

# **Report from the Project Scientist**

Norbert Schartel UG Meeting 24

10/05/2023

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EUROPEAN SPACE AGENCY





Announcement of Opportunity (AO) **AO** 22 AO 23 / Preparation Target of Opportunity (TOO) Publications Public Relations Workshops & Conferences OTAC chairperson

AO 22 I

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Submi	ssion	Stati	istics	s for
	A	022	Sec. 2	

Nr. of proposals received:	383
Nr. of PI's	321
Nr. of Co-I's per proposal	6
Nr. of Pl's+Co-l's (email)	1529
Nr. of PI's+Co-I's (surname)	1321
Nr. of countries participating	39
Nr. of Observations	1757
Nr. of Pointings	2113
Nr. of targets	1545
Nr. of Obs. per Proposal	4.6
Nr. of Pointings per Proposal	5.5
Total Req. Time (ks)	75276
Average Req. Time per proposal (ks)	196.5
Average Req. Time per pointing (ks)	36.2
Average Req. Time per observation (ks)	42.8

AO 22 II

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	Statistics by PI/Country				
Country	Nr. of proposals Req	. Time	(ks)		
UNITED STATES	172	31712			
ITALY	64	13219			
GERMANY	48	9529			
UNITED KINGDOM	21	5486			
FRANCE	14	4314			
SPAIN	15	2876			
NETHERLANDS	10	1491	SWITZERLAND	2	279
CHINA	12	1343	JAPAN	3	277
INDIA	7	892	SOUTH KOREA	2	262
🚍 ESA	3	745	BELGIUM	3	233
CANADA	5	439		2	196
GREECE		407	POLAND	1	195
S BRAZIL	2	396	CHILE		194
			CZECH REPUBLIC	2	157
			OTHER	2	146
			BULGARIA	1	106
			ARGENTINA	1	73.
			SLOVAKIA	1	63
			RUSSIA	1	43

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St	tatistics by Proposal Ty	pe	GO GO(L)	ToO F(L)
Proposal Type	Nr. of proposals (Large Program)	Total Time (ks) (Large Program)		
Guest Observer	313 (38)	62262 (28083)		1.15
Target of Opportunity (anticipated)	51 (2)	7174 (848)	349 GE/3	
Fulfil	19 (1)	5840 (759)		Sec. 1

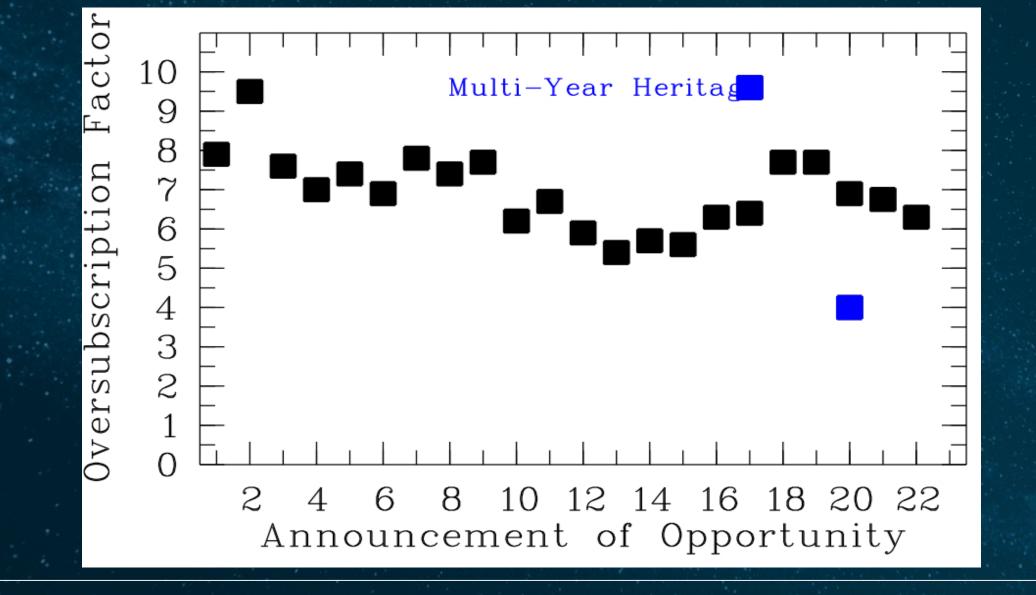
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AO 22 IV





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### **Categories Distribution**

Category	Nr. of Proposals (Large Programs)	Nr. of Observations (Large Programs)	Total Time Req. (ks) (Large Programs)
A	45 (4)	217 (100)	6410 (2442)
В	138 (9)	450 (72)	18804 (4783)
E	124 (15)	602 (138)	29501 (11134)
F	72 (10)	447 (195)	16176 (7202)
G	4 (3)	41 (39)	4385 (4129)
	383 (41)	1757 (544)	75276 (29690)



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(	Statistics on Joi 263 observation		
X	Nr. of Prop.	Nr. of obs	Time/Orbits
Chandra	6	12	261.0
HST	15	35	101.0
VLT	10	29	70.5
Swift	9	16	331.0
NuSTAR	45	140	10355.0
INTEGRAL	0	0	None
MAGIC	0	0	None
HESS	0	0	None
NRAO	6	91	752.5

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092110	22	Poppennaeger, Barnes Jardine &van Saders	an expiration date?	6	420	LP	0	Stars
092128	22	ik lirnas	Classification of seven isolated neutron star candidates from the eRASS	7	371	LP	0	Neutron Stars
092188	22	6307	Measuring velocity structures in the Abell 3266 cluster	8	784	LP	0	Clusters of Galaxies
092217	22	Dac	Unraveling the large-scale impact of feedback on the CGM of NGC3221 in emission	4	454	LP	0	Galaxies
092340	22	INIOFI	Search for X-ray counterparts of dark PeVatron accelerators	5	375	LP	0	SNR
092386	22	Krumpe	Tracking the X-ray Evolution of on-going SDSS-V Changing-look AGN	6	450	LP	0	AGN / Black Hole
092428	22	Rodantini	Decoding AGN outflows: a deep multi-wavelength study of Mrk 766	6	612	LP	0	AGN / Black Hole

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# **AO22 Preparation**



### Planned key milestones (public since 11 January 2023: XMM-Newton News 261)

Announcement of Opportunity Due date for Proposals Final OTAC approved programme

Start of Phase II proposal submission Closure of Phase II proposal submission Start of observations 17 August 2023 6 October 2023 (12:00 UT) mid December 2023

> 9 January 2024 2 February 2024 May 2024

- New: joint programme with JWST
- □ 5 Scientific categories / 11 Panel / 56 Scientists
- MYHP / 1 Senior Review Panel / 9 Scientists
- □ 11 (+ 2) Letters of Intent
- □ OTAC chairperson: Prof. Phil Charles, Southampton/Oxford, United Kingdom
- OTAC panel Chairpersons are asked not to participate on new Large Programs

### **Targets of Opportunity and Director's Discretionary Time I**



Rev	Observation Id	Target	RA	Dec	Exp. Time (ksec)	Data Status	ODF Data when available	PPS Data when available	Proposer/ Comments
4272	0930590101	SGR1806-20	18:08:39.30	-20:24:40.1	45.0	ToO (TBD)	ODF Data	PPS Data	(Dr. R. Turolla)
4263	0915391601	GRB 230307A	04:03:26.20	-75:22:43.8	52.5	ToO (TBD)	ODF Data	PPS Data	(Dr. E. Troja)
4259	0915391401	GRB 230307A 2nd brightest GF	<b>VB</b> 04:03:25.80	-75:22:42.7	49.9	ToO (TBD)	ODF Data	PPS Data	(Dr. S. Mereghetti)
4255	0915391301	PSR B1259-63	13:02:47.70	-63:50:08.6	19.7	ToO (TBD)	ODF Data	PPS Data	(Dr. M. Chernyakova)
4255	0915390501	WISEA J045649.8-2037	04:56:49.80	-20:37:47.9	25.0	ToO (08-Sep-2023)	ODF Data	PPS Data	(Dr. L. Zhu)
4249	0915390701	1ES 1927+654	19:27:19.50	+65:33:54.3	34.6	ToO (TBD)	ODF Data	PPS Data	(Dr. S. Laha)
4246	0915391001	LS V +44 17	04:40:59.30	+44:31:49.2	27.0	ToO (TBD)	ODF Data	PPS Data	(Dr. A. Rouco)
4245	0915591501	Comet 2022 E3 (ZTF)	04:44:37.20	+21:23:16.0	33.6	ToO (TBD)	ODF Data	PPS Data	(Dr. K. Dennerl)
4244	0915390401	WISEA J045649.8-2037	04:56:49.80	-20:37:47.9	23.0	ToO (TBD)	ODF Data	PPS Data	(Dr. L. Zhu)
4244	0915390301	LSI +61 303	02:40:31.70	+61:13:45.5	14.0	DPS (TBD)	ODF Data	PPS Data	(Dr. D. Hadasch)
4243	0915390801	4U 0142+61	01:46:22.20	+61:45:03.8	8.5	ToO (16-Aug-2023)	ODF Data	PPS Data	(Dr. B. Posselt)
4235	0915590101	Comet 2022 E3 (ZTF)	15:20:36.40	+57:38:56.5	69.6	ToO (TBD)	ODF Data	PPS Data	(Dr. K. Dennerl)
4231	0914791901	GSN 069	01:19:08.70	-34:11:30.5	13.0	DPS (20-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4230	0914791801	GSN 069	01:19:08.70	-34:11:30.5	13.9	DPS (19-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4229	0914791701	GSN 069	01:19:08.70	-34:11:30.5	29.7	DPS (19-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4228	0914791601	GSN 069	01:19:08.70	-34:11:30.5	13.5	DPS (13-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4227	0914791501	GSN 069	01:19:08.70	-34:11:30.5	13.9	DPS (13-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4226	0915390201	ZTF22abajudi	02:20:08.00	-22:43:15.4	76.5	ToO (11-Jul-2023)	ODF Data	PPS Data	(Dr. M. Guolo)
4226	0914791401	GSN 069	01:19:08.70	-34:11:30.5	16.0	DPS (11-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4223	0914791301	GSN 069 QPE	01:19:08.70	-34:11:30.5	18.0	DPS (10-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4221	0914791201	GSN 069 <b>follow-up</b>	01:19:08.70	-34:11:30.5	15.0	DPS (10-Jul-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4219	0914791001	GSN 069	01:19:08.70	-34:11:30.5	20.9	DPS (30-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4218	0914790901	GSN 069	01:19:08.70	-34:11:30.5	16.5	DPS (30-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4217	0914790801	GSN 069	01:19:08.70	-34:11:30.5	13.0	DPS (06-Sep-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4216	0914790701	GSN 069	01:19:08.70	-34:11:30.5	14.8	DPS (22-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4215	0914791101	GSN 069	01:19:08.70	-34:11:30.5	18.0	DPS (22-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4214	0914790601	GSN 069	01:19:08.70	-34:11:30.5	15.0	DPS (20-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4213	0914790501	GSN 069	01:19:08.70	-34:11:30.5	15.0	DPS (19-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)

### **Targets of Opportunity and Director's Discretionary Time II**



4212	0914790301	GSN 069	01:19:08.70	-34:11:30.5	18.0	DPS (15-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4210	0914790201	GSN 069	01:19:08.70	-34:11:30.5	21.9	DPS (13-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4209	0914790401	GSN 069	01:19:08.70	-34:11:30.5	15.0	DPS (15-Jun-2023)	ODF Data	PPS Data	(Dr. G. Miniutti)
4208	0914790101	GSN 069	01:19:08.70	-34:11:30.5	19.8	DPS (14-Jun-2022)	ODF Data	PPS Data	(Dr. G. Miniutti)
4204	0913992101	OJ 287	08:54:48.87	+20:06:30.6	31.0	ToO (19-Jun-2023)	ODF Data	PPS Data	(Dr. R. Prince)
4202	0913992001	AT2019teq	18:59:05.50	+47:31:05.6	30.0	ToO (23-May-2023)	ODF Data	PPS Data	(Dr. D. Pasham)
4198	0913991901	GRB221009A	19:13:03.50	+19:46:24.6	103.9	ToO (17-May-2023)	ODF Data	PPS Data	(Dr. E. Troja)
4193	0913991801	GRB221009A	19:13:03.80	+19:46:22.7	51.5	ToO (09-May-2023)	ODF Data	PPS Data	(Dr. A. Tiengo)
4192	0913991701	GRB221009A brightest GRB	19:13:03.80	+19:46:22.7	60.7	ToO (09-May-2023)	ODF Data	PPS Data	(Dr. A.Tiengo)
4184	0913991601	GRB221009A	19:13:03.40	+19:46:16.3	61.9	ToO (20-Apr-2023)	ODF Data	PPS Data	(Dr. A. Tiengo)
4183	0913991501	GRB221009	19:13:03.40	+19:46:16.3	50.0	ToO (18-Apr-2023)	ODF Data	PPS Data	(Dr. S. Campana)
4171	0913991301	XTE J1810-197	18:09:51.10	-19:43:51.7	38.3	ToO (23-Mar-2023)	ODF Data	PPS Data	(Dr. G. Younes)
4171	0913991201	J1912-44	19:12:13.70	-44:10:45.1	45.0	ToO (23-Mar-2023)	ODF Data	PPS Data	(Dr. A. Schwope)
4169	0913991101	GLEAMX J1839	18:39:02.00	-10:31:49.5	30.0	ToO (Public)	ODF Data	PPS Data	(Dr. N. Rea)
4168	0913990901	Gamma Per	03:04:47.80	+53:30:23.0	5.0	DPS (Public)	ODF Data	PPS Data	(Dr. J. Schmitt)
4155	0913990701	G121.1-1.9	00:36:02.30	+60:54:20.9	18.3	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4154	0913990801	G121.1-1.9	00:36:02.30	+60:54:20.9	13.8	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4152	0913990601	G121.1-1.9	00:36:02.30	+60:54:20.9	14.0	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4152	0910191301	SDSSJ1430+2303	14:30:16.00	+23:03:44.0	104.0	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4150	0913990501	G121.1-1.9	00:36:02.30	+60:54:20.9	17.7	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4148	0910191101	SDSSJ1430+2303	14:30:16.00	+23:03:44.0	104.0	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4146	0913990401	G121.1-1.9	00:36:02.30	+60:54:20.9	17.4	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4145	0913990101	G121.1-1.9	00:36:02.30	+60:54:20.9	13.0	ToO (Public)	ODF Data	PPS Data	(Dr. I. Khabibullin)
4144	0911790301	em01_044099_020_ML00016_002_c946	02:55:08.24	-08:18:46.1	18.0	DPS (Public)	ODF Data	PPS Data	(Dr. T. Boller)
4143	0910190901	SDSSJ1430+2303	14:30:16.00	+23:03:44.0	112.7	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4140	0911791701	J114447.77-430859.3	11:44:47.77	-43:08:59.3	15.2	ToO (Public)	ODF Data	PPS Data	(Dr. E. Kammoun)
4138	0910190701	SDSSJ1430+2303	14:30:16.00	+23:03:44.0	110.7	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4135	0913990201	GSN069	01:19:08.70	-34:11:30.5	59.2	ToO (Public)	ODF Data	PPS Data	(Dr. G. Miniutti)

### Targets of Opportunity and Director's Discretionary Time III



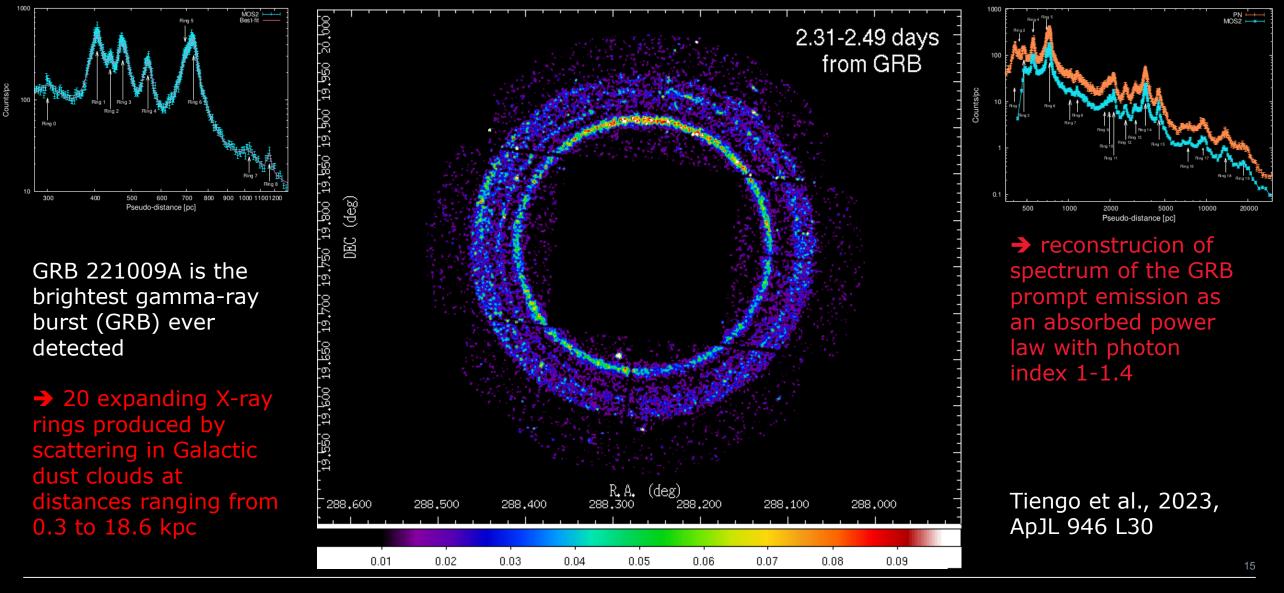
4131	0910190101	SDSSJ1430+2303 SMBH mer	<b>Gen</b> <sup>2</sup> 30:16.00	+23:03:44.0	104.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4129	0911790201	em01_209084_020_ML00124_002_c946	13:51:21.60	+04:45:41.0	23.0 DPS (	(Public)	ODF Data	PPS Data	(Dr. T. Boller)
4127	0911791601	NGC 4156	12:10:49.60	+39:28:22.0	36.1 ToO (F	Public)	ODF Data	PPS Data	(Dr. E. Lusso)
4121	0911791401	AT2018fyk	22:50:16.10	-44:51:53.5	10.6 ToO (F	Public)	ODF Data	PPS Data	(Dr. T. Wevers)
4120	0911791101	IRAS F01004-2237	01:02:50.00	-22:21:57.2	37.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. L. Sun)
4113	0911790801	2mass j <mark>0920</mark> 4562+2339	09:20:45.62	+23 39 00.9	57.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. S. Laha)
4112	0911790901	S4 0954+65	09:58:47.30	+65:33:54.8	19.9 DPS (	(Public)	ODF Data	PPS Data	(Dr. N. Schartel)
4111	0911790601	AT2018fyk	22:50:16.10	-44:51:53.5	29.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. T. Wevers)
4110	0911990501	J003836.88-433709.8	00:38:36.90	-43:37:09.8	127.6 Sat. E	Engineering (public)	ODF Data	PPS Data	(Replenishment)
4109	0911990101	J003836.88-433709.8	00:38:36.90	-43:37:09.8	127.6 Sat. E	Engineering (public)	ODF Data	PPS Data	(Replenishment)
4105	0911990401	WR 140	20:20:28.00	+43:51:16.3	15.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. P. Pradhan)
4098	0911790101	em01_140084_020_ML00023_001_c946 eROSI	<b>A</b> 09:15:36.77	+06:25:40.6	23.0 DPS (	(Public)	ODF Data	PPS Data	(Dr. T. Boller)
4096	0911990201	Mrk 817	14:36:22.10	+58:47:39.4	128.8 ToO (F	Public)	ODF Data	PPS Data	(Dr. J. Miller)
4090	0893811001	ASASSN-20qc	04:13:02.38	-53:04:21.8	45.0 ToO (F	Public)	ODF Data	PPS Data	(Dr. D. Pasham)
4089	0911790401	em01_135051_020_ML00007_003_c946	09:04:23.31	+40:07:04.7	18.0 DPS (	(Public)	ODF Data	PPS Data	(Dr. T. Boller)
4083	0893811301	Sgr a*	17:45:40.00	-29:00:28.0	56.5 DPS (	(Public)	ODF Data	PPS Data	(Dr. J. Neilsen)
4079	0893811101	Sgr a*	17:45:40.00	-29:00:28.0	54.2 DPS (	(Public)	ODF Data	PPS Data	(Dr. J. Neilsen)



Rev	Observation Id	Target	RA	Dec	Exp. Time (ksec)	Data Status	ODF Data	PPS Data	
4059	0893810501	2MASX J02344872-4419	02:34:48.72	-44:19:32.5	25.0	ToO (Public)	ODF Data	PPS Data	(Dr. R. Arcodia)
4058	0893810901	PKS1413+135	14:15:58.80	+13:20:23.0	13.5	ToO (Public)	ODF Data	PPS Data	(Dr. E. Lindfors)
4058	0893810701	ASASSN-20qc	04:13:02.40	-53:04:21.8	29.2	ToO (Public)	ODF Data	PPS Data	(Dr. D. Pasham)
4057	0893810801	Mkn 501	16:53:52.22	+39:45:36.6	22.5	ToO (Public)	ODF Data	PPS Data	(Dr. E. Pian)
4056	0893810601	GRB211211A	14:09:10.12	+27:53:18.1	67.0	ToO (Public)	ODF Data	PPS Data	(Dr. P. D'Avanzo)
4050	0893810401	SDSSJ1430+2303	14:30:16.04	+23:03:44.2	78.7	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4043	0893810301	NGC5907 ULX1	15:15:58.60	+56:18:10.0	51.9	ToO (Public)	ODF Data	PPS Data	(Dr. D. Walton)
4040	0893810201	SDSSJ1430+2303	14:30:16.04	+23:03:44.2	56.6	ToO (Public)	ODF Data	PPS Data	(Dr. N. Jiang)
4036	0891802501	CN Leo	10:56:23.21	+06:59:54.0	31.0	ToO (Public)	ODF Data	PPS Data	(Dr. R. Paudel)
4035	0893810101	GRB211211A	14:09:10.12	+27:53:18.1	39.9	ToO (Public)	ODF Data	PPS Data	(Dr. P. D'Avanzo)
4035	0891804201	RBS 1124	12:31:36.56	+70:44:13.3	33.2	ToO (Public)	ODF Data	PPS Data	(Dr. D. Walton)
4035	0891802401	CN Leo	10:56:23.21	+06:59:54.0	29.8	ToO (Public)	ODF Data	PPS Data	(Dr. R. Paudel)
4034	0891802301	CN Leo	10:56:23.21	+06:59:54.0	36.4	ToO (Public)	ODF Data	PPS Data	(Dr. R. Paudel)
4034	0891801901	CN Leo	10:56:23.21	+06:59:54.0	37.0	ToO (Public)	ODF Data	PPS Data	(Dr. R. Paudel)
4032	0891804001	RBS 1124	12:31:36.56	+70:44:13.3	31.4	ToO (Public)	ODF Data	PPS Data	(Dr. D. Walton)
4029	0891803801	ASASSN-20qc	04:13:02.45	-53:04:21.7	40.6	ToO (Public)	ODF Data	PPS Data	(Dr. D. Pasham)
4027	0891803701	ASASSN-20qc	04:13:02.45	-53:04:21.7	31.3	ToO (Public)	ODF Data	PPS Data	(Dr. D. Pasham)

# The power of the rings: the GRB 221009A soft X-ray emission from its dust-scattering halo

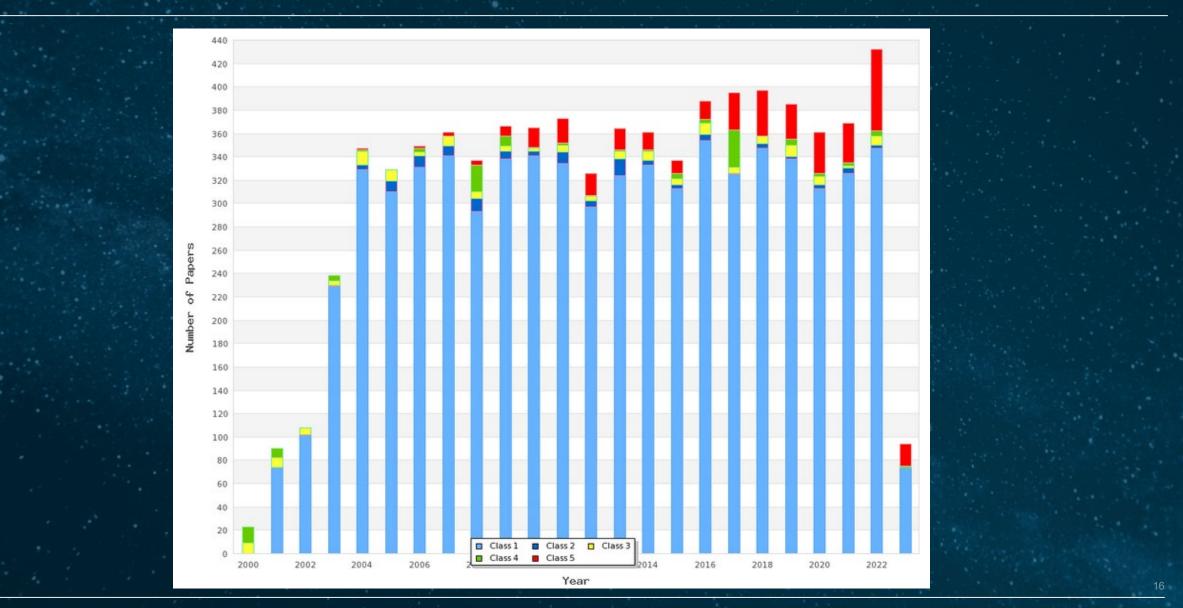




### **Publications I**

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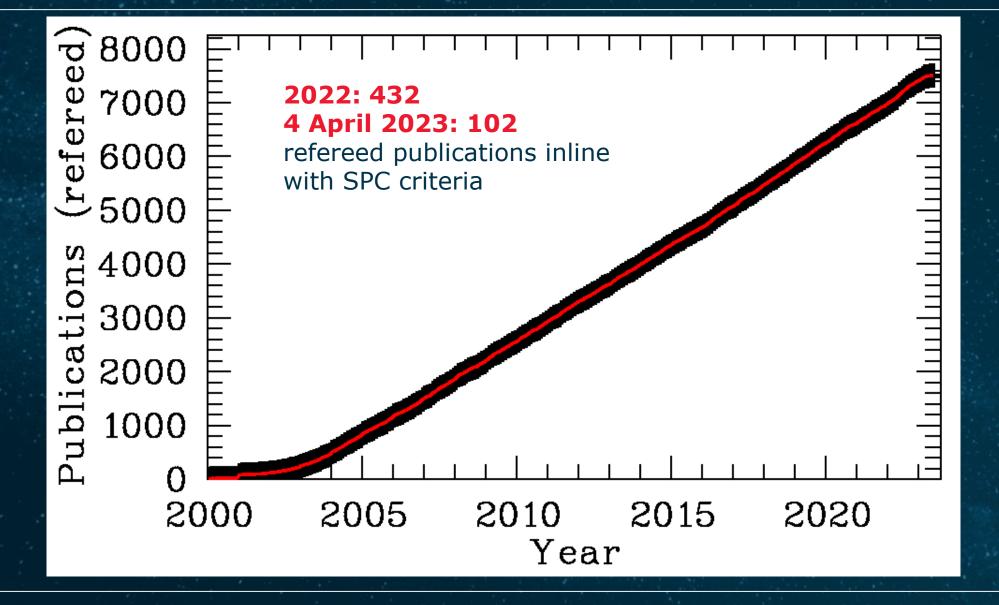


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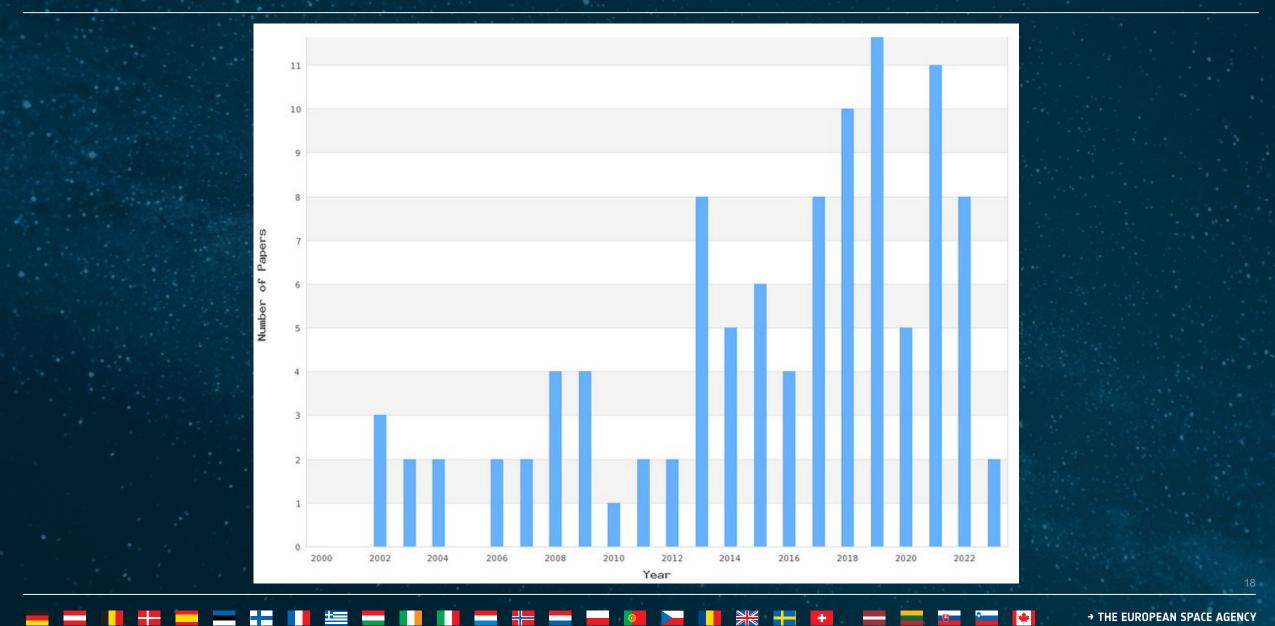
# **Publications II**





# **Publications III**





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## **Public Outreach I**



### 13-Jun-2022

#### **RESEARCH EXAMINES X-RAY INTRADAY VARIABILITY OF BLAZAR MARKARIAN 421**

By analyzing the data from ESA's XMM-Newton satellite, astronomers from the Astronomical Observatory of the Jagiellonian University in Kraków, Poland, and elsewhere, have investigated X-ray intraday variability of a nearby blazar known as Markarian 421.

Further details on Phys web portal.

### 09-Jun-2022

**X-RAY ASTRONOMY COMES OF AGE** 

The Chandra X-ray Observatory (Chandra) and the X-ray Multi-Mirror Mission (XMM-Newton) continue to expand the frontiers of knowledge about high-energy processes in the Universe Further details on Nature web portal.



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#### 31-May-2022

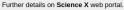
#### ASTRONOMERS INVESTIGATE HIGHLY VARIABLE POLAR V496 UMA

By analyzing data from ESA's XMM-Newton spacecraft and NASA's TESS telescope, German astronomers have inspected a highly variable polar known as V496 UMa. Further details on Phys web portal.



#### 3-May-2022

ASTRONOMERS SURVEY THE LEAST MASSIVE BLACK HOLES AT THE CENTER OF GALAXIES IN THE LOCAL UNIVERSE Our research work has revealed the nature of the least massive supermassive black holes at the centers of nearby galaxies. We used high-quality X-ray data from the European Space Agency's XMM-Newton observatory to closely study the temporal and spectral behaviors.



#### 6-Apr-2022

#### A SPIRAL GALAXY THAT DOESN'T PLAY BY THE RULES

The authors begin by introducing seven superluminous spiral galaxies, a recently discovered class of huge galaxies with spiral or lenticular shapes. Using the X-ray telescope XMM-Newton, the authors found no X-ray emission surrounding two of their galaxies.

Further details on AAS Nova web portal.

#### 7-Mar-2022

#### POWERFUL WARM WINDS SEEN BLOWING FROM A NEUTRON STAR AS IT RIPS UP ITS COMPANION

Using the most powerful telescopes on Earth and in space, a team of astronomers has found for the first time blasts of hot, warm and cold winds from a neutron star whilst it consumes matter from a nearby star. Further details on Eurek Alert web portal.

#### 3-Mar-2022

### A POTENTIAL NEW SOURCE OF QUASI-PERIODIC ERUPTIONS

Chakraborty and collaborators searched for quasi-periodic eruptions in archival observations from the X-ray Multi-Mirror Mission (XMM-Newton), a space telescope that has been observing the X-ray sky since 2000. Further details on AAS Nova web portal.



#### 21-Oct-2022

#### ESA SPACECRAFT CATCH THE BRIGHTEST EVER GAMMA-RAY BURST

images from the European Space Agency's XMM-Newton telescope

An explosive gamma-ray burst, one of the brightest ever detected, lit up in the sky on 9 October 2022. The signal of the burst called GRB 221009A - was picked up by many ESA observatories. Further details on ESA's Science & Exploration web portal.

#### 9-Sep-2022:

### DEEP LEARNING-BASED SUPER-RESOLUTION AND DE-NOISING FOR XMM-NEWTON IMAGES



### 17-Aug-2022

### XMM-NEWTON 22ND ANNOUNCEMENT OF OPPORTUNITY (A0-22) The XMM-Newton Twenty-second Announcement of Opportunity is now open and observing proposals may be submitted

The deadline is 7 October 2022, 12:00 UT Further details here on our XMM-Newton SOC website



### 26-Jul-2022

### ASTRONOMERS EXAMINE THE BEHAVIOR OF QUASI-PERIODIC ERUPTIONS IN THE GALAXY GSN 069

Using ESA's XMM-Newton satellite and NASA's Chandra spacecraft, an international team of astronomers has investigated a peculiar behavior of quasi-periodic eruptions (QPEs) in an active galaxy known as GSN 069. Further details on Phys.org web portal.



### 11-Jul-2022

#### ASTRONOMERS INVESTIGATE A PECULIAR CATACLYSMIC VARIABLE

Using ESA's XMM-Newton satellite, astronomers from the Columbia University in New York have inspected a peculiar cataclysmic variable system known as Swift J0503.7-2819. Further details on Phys.org web portal.



### 04-Jul-2022

### COSMIC MANATEE ACCELERATES PARTICLES FROM HEAD

ESA's XMM-Newton has X-rayed this beautiful cosmic creature, known as the Manatee Nebula, pinning down the location of unusual particle acceleration in its 'head' Further details on ESA's Science & Exploration web portal.

### 28-Jun-2022

#### RESEARCH INVESTIGATES VARIABILITY OF THE ULTRALUMINOUS X-RAY SOURCE NGC 925 ULX-3

Astronomers from the California Institute of Technology (Caltech) and elsewhere have observed an ultraluminous X-ray source known as NGC 925 ULX-3 using NASA's Swift and NuSTAR spacecraft, as well as ESA's XMM-Newton satellite. Further details on Phys web portal.





# **Public Outreach II**



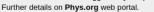
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### 9-Dec-2022

5-Dec-2022

### TIDAL DISRUPTION EVENT J150052 WAS CAUSED BY A RAPIDLY SPINNING INTERMEDIATE-MASS BLACK HOLE, STUDY FINDS

Using NASA's Chandra and ESA's XMM-Newton space telescopes, astronomers from the Radboud University in the Netherlands and elsewhere have conducted X-ray observations of a tidal disruption event designated 3XMM J150052.0+015452. The results show that J150052 was triggered by a rapidly spinning intermediate-mass black hole.



# A BD

### STUDY INVESTIGATES PULSATIONS OF THE MILLISECOND PULSAR PSR J1023+0038

European astronomers have conducted X-ray and optical observations of a transitional millisecond pulsar known as PSR J1023+0038. Results of the observational campaign, published November 23 on arXiv.org, yield important insights on the origins of pulsations of this source.



Further details on Phys.org web portal.

### 29-Nov-2022

### THE CASE OF THE EVAPORATING EXOPLANET

X-ray flares of the young planet host DS Tuc A. The authors used the XMM-Newton observatory, a space-based X-ray telescope, to observe the system.

Further details on Astrobites web portal.



### 28-Nov-2022

### STRUCTURE OF THE CLUSTER NGC 2264 EXPLORED BY RESEARCHERS

By analyzing the data from ESA's XMM-Newton and Gaia satellites, astronomers have investigated a young star cluster known as NGC 2264. Results of the study shed more light on the structure of this object and could be helpful in advancing our knowledge about stellar evolution. Further details on Phys.org web portal.



### LIGHTEST KNOWN NEUTRON STAR EVER FOUND MIGHT BE A "STRANGE" NEW STELLAR OBJECT

They made the estimations using X-ray observations from the XMM-Newton observatory and precise distance measurements from Gaia. HESS J1731-347 is described as the central compact object (CCO) at the core of a supernova remnant, the cloud of debris produced when a star explodes. Further details on IFL Science web portal.



### 21-Oct-2022

### ESA SPACECRAFT CATCH THE BRIGHTEST EVER GAMMA-RAY BURST

An explosive gamma-ray burst, one of the brightest ever detected, lit up in the sky on 9 October 2022. The signal of the burst called GRB 221009A - was picked up by many ESA observatories. Further details on ESA's Science & Exploration web portal.





# **Public Outreach III**



### 9-Mar-2023

X-RAY VISION WORKSHOP PRESENTATIONS

The X-ray Vision of the Energetic Universe, a joint IAU I-HOW and COSPAR Capacity Building Workshop in X-ray Astronomy, was held on February 6-17, 2023, in North-West University Potchefstroom, South Africa. Further details on XMM-Newton web portal.



### 16-Feb-2023

### STUDY INVESTIGATES MAGNETIC FIELD OF AN EXTREMELY ULTRALUMINOUS X-RAY PULSAR

Using NASA's Swift spacecraft and ESA's XMM-Newton satellite, astronomers have observed NGC 5907 ULX1-the most luminous ultra-luminous X-ray pulsar known to date. Results of the observational campaign, published February 7 on the preprint server arXiv, shed more light on the magnetic field of this pulsar. Further details on Phys.org web portal.

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### 2-Feb-2023

### UNTANGLING A KNOT OF GALAXY CLUSTERS

Astronomers have captured a spectacular, ongoing collision between at least three galaxy clusters. Data from NASA's Chandra X-ray Observatory, ESA's (European Space Agency's) XMM-Newton, and a trio of radio telescopes is helping astronomers sort out what is happening in this jumbled scene. Further details on NASA's web portal.



### 1-Feb-2023 CURIOUS COMET'S RARE CLOSE APPROACH

Comet C/2022 E3 (ZTF) today makes its closest approach to Earth before likely leaving our Solar System forever. Many ESA missions have been observing Comet ZTF, even those not focussed on Solar System science. XMM-Newton is one of them, one of the most powerful X-ray telescopes ever placed into orbit. Further details on ESA's Space & Safety web portal.

### 23-Jan-2023

### MEET THE AAS KEYNOTE SPEAKERS: PROF. ERIN KARA

At this year's AAS meeting, Erin Kara is being honored with the 2022 Newton Lacy Pierce Prize in Astronomy for her innovative and sustained contributions to high-energy astrophysics. Further details on Astrobites web portal.



### 12-Jan-2023

### XMM-NEWTON SPIES BLACK HOLES EATING THE SAME STARS AGAIN AND AGAIN

Two teams of astronomers using ESA's XMM-Newton space telescope have observed repeated outbursts of light from inactive black holes that partially destroy stars again and again. This discovery is unexpected, since outbursts of black holes usually appear only once when a black hole consumes a star. Further details on ESA's Science & Exploration web portal

### 29-Mar-2023

### BRIGHTEST GAMMA-RAY BURST ILLUMINATES OUR GALAXY AS NEVER BEFORE

ESA space telescopes have observed the brightest gamma-ray burst ever seen. Data from this rare event could become instrumental in understanding the details of the colossal explosions that create gamma-ray bursts (GRBs) Further details on ESA's Science & Exploration web portal.



### 28-Mar-2023

### ASTRONOMERS DISCOVERED HELIUM-BURNING WHITE-DWARF

The team has found a binary star system in which matter flows onto the white dwarf from its companion. Bright, so-called supersoft X-rays that result from the nuclear fusion of the spilled gas close to the white dwarf's surface led to the discovery of the system.

Further details on Tech Explorist web portal.

### 16-Mar-2023

### STUDY SHEDS MORE LIGHT ON THE DIFFUSE RADIO EMISSION FROM THE GALAXY CLUSTER ABELL 1213

European astronomers have observed a galaxy cluster known as Abell 1213 using various spacecraft and ground-based facilities. [...] "We used optical SDSS data to study the internal dynamics of the cluster. We also analyzed archival XMM-Newton X-ray data to unveil the properties of its hot intracluster medium..."

Further details on Phys.org web portal.



### 9-Mar-2023

### X-RAY VISION WORKSHOP PRESENTATIONS

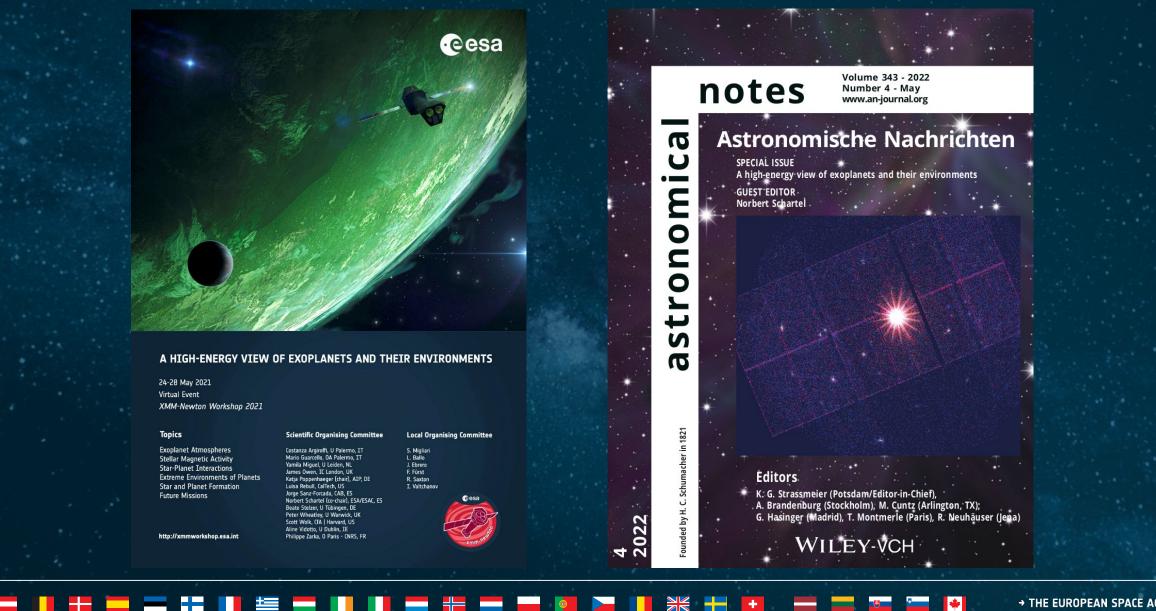
The X-ray Vision of the Energetic Universe, a joint IAU I-HOW and COSPAR Capacity Building Workshop in X-ray Astronomy, was held on February 6-17, 2023, in North-West University Potchefstroom, South Africa. Further details on XMM-Newton web portal.



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### Workshop 2021





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# Workshop 2022



### BLACK HOLE ACCRETION UNDER THE X-RAY MICROSCOPE

14-17 June 2022

European Space Astronomy Centre (ESAC) Villafranca del Castillo Madrid, Spain

Chairperson of Scientific Organizing Committee: Dr. Giovanni Miniutti

- 90 contributed talks
- □ 110 Participants

Proceedings will be published as issue of Astronomical Notes

→ May complains within the refereeing



### BLACK HOLE ACCRETION UNDER THE X-RAY MICROSCOPE

13-17 June 2022 ESAC/ESA XMM-Newton Workshop 2022

#### Topics Extreme Variability Events Active Galactic Nuclei Black Hole X-ray Binaries and ULXs Cosmology, Surveys, Dual AGN

Barbas De Marco, UPC, ISS Chris Done, U Uman, UK Michal Dorcak, ASU, (Z George Chartas, OKC, USA Eene Kara, NIT, USA Stefanie Komssaw, MPJ, DE Stefanie Komssaw, MPJ, DE Stefanie Komssaw, MPJ, DE Stefanie Komssaw, MPJ, DE Grownen Mincuti (Lond), L6B, ES Grownen Mincuti (Lond), L6B, ES Sara Biss Metta, D44, 1T Datafreganetas, UKL, D44, 1T Starting Versen, UKL, Sana Nothert Shartel (Con-ball, ESA, ES Phil Uthing, U Amsterdam, NL Marian Vestresdam, LL Constance, D14

Scientific Organising Committee

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### Local Organising Committe

Lucia Ballo Tgnacio de la Calle Jacobo Ebrero Felix Fürst Cristina Hernandez Elena Jiménez Simone Migliari (chair) Celia Sanchez



## Symposium: X-Ray Universe 2023



### THE X-RAY UNIVERSE 2023

13-16 June 2023

### Athens, Greece

A conference organized by the XMM-Newton Science Operations Centre

Chairperson of Scientific Organizing Committee: Prof. Rudy Wijnands □ 270 requests for talks □ & 40 for poster □ 220 requests for talks accepted □ currently 300 registrations



### SOC

Aya Bamba, University of Tokyo, Japan Didier Barret, Institut de Recherche en Astrophysique et Planétologie, Toulouse, France Stefano Bianchi, Università degli Studi Roma Tre. Italy Andrea Comastri, INAF Osservatorio di Astrofisica e Scienza dello Spazio, Bologna, Italy Anne Decourchelle, Commissariat à l'énergie atomique Saclay, Gif sur Yvette, France Maria Díaz Trigo, European Southern Observatory, Garching, Germany Megan Donahue, Michigan State University, East Lansing, USA Chris Done, University of Durham, United Kingdom hristine Jones, Harvard Smithsonian Center for Astrophysics, Cambridge, MA, USA Ioannis Georgantopoulos, National Observatory of Athens, Greece Richard Griffiths University of Hawaii Hilo USA Jimmy Irwin, University of Alabama, Tuscaloosa, USA elle Kaastra, SRON Netherlands Institute for Space Research, Leiden & Leiden University, NL Stefanie Komossa, Max-Planck-Institut fuer Radioastronomie, Bonn, Germany Antonio Maggio, INAF Osservatorio Astronomico di Palermo, Italy Miguel Mas Hesse, Centro de Astrobiología, Villanueva de la Cañada, Spain Richard Mushotzky, University of Maryland, College Park, USA Paul Nandra, Max-Planck-Institut für extraterrestrische Physik, Garching, Germany Lida Oskinova, University of Potsdam, Germany Iossif Papadakis, University of Crete, Heraklion, Greece Katja Poppenhaeger, Leibniz-Institut für Astrophysik Potsdam, Germany Gregor Rauw, Université de Liège, Belgium Nanda Rea, Institute of Space Sciences (CSIC-IEEC), Barcelona, Spain Kathy Romer, University of Sussex, Brighton, UK Maria Santos-Lleo, European Space Agency, Villanueva de la Cañada, Spai Craig Sarazin, University of Virginia, Charlottesville, USA Manami Sasaki, University of Erlangen-Nümberg, Germany Norbert Schartel [co-chair], European Space Agency, Villanueva de la Cañada, Spain ürgen Schmitt, Hamburger Sternwarte, Germany Martin Ward, University of Durham, United Kingdom Michael Watson, University of Leicester, United Kingdom vatalie Webb, Institut de Recherche en Astrophysique et Planétologie, Toulouse, France Rudy Wijnands (chair), University of Amsterdam, The Netherlands

http://xrayuniverse.esa.int

### Topics:

Stars, White Dwarfs, & Solar System Exoplanets and their Host Stars White Dwarf Binaries, Neutron Star and Black Hole Binaries, & ULXs Supernovae, SNRs, Isolated Neutron Stars, & Diffuse Emission Galaxies & Galactic Surveys Active Galactic Nuclei Groups of Galaxies, Clusters of Galaxies, & Superclusters Cosmology & Extragalactic Deep Fields Current & Future Missions

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LOC Thanassis Akylas

Felix Fürst (chair

Aitor Ibarra Elena Jiménez Bai

Celia Sánchez

**Richard Saxton** 

Norbert Schartel

**Ivan Valtchano** 

Martin Stuhlinger



# Symposium: X-Ray Universe 2023



### THE X-RAY UNIVERSE 2023



Time		<b>Wednesday</b> 14 June								
08:00-09:00		REGISTRATION								
09:00-13.00 (including 30 min coffee break)	Plenary Scientific Session III and IV with Invited Talks Auditorium Sasaki, Gendreau, Guillot, Rea; Ingram, Armas Padilla, Matt									
13:00-14:30	LUNCH									
	Parallel Scientific Sessions									
	Auditorioum	Taurini								
14:30-16:30	Active Galactic Nuclei III	White Dwarf, Neutron Star and Black Hole Binaries II	Current & Future Missions	From Galaxies to Superclusters III						
16:30-17:00		Coffee	Break							
17:00-18:30	Active Galactic Nuclei IV	White Dwarf, Neutron Star and Black Hole Binaries III	Life-cycle of stars and planets III	From Galaxies to Superclusters IV						

Time	Thursday		
	15 June		
1	Plenary Scientific Session V and VI with Invited Talks		
09:00-13.00 ncluding 30 min coffee break)	Auditorium		
	Porquet, Kara, Ricci, Miniutti		
	Salvato, Zappacosta, Brandt-		
13:00-14:30	LUNCH		

	Parallel Scientific Sessions			
	Auditorium	Reception Hall	Meeting Hall	Conterence Hall
14:30-16:30	Active Galactic Nuclei V	White Dwarf, Neutron Star and Black Hole Binaries IV	TDE/QPE	From Galaxies to Superclusters V
16:30-17:00	Coffee Break			
17:00-18:30	Active Galactic Nuclei VI	White Dwarf, Neutron Star and Black Hole Binaries V	Cosmology & Extragalactic Deep Fields	From Galaxies to Superclusters VI

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Time	Friday 16 June			
09:00-13.10 cluding 30 min coffee break)	Plenary Scientific Session VII and VIII with Invited Talks Auditorium Bulbul, Sun, Pratt, Eckert Yuan, Tahshiro, Guainazzi			
13:10-14:30	LUNCH			
	Parallel Scientific Sessions			
	Auditorium	Reception Hall	Meeting Hall	Conterence Hall
14:30-16:30	Active Galactic Nuclei VII	White Dwarf, Neutron Star and Black Hole Binaries VI	SAS to Athena	From Galaxies to Superclusters VII
16:00-16:30	Coffee Break			
17:00-18:30	Active Galactic Nuclei VIII	ULX II	Analysis and related software 18:15	From Galaxies to Superclusters VIII
	End of conference			

→ THE EUROPEAN SPACE AGENCY

### → THE EUROPEAN SPACE AGENCY

### Extensions of mission operations for the period 2023–2029

### Summary

This paper proposes the extension of the operations of scientifically productive missions in orbit. Confirmation of the operations of seven missions (Gaia, Hinode\*1, HST\*, IRIS\*, SOHO\*, XMM-Newton and CHEOPS<sup>\*</sup>) for 2023–2026 is proposed, together with indicative extension of the operations of five missions (Hinode\*, HST\*, IRIS\*, XMM-Newton and CHEOPS\*) for 2027-2029.

### □ XMM-Newton:

□ Approved for 2023 and 2026

□ Tentative approval for 2027 – 2029

Mission extension scheme is changed from 2 + 2 years to 3 + 3 years

# **Mission Extension**

□ plus 1 year to synchronize the mission extensions with the minister meetings

ESA/SPC(2023)5,REV.1 Paris, 4 April 2023 (Original: English)

### EUROPEAN SPACE AGENCY

### SCIENCE PROGRAMME COMMITTEE



## **New OTAC chairperson**



# □ XMM-Newton needs a new OTAC chairperson for 2025 – 2028

Previous and current chairpersons:

1	-	4	Malcolm Longair (UK)
5	-	8	Brian McBreen (IR)
9	-	12	Catherine Cesarsky (FR)
13	-	16	Marco Salvati (IT)
17	-	20	Peter Schneider (DE)
21	-	24	Phil Charles (UK)

Candidate should have outstanding reputation!
Chairing experiences!
Female?

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# Workshop in 2024?



All previous workshops and conferences are at:

https://www.cosmos.esa.int/web/xmm-newton/conferences-meetings

Suggestions for Topics? 

Suggestions for chairwomen?

10 December 2024 is 25<sup>th</sup> launch anniversary

Symposium	2022 Science Workshop		
THE X-RAY UNIVERSE 2023	BLACK HOLE ACCRETION UNDER THE X-RAY MI ESAC, Madrid, Spain, June 2022		
Athens, Greece			
June 2023			
2021 Science Workshop	Symposium Cancelled		
A HIGH-ENERGY VIEW OF EXOPLANETS AND THEIR	THE X-RAY UNIVERSE 2020		
ENVIRONMENTS	Noordwijk, The Netherlands		
ESAC, Madrid, Spain, May 2021	25-29 May 2020		
20th Anniversary Event	2019 XMM-Newton Lab Cancelled		
CELEBRATION OF XMM-NEWTON'S 20TH ANNIVERSARY	XMM-NEWTON LAB		
ESAC, Madrid, Spain	ESAC, Madrid, Spain		
10-11 December 2019	October 2019		
2019 Science Workshop	2018 Science Workshop		
ASTROPHYSICS OF HOT PLASMA IN EXTENDED X-RAY SOURCES	TIME-DOMAIN ASTRONOMY: A HIGH ENERGY		
ESAC, Madrid, Spain	ESAC, Madrid, Spain		
June 2019	June 2018		

Symposium THE X-RAY UNIVERSE 2017 Rome, Italy June 2017

**ICROSCOPE** 

VIEW

2016 Science Workshop XMM-NEWTON: THE NEXT DECADE ESAC, Madrid, Spain May 2016