

SMOKA

CURRENT STATUS AND FUTURE PLANS

Hisakazu Uchiyama

Yasushi Nakajima, Takeaki Ozawa, Hisanori Furusawa, Shin-ichi Ichikawa (NAOJ, ADC)



SMOKA

SUBARU-MITAKA-OKAYAMA-KISO-ARCHIVE SYSTEM

- ✓ The archival system for astronomical observation data from Japan's optical-infrared telescopes
<https://smoka.nao.ac.jp/index.jsp>
- ✓ To facilitate the generation of new research findings, validation of research outcomes, and advancement of research education: primarily release raw data
- ✓ already released ↓

Subaru: S-Cam, FOCAS, HDS, OHS/CISCO, IRCS, CIAO, COMICS, CAC, MIRTOS, MOIRCS,
Kyoto-3DII, HiCIAO, FMOS, HSC, CHARIS, IRD, SWIMS, MIMIZUKU, VAMPIRES

Okayama: ISLE, KOOLS, HIDES, OASIS, SNG, MuSCAT

Kiso: 1kCCD, 2kCCD, KWFC

MITSuME: MTA, MTO

Kanata: HOWPol, HONIR

Nayuta: NIC

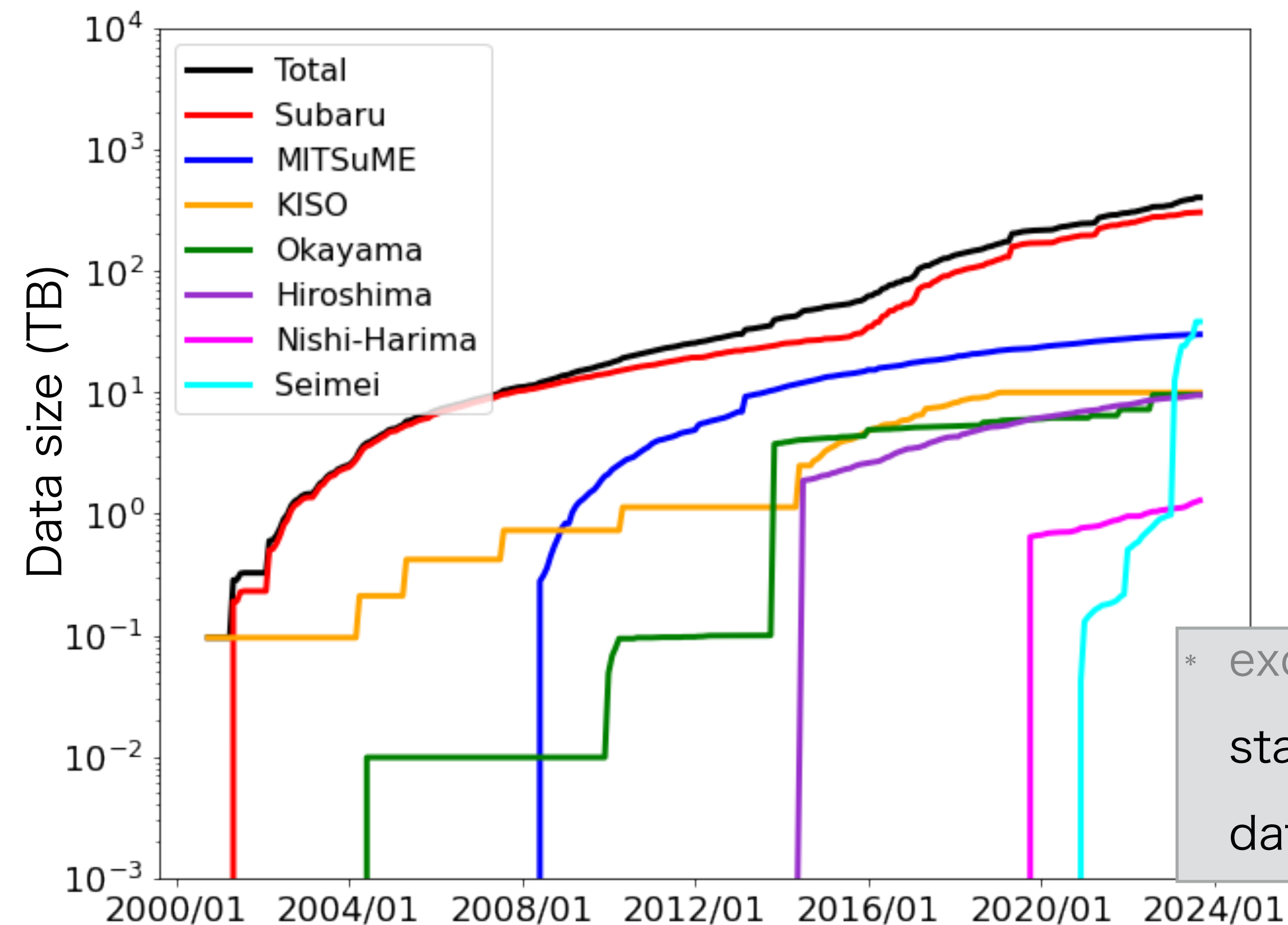
Seimei: KOOLS-IFU, TriCCS

* Using a similar system, also released
Sky monitor imaging data,
Tomo-e Gozen stacked data,
Digitalized data of photographic plate

THE AMOUNT OF PUBLIC DATA

THE TREND OF SMOKA'S CUMULATIVE RELEASED DATA OVER TIME.

√ 38.72 million frames、 453TB (at 2024/1/1)



* excluding the Tomo-e Gozen stacked data, digitalized photographic data, and sky monitor data

SMOKA FEATURES

DATA SEARCH AND DATA REQUEST



<https://smoka.nao.ac.jp/index.jsp>

✓ Data Search

Simple Search, Advanced Search,
Suprime-Cam Search, HSC Search,
Pinpoint Search, Calendar Search,
All Keywords Search

✓ Data Request

Request from the search result,
Mail-based request

Data Search

Abbreviations for search available data of telescope or observatory are as fol

HHO (Higashi-Hiro

Simple Search (S

Advanced Search

and KWF ONLY)

SUP Search (SUP)

HSC Search (HSC)

Pin-point Search

Calendar Search

All Keywords Search

Summit Log Search

The screenshot displays the SMOKA Data Search interface. It includes sections for Search Conditions (Object Name, Resolver, Coordinate System, Field of View, Observation Date, Exp Time, Observer, Frame ID, Exposure ID, Output Format, Frame or Shot mode), Instruments/Filters (Instruments, Observation Mode, Data Type, Observation Category, Observation Band, Filter lists / Wavelength), and Output Options (Output columns, Order by, Maximum number of hits, Output Equinox, Show SQL Query). A list of available data abbreviations is also shown on the left side of the interface.

THE USAGE STATUS OF SMOKA

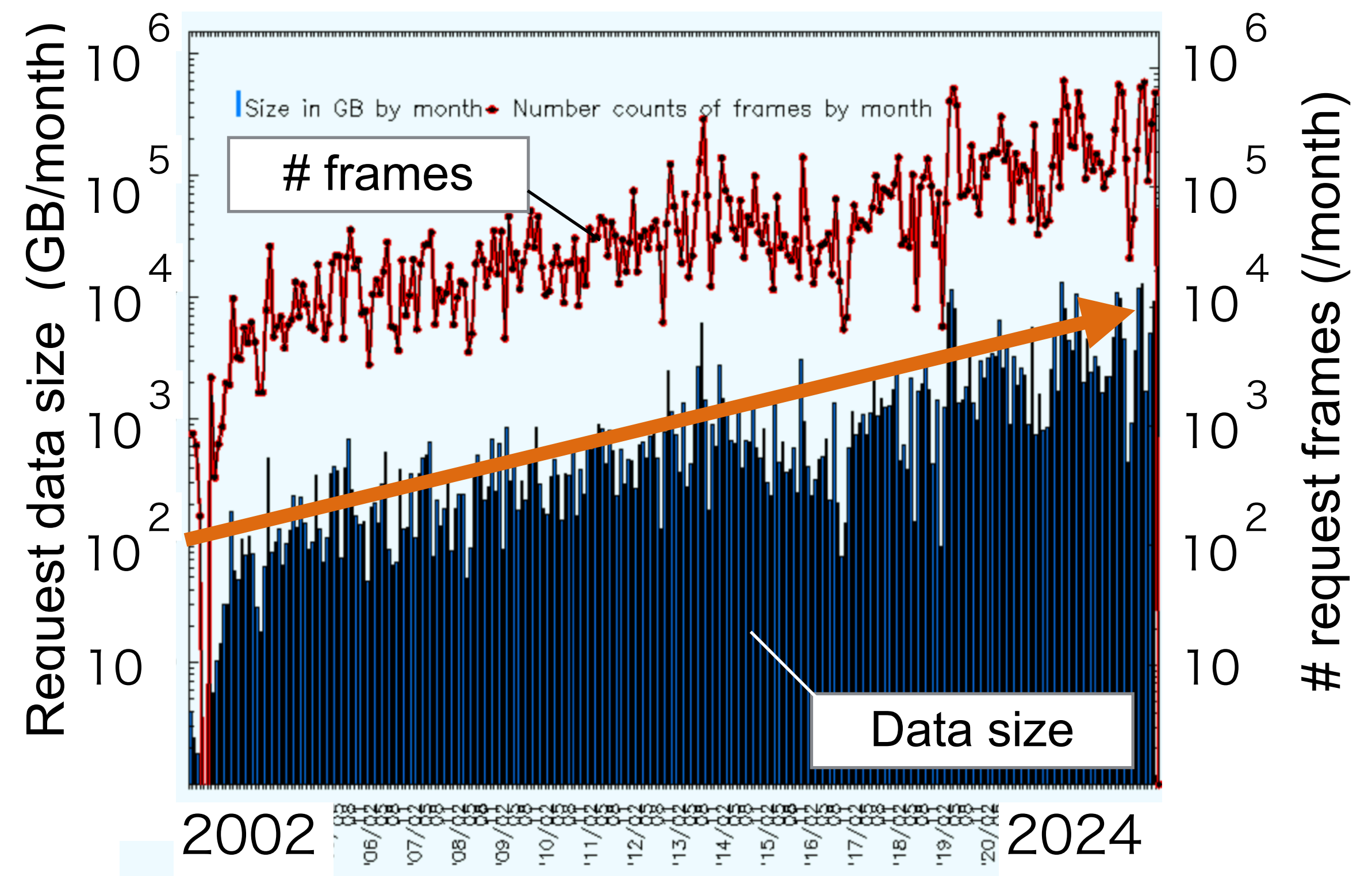
REGISTRATION AND DATA REQUEST

✓ # registered users

~250/year *reset every
academic year

✓ Recent data request volume

frames ~ 0.1-1 million/month
data size ~ 1-10 TB/month

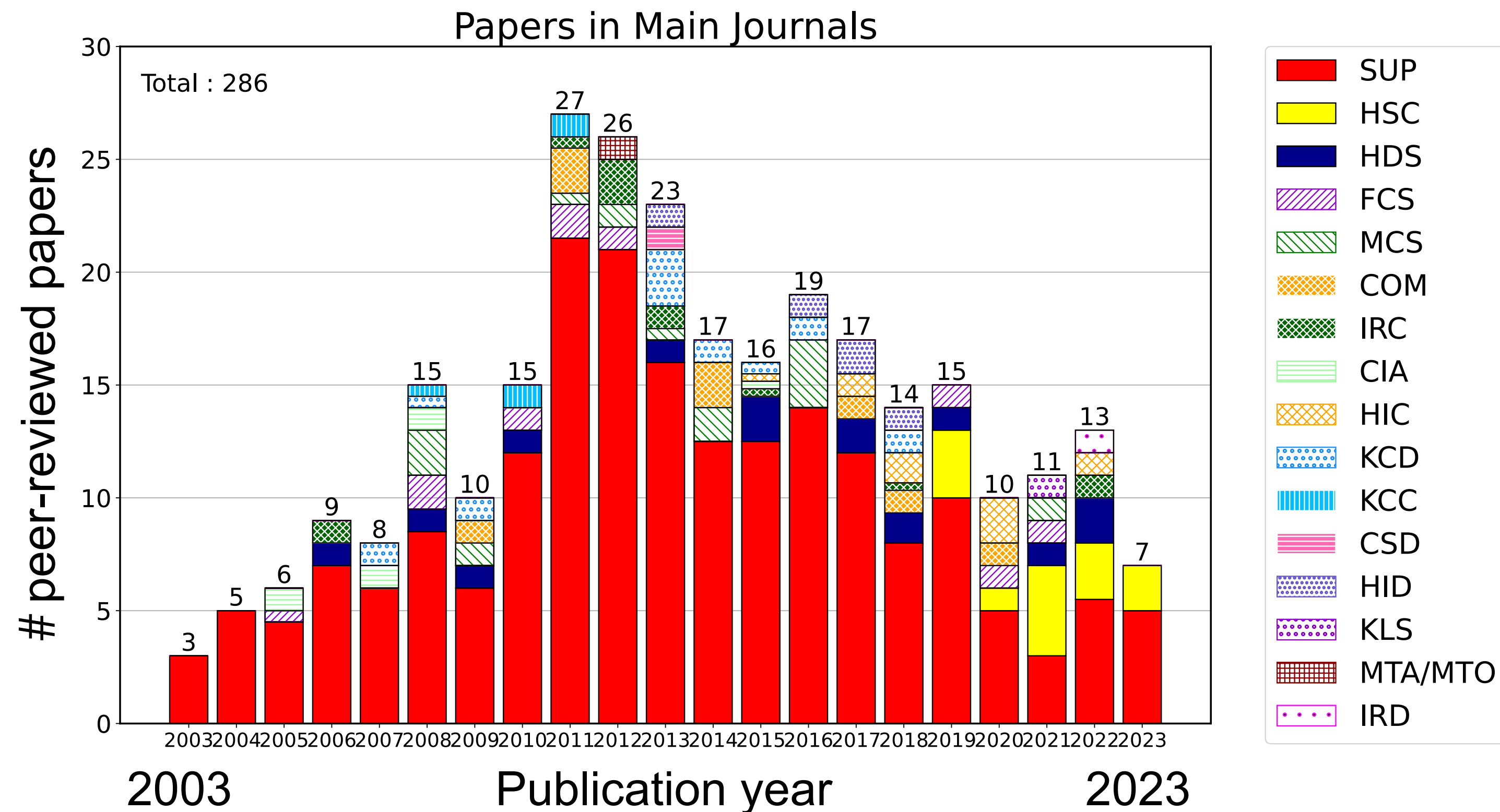


PUBLICATIONS

PUBLISHED PAPERS USING DATA OBTAINED VIA SMOKA (EXCLUDING DATA AVAILABILITY)

✓ Total # 286 (at 2024/1/1) : ~14/year

✓ ApJ, ApJL, ApJS, A&A, PASJ, PASP, MNRAS, ICARUS, Nature, Science



RECENT STATUS

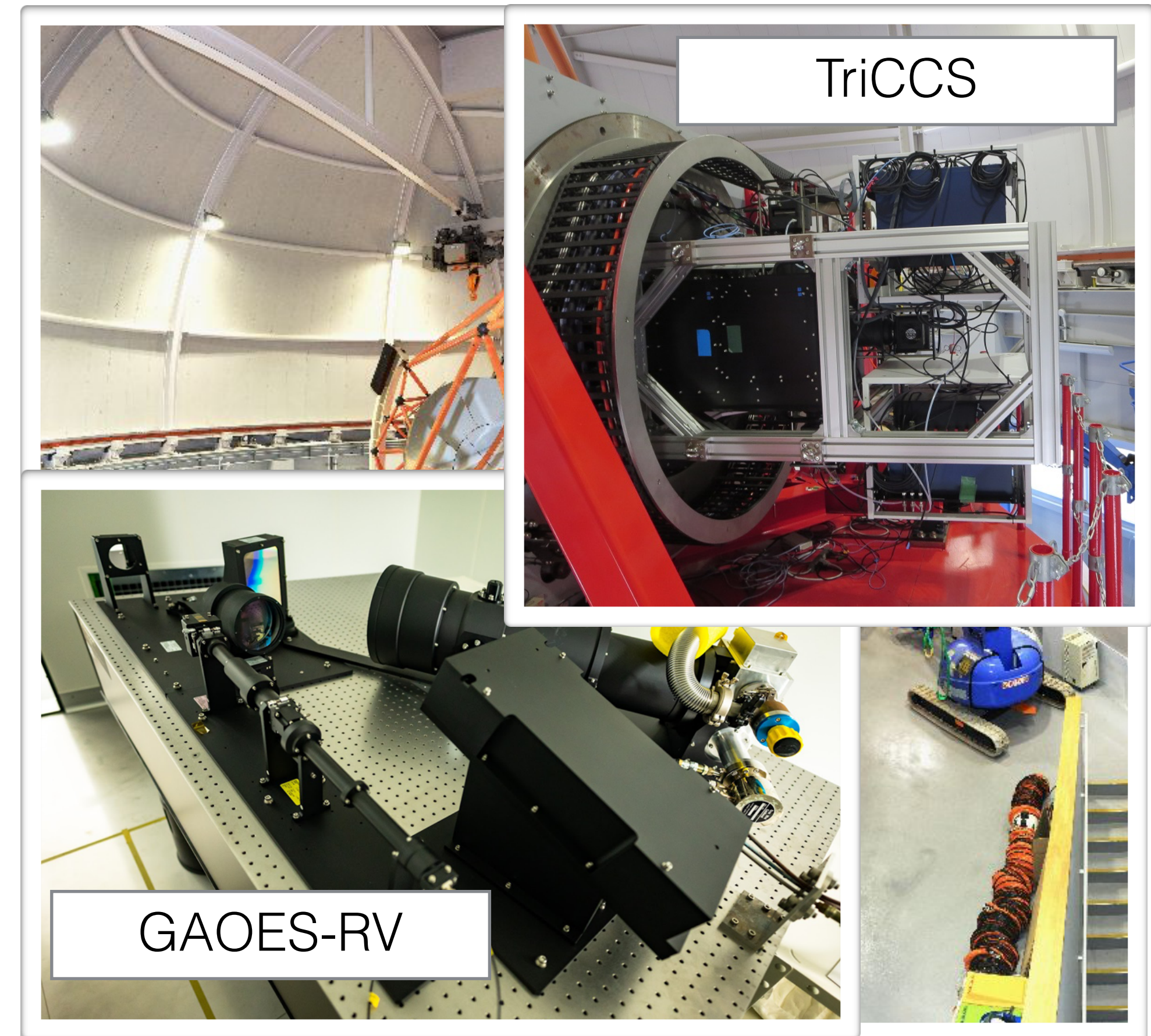
RECENT DEVELOPMENTS IN SMOKA'S DATA RELEASE

✓ Data release of new instruments

- Seimei/TriCCS (2023-02-07)

✓ Preparation for data release

- Seimei/GAOES-RV
 - discussion of header
 - 2023/7~Start of data transfer
- TAO
 - NICE header under discussion

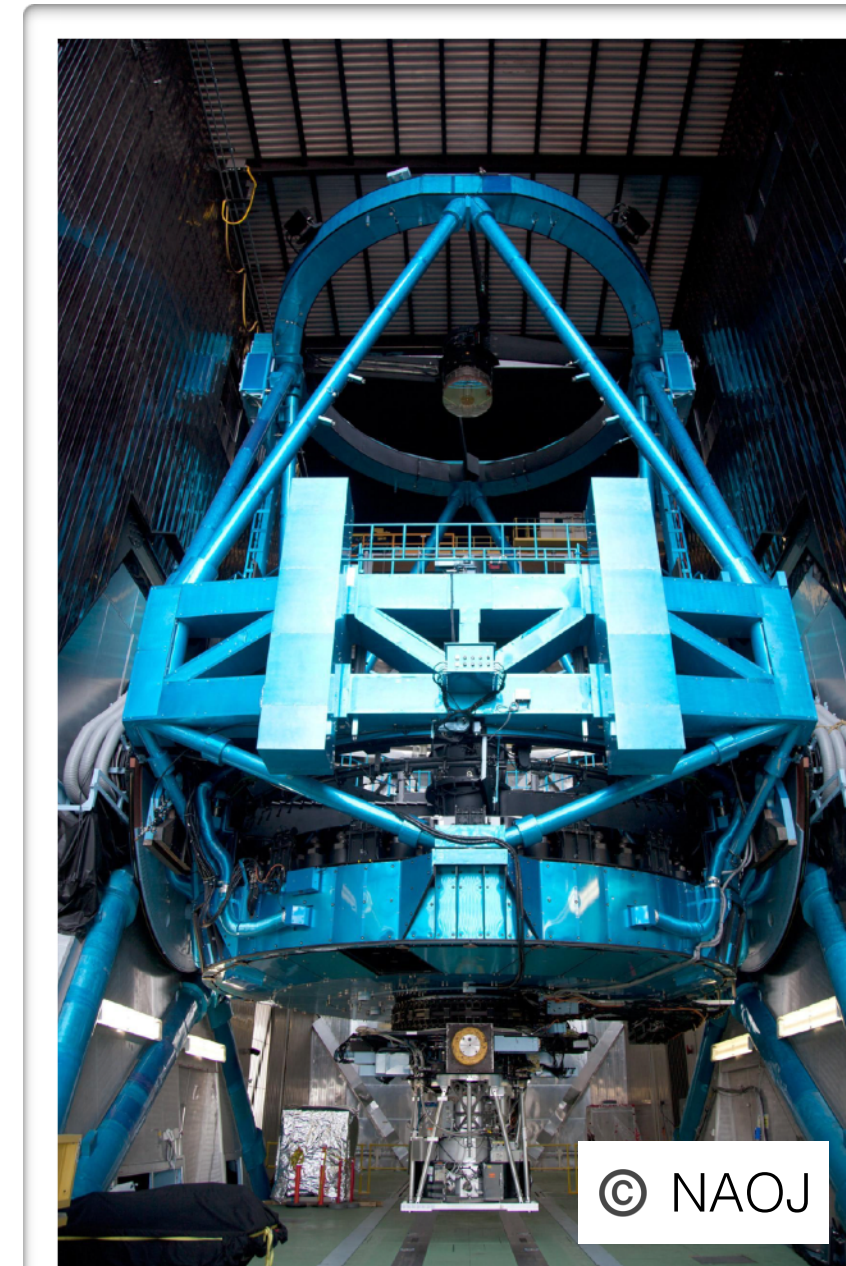


©Okayama Observatory, Kyoto University

FUTURE DIRECTIONS

FUTURE PLANS FOR THE RELEASE OF DATA FROM NEW INSTRUMENTS

- ✓ **Subaru Telescope**
 - Fast PDI, MEC, PFS
- ✓ **Seimei telescope**
 - GAOES-RV, NIRP_{ol}
- ✓ **Kiso Schmidt**
 - Tomo-e Gozen raw data
(First 100 shots of all-sky survey for each observation day + flat + dark)
- ✓ **TAO**
 - NICE, MIMIZUKU, SWIMS, ...





SUMMARY

CURRENT STATUS AND FUTURE PLANS

SMOKA

Subaru-Mitaka-Okayama-
Kiso-Archive system

- ✓ An archive system for astronomical observation data from Japanese optical and infrared telescopes
- ✓ Mainly releasing and providing raw data for the purpose of creating new research results, verifying research results, and promoting research and educational activities.
- ✓ Release of approximately 38 million frames of data with a data size of approximately 400 TB
- ✓ Various data search and request functions
- ✓ More than 280 peer-reviewed papers using SMOKA (average of about 14 per year)
- ✓ Upcoming plans to release data from Fast PDI, MEC, and PFS in the future.