettingg all data and reduce them for confirming.... !?**

- Possible/Probable Time wasting and may lose ambitious activities/users....**

- Lack of Man power for smooth operation

- Lack of documentation/softwarewares

Direction for the future progress

- Providing Calibrated/Mosaiced Data on some famous fields taken by SuprimeCam
- Data-Software-Docs sets for educational purposes to (grad.)students.
- Quality-Control Capability(QC'd data)
- Acceptance of archive data based Proposals as a category of “open use”

Providing reduced/stacked/mosaiced Image of the famous fields

- As a first step, try for the SuprimeCam data
MOIRCS images in the future ?
- HDF-N, Lockman-Hole, SSA13, SSA22 (SDF, SXDS, COSMOS)
Quality should be kept at a certain level,,
- >1 Post.-Doc. Staff familiar to data analysis of SuprimeCam data
(essential to **work exclusively for** it...!!)
with supporting staffs/groups (instrument specialist etc...)
- Release publicly the multi-band catalogs and images
- Error maps/exposure maps essential
(Data quality should be shown to the users)
Quality Assessment for the limited data => proto-type for next QC
- Initiated/Executed mainly at Mitaka
- 1-2 year limited term project

Provision of Data-Set Packages for the educational purposes

- ★ Data-Set
- ★ Data Analysis/Reduction Packages
- ★ Documentation (Data Handbook/Instrument Handbook)

Simple version is acceptable at first...

- How many instruments are covered ? => Limited numbers first.
- Preparation of documentation is a key (no hard load to SS,,)
- Easier for the data of SuprimeCam and HDS
- Within 2-3 years all target instruments should be covered.

Should be planned/conducted/operated with close cooperative works among Univ. and Subaru staffs

Provision of Quality Controlled Data

Calibrated data with enough information on data quality

- Effective parameters for data searching/mining
seeing value, sky level (limiting magnitudes), zero points etc.,,
- Provision of calibrated data
- QC as a quick feedback system for observatory operation
combination with pipeline/observing procedures
- Continuous/Long term watching of telescope/instrument performance
- Trend analysis/visualization software
- More calibration information/data for accurate calibration
- More than 5 years continuous efforts will be necessary

Continuous and well-organized operation/development are essential

Will take a long time(at least 2-3 years) for confirming the productivity

Need specialist for every instrument ?

Realtime QC and feedback should be applied for the data coming out in the future

1st target may be those taken in service observation

Calling for archive proposals

- Computer resources (large disk space, enough CPU/IO power)
Specialized user supporting staffs (SS level)
Support on travel fee for users
- Systematic/well-organized operation for proposal management
- QC based data must be essential
- 5 years or later from now if go to run
(After enough accumulation of QC-based data
=> assuming QC system running)
- Operated at Mitaka headquarter

Proposed Timetable

