

Status of the XMM-Newton Science Archive

XMM-Newton Users' Group Meeting #24

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Status of XMM-Newton Science Archive

CONTENT

1. XSA in a Nutshell:

- Data in the Archive
- How to Access Data

2. XSA Current Status

3. Completed activities during last period

4. Near Future Projects

5. Other Ideas

Status of XMM-Newton Science Archive

1. THE XSA IN A NUTSHELL

1. Data Content

- XSA is massive and rich archive which stores the **XMM-Newton data**.
- Pointing observation data (scientific raw data, results of the pipeline, slew observations and calibration) are well presented, **easy accesible** and with many **features and tools**.

- Apart from these *standard* data, **several catalogues** based on XMM-Newton data are included in the XSA: **4XMM** XMM-Newton EPIC sources (single and stacked), OM sources catalogue, also Slew Catalogue

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XMM-Newton Science Archive

HOME SEARCH COMMAND & URL ACCESS INTERACTIVE ANALYSIS TAP QUERIES ASTROQUERY ADMIN ONLY (XAT) Data Analysis Basket

Back to Search Close all

Results #1 Results #2 Results #5 Results #6 Results #7 Results #8 Results #9

OBSERVATIONS (37)

Columns Column units Display selected Add to Basket Save table as Send table to Reprocess RGS Spectra

		Obs.ID	EPIC	RGS	BKGD	ESASky	Target	RA	DEC	Rev	Distance	Start Date	End Date	Dur.	Target Type	PI name	Pro
<input type="checkbox"/>		0913990201					GSN069	01h 19m 08.65s	-34d 11' 30.5"	4135	0	2022-07-07 18:52:47	2022-07-08 11:19:07	59180	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0914791201	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4221	0	2022-12-26 14:02:20	2022-12-26 18:12:20	15000	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0914791601	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4228	0	2023-01-10 04:48:39	2023-01-10 08:33:39	13500	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0914792001	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4208	0	2022-11-30 05:43:33	2022-11-30 08:51:53	11300	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0914792401	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4219	0	2022-12-22 04:18:53	2022-12-22 07:18:53	10800	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0914792501	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4215	0	2022-12-14 04:50:45	2022-12-14 07:54:05	11000	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0851180401					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3567	0	2019-05-31 21:10:22	2019-06-02 10:47:02	135400	AGN UNCLASSIFIED	SCHARTEL (PS), NORBERT	
<input type="checkbox"/>		0864330101					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3679	0	2020-01-10 04:22:24	2020-01-11 19:32:24	141000	AGN UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0864330201					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3749	0	2020-05-28 21:02:01	2020-05-30 10:00:21	133100	AGN UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0864330301					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3752	0	2020-06-03 20:36:38	2020-06-05 09:36:38	133200	AGN UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0864330401					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3757	0	2020-06-13 18:55:19	2020-06-15 08:43:39	136100	AGN UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0864330701	N/A	N/A	N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3757	0	2020-06-13 17:55:19	2020-06-13 18:53:39	3500	AGN UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0884970101					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	3948	0	2021-06-30 12:33:07	2021-07-01 03:16:27	53000	UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0884970201					GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4026	0	2021-12-03 04:59:45	2021-12-03 20:21:25	55300	UNCLASSIFIED	Miniutti, Giovanni	
<input type="checkbox"/>		0884970401	N/A		N/A		GSN 069	01h 19m 08.65s	-34d 11' 30.5"	4026	0	2021-12-03 01:23:05	2021-12-03 04:59:45	13000	UNCLASSIFIED	Miniutti, Giovanni	

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Display a menu

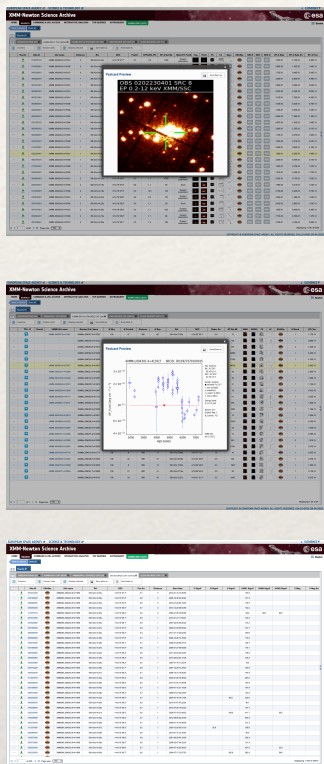
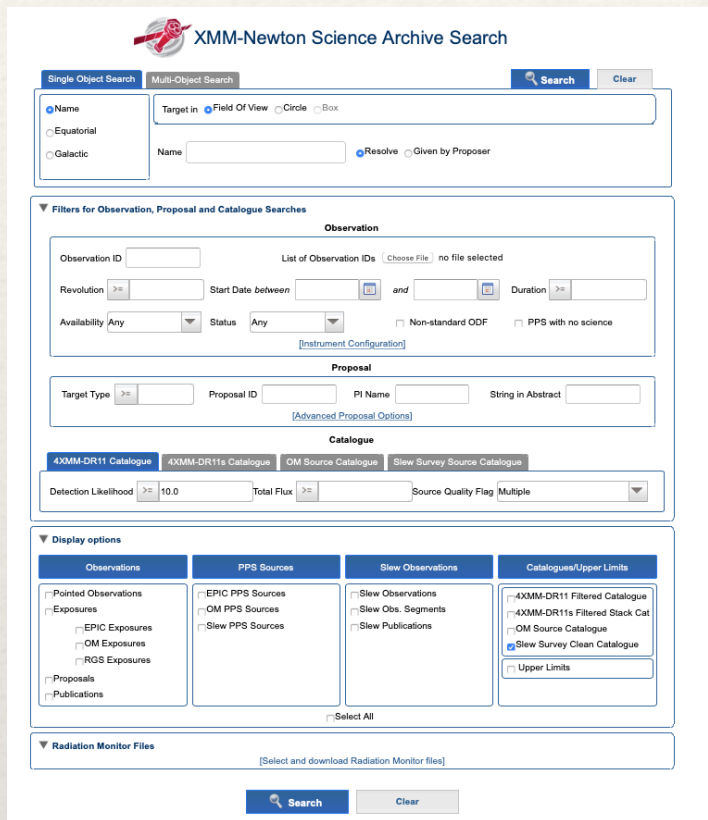
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Status of XMM-Newton Science Archive

1. THE XSA IN A NUTSHELL

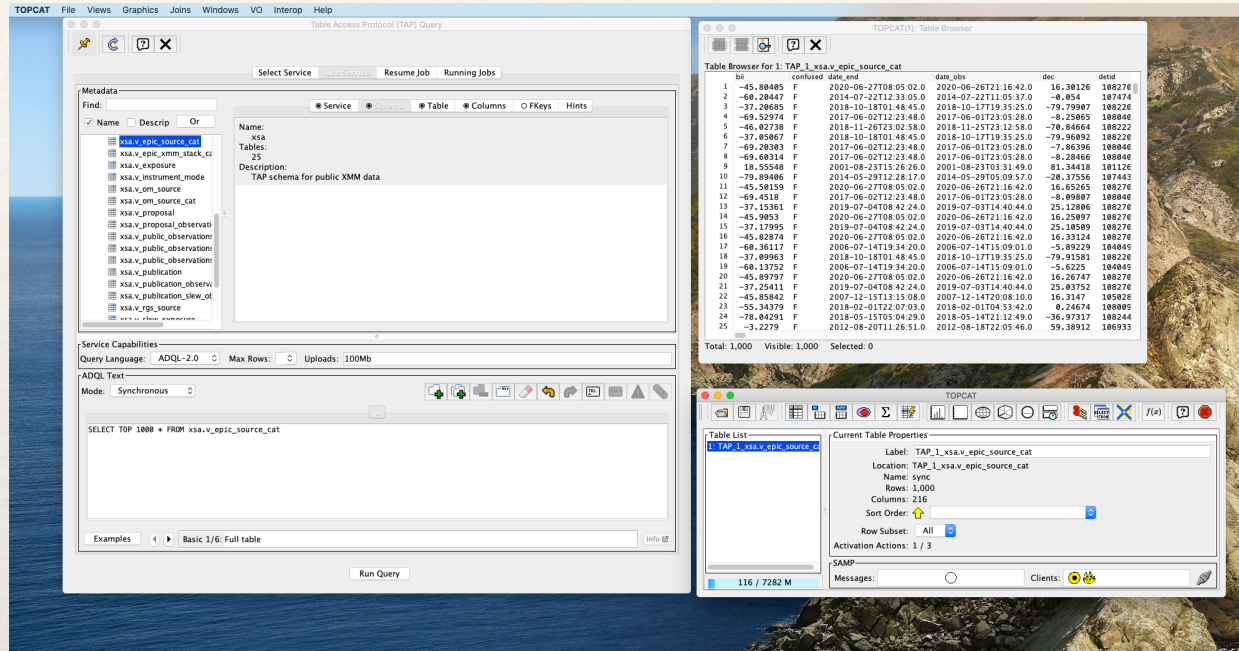
2. Data Access

Web Interface



- ❖ User Friendly
- ❖ Visual
- ❖ Flexible
- ❖ Complete (but filtered) in content and features

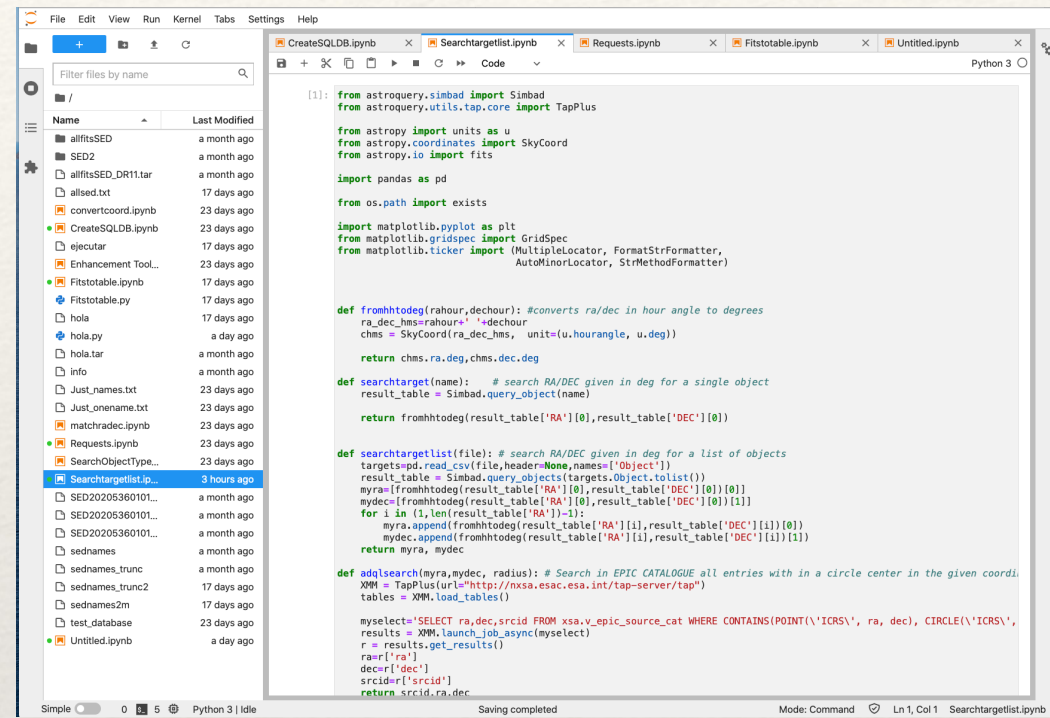
TAP queries



- ❖ Base on ADQL Language
- ❖ Useful to search content information (some limits applied in the web interface are not applied here)
- ❖ NO ODF/PPS or products download

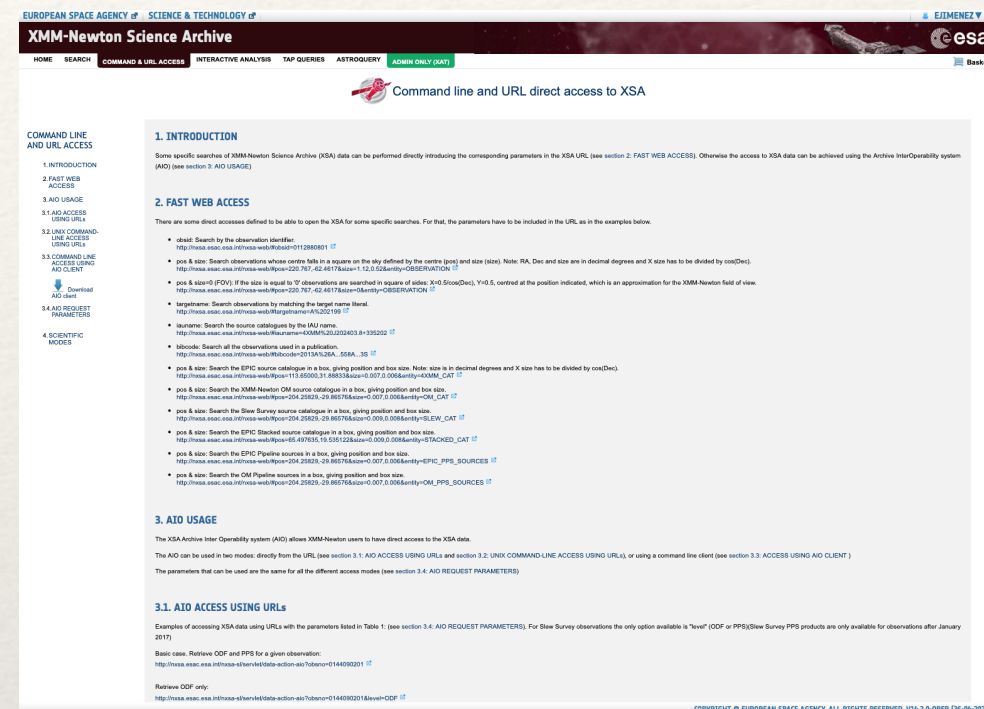
Astroquery

astroquery.esa.xmm_newton



- ❖ Based on python
- ❖ In fast development although many features need to be implemented as the access to products.
- ❖ Use of TAP queries

Direct access



- ❖ Fast access
- ❖ Command line: scriptable
- ❖ Data can be download but not all products are available

Status of XMM-Newton Science Archive

2. XSA CURRENT STATUS

XSA-14.3

7th June 2022

XSA-15.0

4th July 2022

XSA-15.1

19th October 2022

XSA-15.2

23th March 2023

Pointed Observations
EPIC PPS sources
OM PPS Sources
Slew Survey PPS Sources
Slew Observations
Radiation Monitor Files
Proposals

XSA-15.2 17 April 23	XSA-14.2 26 April 22
15,667	14,962
1,040,356	1,002,161
13,315,633	13,033,588
99,766	78,489
5,161	4,971
Up to Rev 4079	Up to Rev 3000
4,394	4,251

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XMM-Newton Science Archive

Interactive analysis is currently unavailable. Sorry for any inconvenience it may cause.

HOMESEARCHCOMMAND & URL ACCESSINTERACTIVE ANALYSIS

TAP QUERIESASTROQUERYADMIN ONLY (XAT)

Basket

Back to SearchClose all

Results #1

OBSERVATIONS (15667)

ColumnsColumn unitsDisplay selectedAdd to BasketSave table asSend table toTOPCAT, Aladin or DS9 using SAMP

Obs.ID

EPIC

RGS

BKGD

ESASky

Target

RA

DEC

Rev

Start Date

End Date

Dur.

Target

0000110101

XTE J0421+560

04h 19m 42.09s

+55d 59' 58.0"

310

2001-08-19 07:05:23

2001-08-19 16:13:56

32913

HMXRB SOF

0001730201

HD159176

17h 34m 41.98s

-32d 34' 54.0"

229

2001-03-09 12:44:21

2001-03-09 17:29:04

17083

STA

0001730301

N/A

HD159176

17h 34m 41.98s

-32d 34' 54.0"

229

2001-03-09 17:30:16

2001-03-09 20:06:18

9362

STA

0001730401

N/A

HD159176

17h 34m 41.98s

-32d 34' 54.0"

229

2001-03-09 09:41:25

2001-03-09 12:42:24

10859

STA

0001730501

N/A

HD47129

06h 37m 23.99s

+06d 08' 07.0"

508

2002-09-17 18:35:28

2002-09-18 00:41:07

21939

STA

0001730601

HD47129

06h 37m 23.99s

+06d 08' 07.0"

598

2003-03-16 16:01:51

2003-03-16 22:06:14

21863

STA

0001930101

IRAS F00235+1024

00h 26m 06.99s

+10d 41' 21.0"

200

2001-01-10 18:47:04

2001-01-11 02:10:33

26609

IR GALAXY RA

0001930301

IRAS F12514+1027

12h 54m 01.27s

+10d 11' 11.0"

376

2001-12-28 14:44:54

2001-12-28 21:44:46

25192

IR GALAXY RA

0002740101

CFHT-PI-12

03h 53m 55.10s

+23d 23' 37.5"

317

2001-09-02 04:28:59

2001-09-02 14:10:03

34864

BROWI

0002740301

Denís-J1228

12h 28m 13.79s

-15d 47' 11.0"

377

2001-12-29 18:30:19

2001-12-29 21:52:00

12101

BROWI

0002740501

Cha-Ha-3

11h 07m 52.89s

-77d 36' 56.0"

427

2002-04-09 09:40:54

2002-04-09 19:07:20

33986

BROWI

0002740601

N/A

Denís-J1228

12h 28m 13.79s

-15d 47' 11.0"

377

2001-12-29 17:14:47

2001-12-29 18:28:10

4403

BROWI

0002940101

NGC4968

13h 07m 05.91s

-23d 40' 36.0"

197

2001-01-05 05:57:30

2001-01-05 08:19:30

8520

SEYFERT RAD

0002940301

N/A

NGC424

01h 11m 27.49s

-38d 05' 01.0"

280

2001-06-20 16:18:56

2001-06-20 18:32:37

8021

SEYFERT RAD

0002940401

N/A

NGC1410

03h 41m 10.79s

-01d 17' 57.0"

392

2002-01-28 20:27:01

2002-01-28 22:38:10

7869

SEYFERT RAD

1

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Status of XMM-Newton Science Archive

2. XSA CURRENT STATUS

	XSA-15.2 17 April 23	XSA-14.2 26 April 22
4XMM Catalogue of Serendipitous Sources	929,270 (681,993)	895,415
4XMM EPIC Stacked Catalogue	386,043(274,812)	358,809
OM Sources Catalogue (OM-SUSS5.0)	8,863,922	8,863,922
Clean Slew Survey Catalogue (XMMSL2)	72,352	72,352

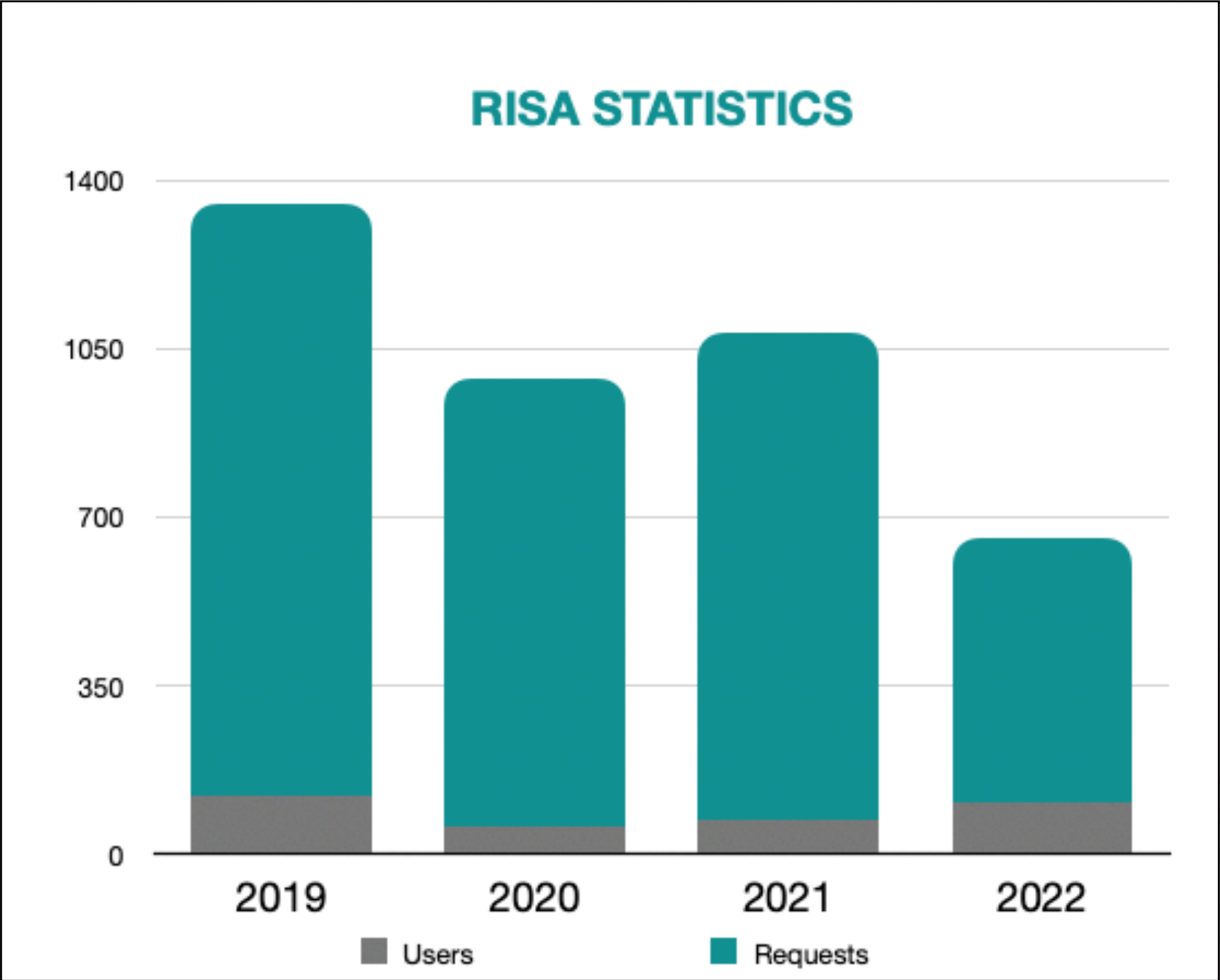
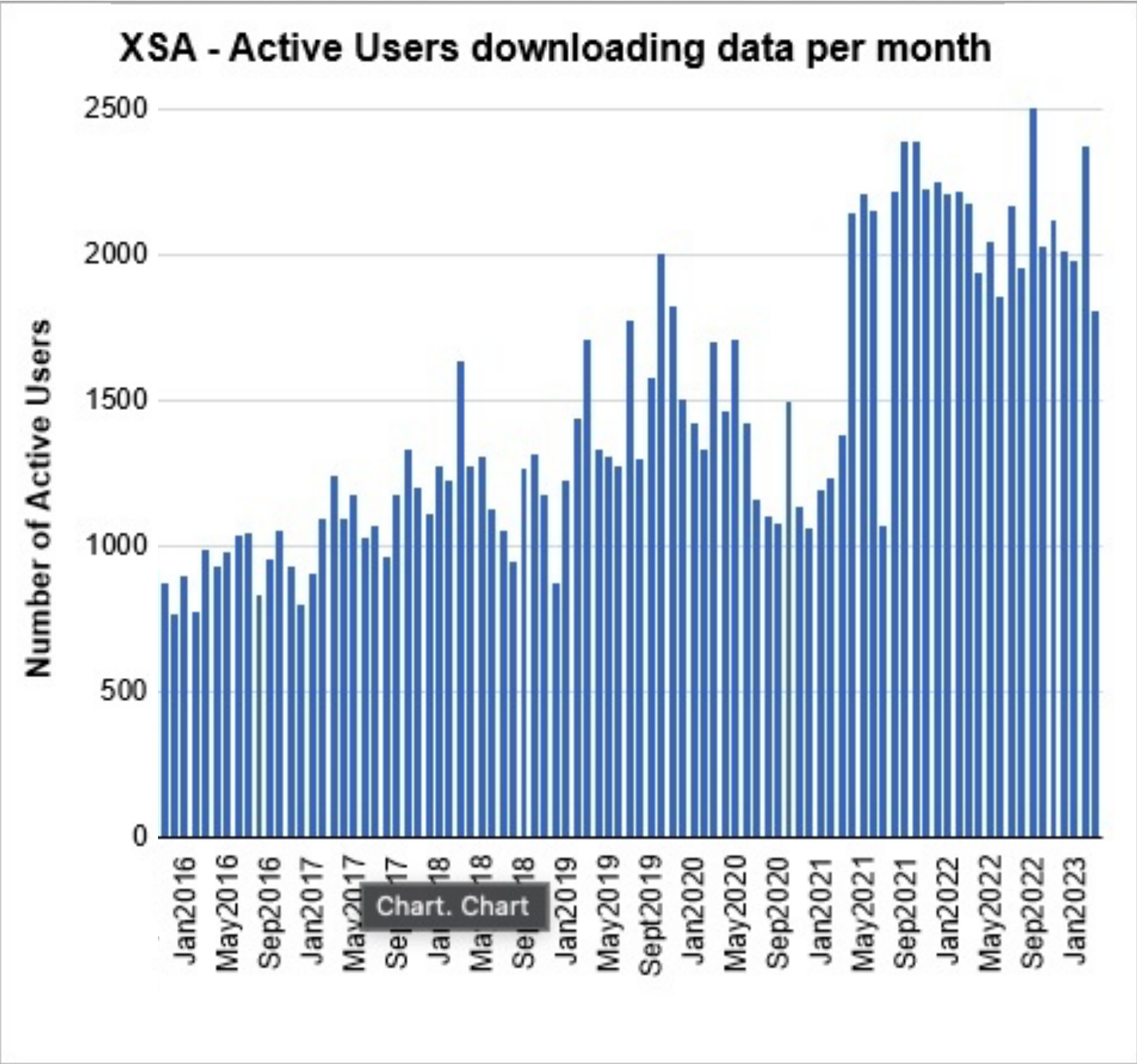
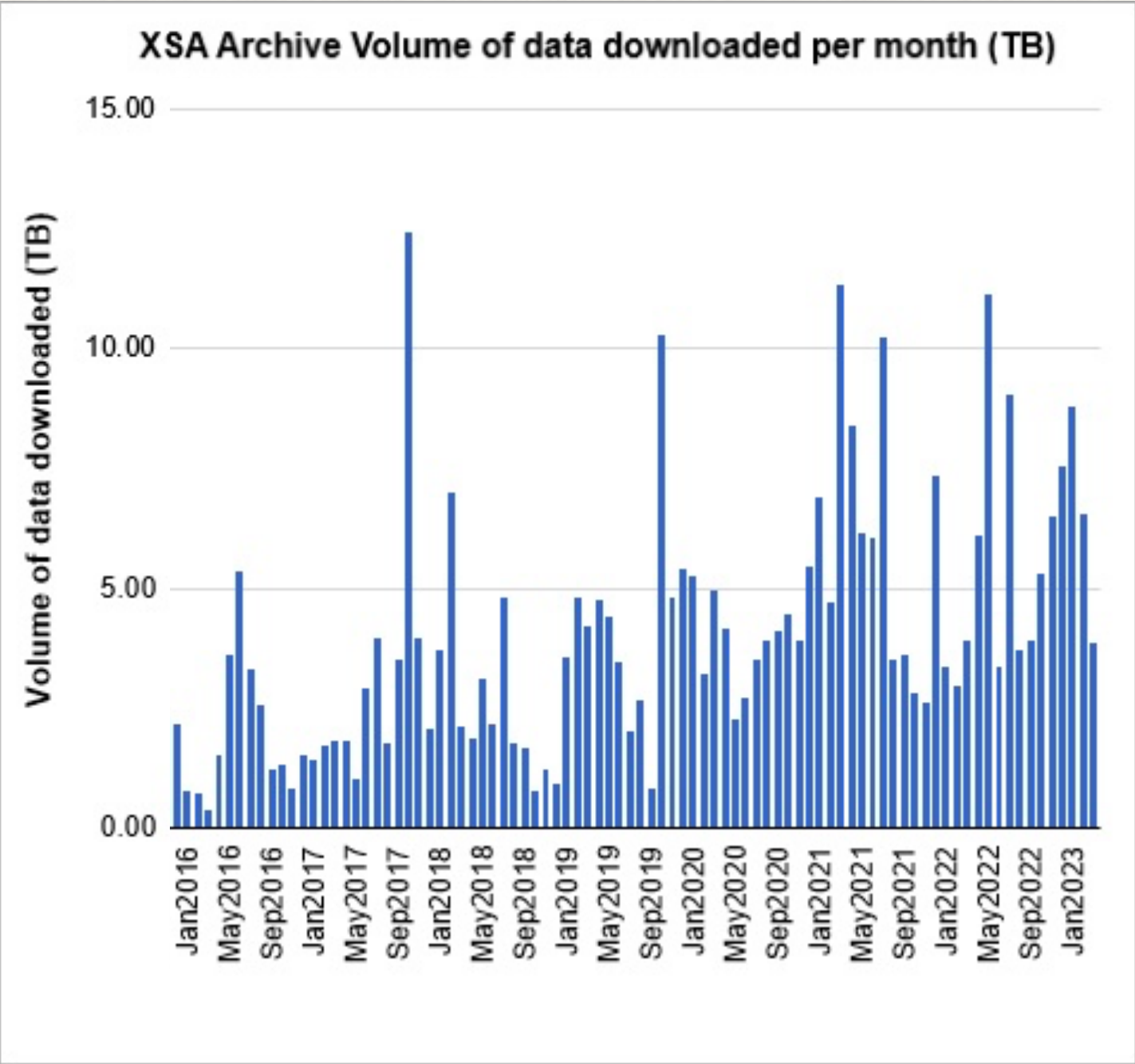
DOWNLOAD FULL XMM-NEWTON CATALOGUES AND DATASETS

Alongside all XMM-Newton scientific data products and observation-related information, high-level catalogues and a multiwavelength datasets can be accessed through the [XSA](#) or downloaded from the links below:

4XMM-DR12 XMM-Newton New Serendipitous Source Catalogue	Download the FITS table Download the CSV table	Documentation and watchouts (by the SSC consortium)
Slim version of the New 4XMM-DR12 catalogue	Download the FITS table Download the CSV table	Documentation and watchouts (by the SSC consortium)
4XMM-DR12s New Stacked Catalogue	Download the FITS table Download the stacked sources FITS table Download the stacked observations FITS table	Documentation (Maintained by the SSC consortium)
XMM-DR11 SEDs	Download all SED FITS files	Documentation: Webb et al. 2020A&A...641A.136W (sect 9.1 and Table 4)
4XMM-DR9 Multi-Object Coverage maps (MOC) Fits Files	Download MOCs for individual observations Download the whole 4XMM-DR9 field MOC	Documentation (Maintained by the SSC consortium)
The XMM-Newton Slew Survey XMMSL2 Source Catalogue	Download the FITS table (FULL) Download the FITS table (CLEAN)	Documentation
XMM-OM-SUSS5 XMM-Newton Serendipitous UV Source Survey Catalogue	Download the FITS table Download the FITS table (SLIM version)	Documentation and watchouts
XMM-Newton OM Bright Sources Catalogue	Download the FITS table	Documentation
Spectral Fit Catalogues	3XMM-DR7 spectral fit catalogue XMMFITCAT 3XMM-DR6 photo Z catalogue XMMPZCAT 3XMM-DR6 spectral fit Z catalogue XMMFITCAT-Z	Documentation (Carried out by an ESA-PRODEX funded collaboration between European institutes and the SSC)

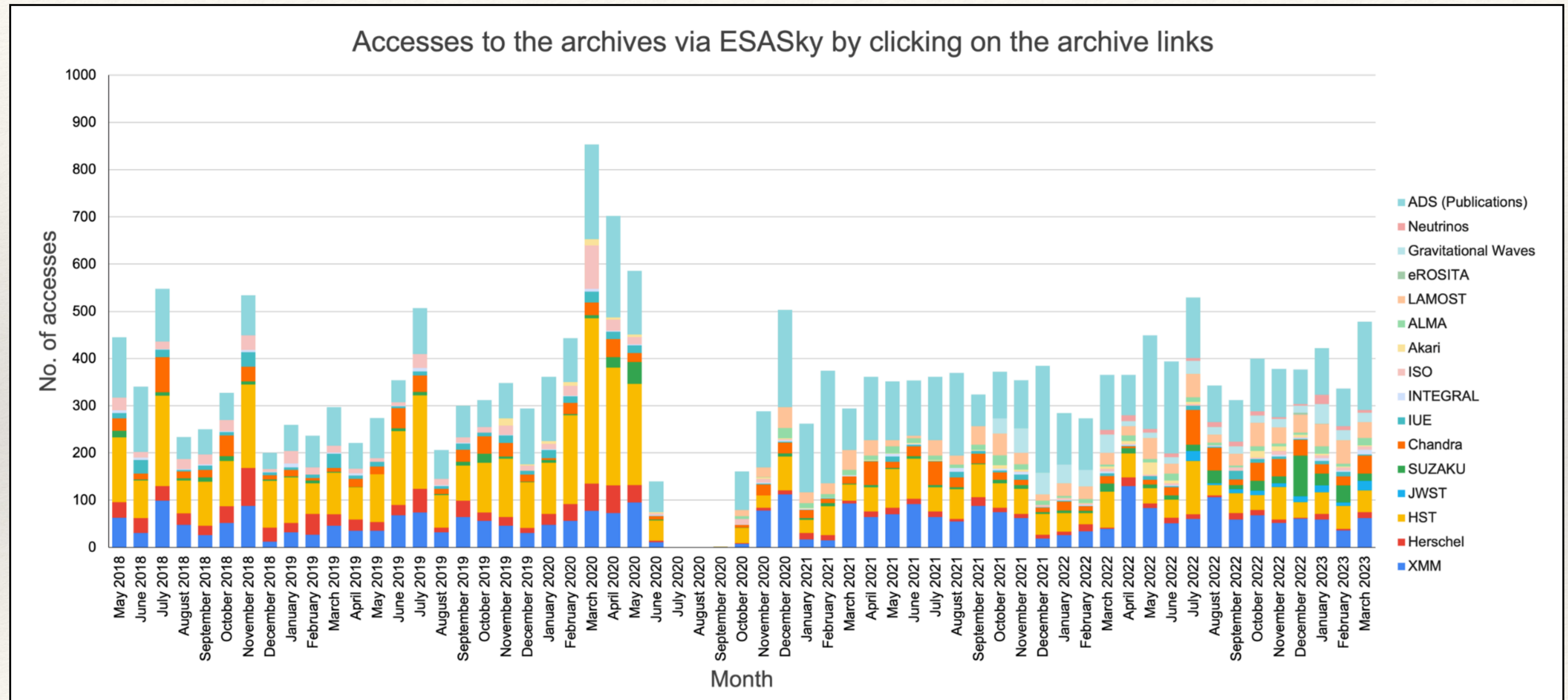
Status of XMM-Newton Science Archive

2. XSA CURRENT STATUS



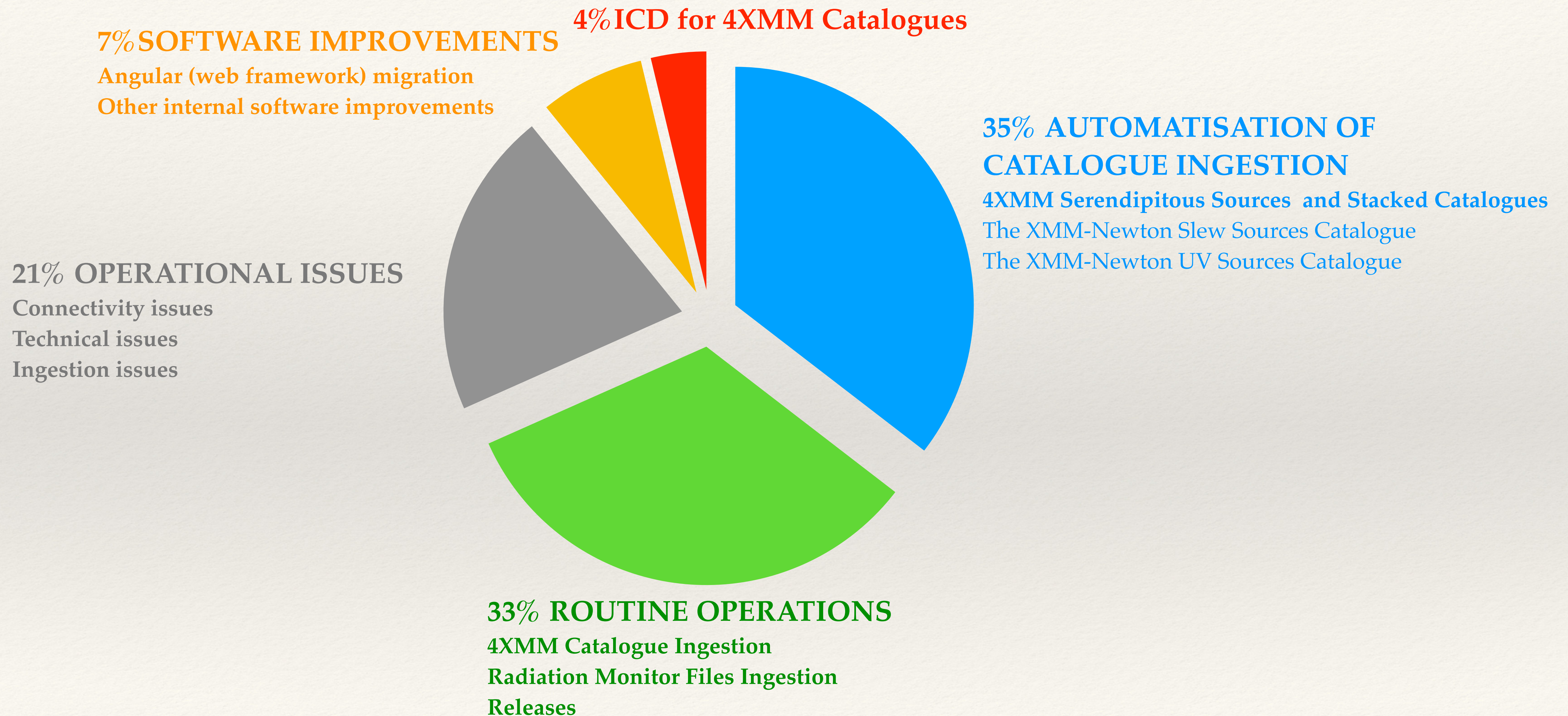
Status of XMM-Newton Science Archive

2. XSA CURRENT STATUS



Status of XMM-Newton Science Archive

3. PAST YEAR ACTIVITIES



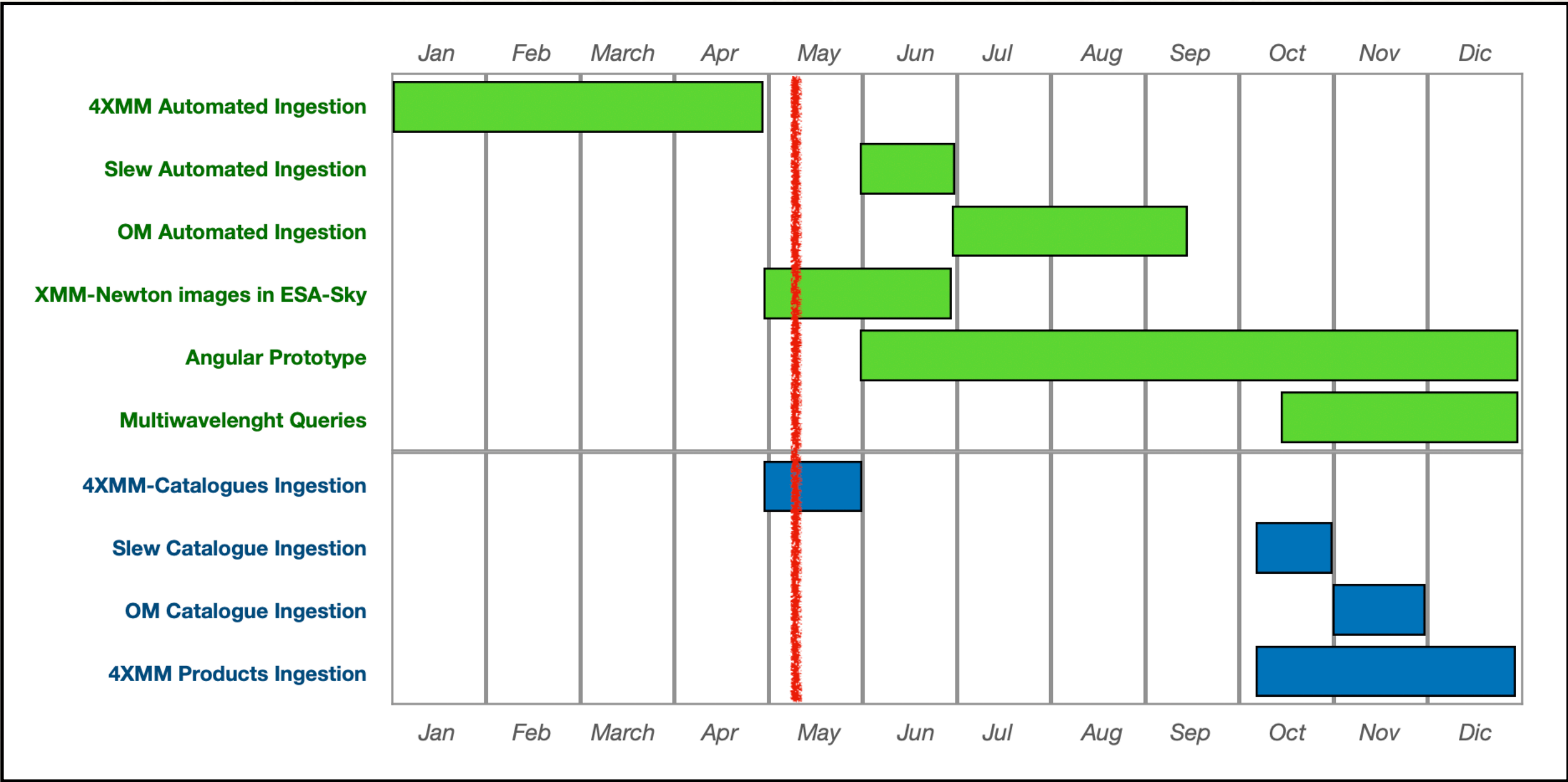
Status of XMM-Newton Science Archive

4. NEAR FUTURE PROJECTS

Projects for next period

- Finalised Automatisation of the Catalogue Ingestion
- Ingestion of the 4XMM Catalogues
- Ingestion of the XMM-Newton Slew Catalogue
- Ingestion the OM-SUSS-6.0 Catalogue
- Web Framework Migration: Angular
- Include XMM-Newton Images & footprints in ESA-Sky
- **Multiwavelength Searches:** *The UG recommends that the XSA enables queries that make use of the multi-wavelength information included in the catalogue (2021-06-10/07)*

Tentative Plan for 2023



Status of XMM-Newton Science Archive

5. Other Ideas

- Include XMM-Newton Gallery and Outreach pictures in XSA (suggested by PS)
- Anonymous download of multiple observations (suggested by PS)
- Further develop XMM-Newton astroquery module
- Visual display of selected products: EPIC-spectra, OM ...
- Advanced ADQL searches in the web XSA.
- Link to other ESA missions observations of the same field or object
- **Other suggestion by Users's Group**

Status of XMM-Newton Science Archive

SUMMARY

Current period

- Operations have run smoothly

★ **4XMM-DR12 and DR12 catalogues** and related products (SED, FC Spectra...) were ingested to be available for AO22 proposal submission

- Main goals of the period were related to **automatisation** of internal processes. Extended to next period

For next period

- Routine Operations

★ Automatic ingestion of 4XMM-DR13 and 4XMM-DR13s catalogues and products

- Automatic ingestion of the OM-SUSS-6.0
- Automatic ingestion of XMM-Newton Slew Catalogue

★ Web interface migration ANGULAR

- Implement multiwavelength searches
- New XMM-Newton images and footprints sent to ESA-Sky
- Other suggestion by Users's Group