Report from the Project Scientist

XMM-Newton Users' Group Meeting XXI

17 June, 2020

ESAC, Madrid, Spain

Norbert Schartel

Content

- AOs
  - AO 19
  - AO 20 Preparation & Changes
- TOOs
- Publications
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- Workshops & Conferences
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Submission Statistics for AO19

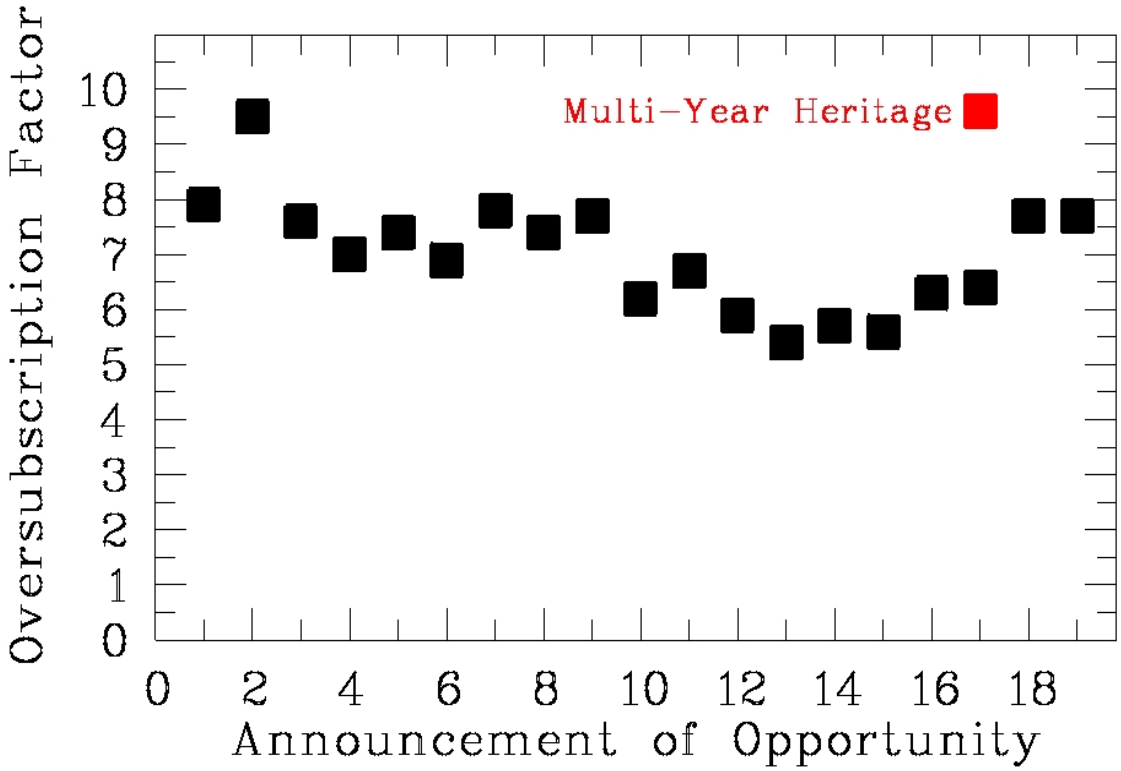
Nr. of proposals received:	462
Nr. of PI's	374
Nr. of Co-I's per proposal	6
Nr. of PI's+Co-I's (email)	1696
Nr. of PI's+Co-I's (surname)	1443
Nr. of countries participating	39
Nr. of Observations	2116
Nr. of Pointings	2945
Nr. of targets	1757
Nr. of Obs. per Proposal	4.6
Nr. of Pointings per Proposal	6.4
Total Req. Time (ks)	91882
Average Req. Time per proposal (ks)	198.9
Average Req. Time per pointing (ks)	37.5
Average Req. Time per observation (ks)	43.4

AO 19 II

Statistics by PI/Country

Country	Nr. of proposals ▲	Req. Time (ks)
UNITED STATES	195	37941
ITALY	53	9733
GERMANY	49	8675
UNITED KINGDOM	40	8104
CHINA	17	2382
SPAIN	14	1996
NETHERLANDS	13	2418
ESA	13	3969
FRANCE	13	5490
JAPAN	10	1643
CANADA	7	866
TAIWAN	5	546
SWITZERLAND	5	713
BELGIUM	5	959
FINLAND	5	1734
RUSSIA	4	220
INDIA	4	560
TURKEY	3	358
CZECH REPUBLIC	3	719
ARGENTINA	2	81
IRELAND	2	238
SWEDEN	2	262
MEXICO	2	286
POLAND	2	340
CHILE	2	378
ISRAEL	2	404
BULGARIA	1	86
KOREA	1	90
SLOVAKIA Slovak Rep.	1	103
SOUTH AFRICA	1	123
BRAZIL	1	133
NEW ZEALAND	1	134
AUSTRIA	1	198

AO19 III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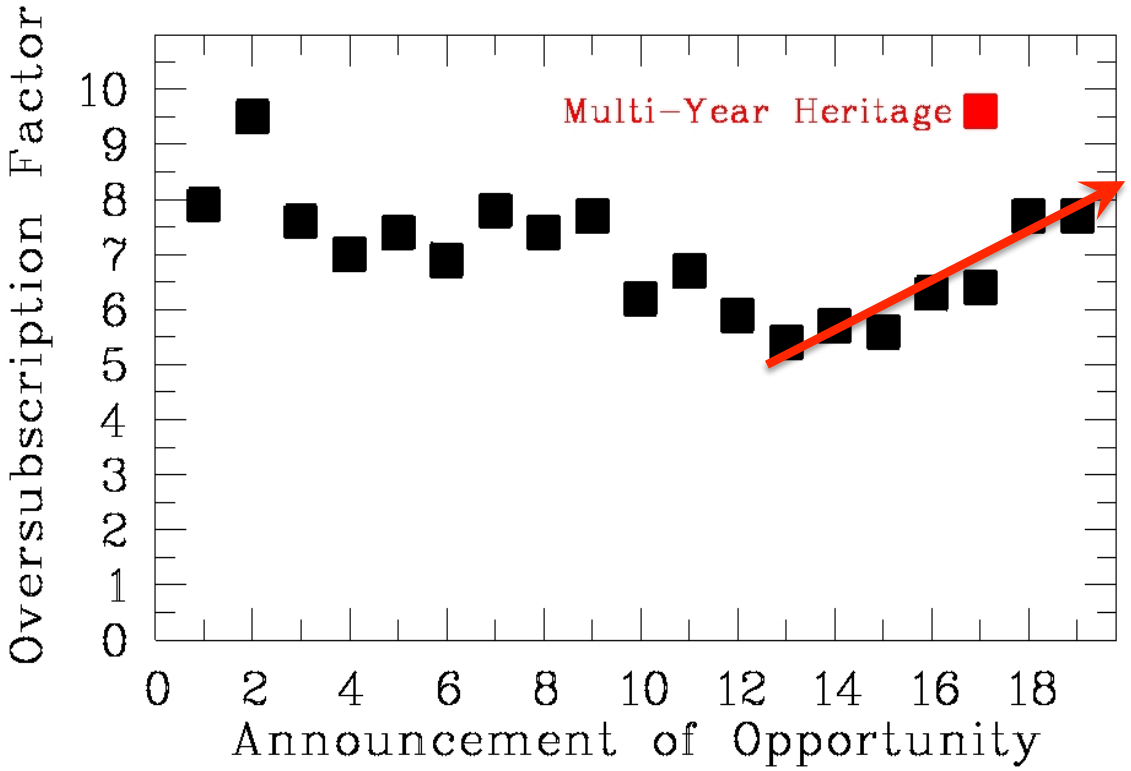
Announcement of Opportunity

AO19 III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Announcement of Opportunity

AO 19 IV

Statistics by Proposal Type

Proposal Type	Nr. of proposals (Large Program)	Total Time (ks) (Large Program)
Guest Observer	380 (46)	75708 (32892)
Target of Opportunity (anticipated)	62 (4)	8160 (2519)
Fulfil	20 (0)	8014 (0)

Outcome of Workshop: Structural Points I

1. Increased importance of Target of Opportunity observations
2. Increased importance of (simultaneous) multi-wavelength /multi-messenger observations
3. Importance if very large project (>2 Ms)

AO 19 V

Statistics on Joint observations (296 observations in 104 proposals)

	Nr. of Prop.	Nr. of obs	Time/Orbits
Chandra	11	11	535.0
HST	31	81	219.0
VLT	10	33	58.0
Swift	10	14	430.0
NuSTAR	47	170	15484.0
INTEGRAL	1	1	45.0
MAGIC	0	0	None
HESS	2	3	33.0
NRAO	9	16	78.5

AO 19 VI

Categories Distribution

Category	Nr. of Proposals (Large Programs)	Nr. of Observations (Large Programs)	Total Time Req. (ks) (Large Programs)
A	71 (7)	407 (94)	11742 (3604)
B	110 (4)	415 (10)	15104 (1550)
C	49 (7)	197 (85)	9057 (4912)
E	133 (15)	550 (108)	26971 (9466)
F	94 (14)	499 (137)	22061 (9426)
G	5 (3)	48 (30)	6947 (6453)
	462 (50)	2116 (464)	91882 (35411)

Category	Science	*Category*	Science
A	**Stars**	**E**	**AGN**
B	**Binaries**	**F**	**Galaxies & Clusters**
C	**SN & Pulsars**	**G**	**Cosmology**

AO 19 VII / Large Programmes

Proposal ID	AO	PI	Proposal Title	No.Obs	Awarded Time (ks)	Prop Type	No. Papers	Category
086247	19	Clavel	3D survey of the Central Molecular Zone	12	516	LP	0	Galaxies
086264	19	Mantz	Studying the Progenitors of Our Favorite Clusters at z>1	16	447	LP	0	Clusters of Galaxies
086273	19	Croston	Radio-galaxy composition in the LOFAR Two-Metre Sky Survey (LoTSS)	8	700	LP	0	Galaxies
086277	19	Krumpe	eROSITA follow-up of rare and dramatic changes in AGN	10	350	LP	0	AGN / Black Hole
086433	19	Miniutti	Quasi-Periodic Eruptions (QPEs) in GSN 069	4	532	LP	0	AGN / Black Hole
086501	19	Alston	An unprecedented view of high-frequency QPO phenomena in accreting black holes	9	870	LP	0	AGN / Black Hole
086538	19	Pavlov	External and internal heating in the old pulsar PSR B0950+08	3	336	LP	0	Neutron Stars
086544	19	Kosec	Investigating the vertical structure of the accretion disc wind in Hercules X-1	3	405	LP	0	Neutron Stars

Plus several large (>300ks) accepted with priority C (4 Stars, 1 Galactic Center & 1 Clusters of Galaxies)

AO 20 Preparation

- Planned key milestones (public since 3 February 2020, XMM-Newton Newsletter#228 & SOC web-pages):
  - Announcement: 18 August 2020
  - Due date for proposals: 9 October 2020 (12:00 UT)
  - Final approved programme: mid December 2020
  - Second phase submission: 11 January – 5 February 2021
  - Start of observations: 1 May 2021

- Multi-Year-Heritage Programs (MYHP) are offered (6 Ms which are scheduled over 3 AOs)
- Change of Scientific Categories: A, B and C ➔
  - A) Life-cycle of Stars and Planets
  - B) Isolated & Binary Compact Objects and their Evolution

- 6 Scientific categories / 12 Panels in total (1 panel for MYHP) / 63 scientists
- OTAC chairperson: Prof. Peter Schneider, University Bonn, Germany
- OTAC panel chairpersons are asked not to participate on new LP

TOO & DDT I

Rev	Observation Id	Target	RA	Dec	Exp. Time (ksec)	Data Status	ODF Data when available	PPS Data when available	Comments
3543	0831791701	Swift J1858.6-0814	18:58:34.90	-08:14:14.9	46.2	ToO (TBD)	ODF Data	PPS Data	(Dr. D. Altamirano)
3539	0822041101	AT2019azh	08:13:16.97	+22:38:54.0	18.0	DPS (TBD)	ODF Data	PPS Data	(Dr. S. Gezari)
3539	0822040401	AT 2018zr	07:56:54.55	+34:15:43.6	18.0	DPS (TBD)	ODF Data	PPS Data	(Dr. S. Gezari)
3537	0851180101	Swift J1728.9-3613	17:28:58.64	-36:14:37.7	33.6	ToO (TBD)	ODF Data	PPS Data	(Dr. J. Miller)
3532	0831791401	4U 1728-34	17:31:57.73	-33:50:02.5	28.5	ToO (29-Sep-2019)	ODF Data	PPS Data	(Dr. Vincentelli)
3532	0831791301	G358.931-0.030	17:43:10.00	-29:51:45.8	29.9	ToO (01-Oct-2019)	ODF Data	PPS Data	(Dr. Y. Tsuboi)
3532	0831791201	Swift J1858.6-0814	18:58:34.90	-08:14:14.9	59.4	ToO (01-Oct-2019)	ODF Data	PPS Data	(Dr. D. Altamirano)
3530	0822041001	ZTF19aabbnzo	07:03:18.70	+23:01:45.0	18.0	DPS (TBD)	ODF Data	PPS Data	(Dr. S. Gezari)
3522	0831790801	RT Cru	12:34:53.74	-64:33:56.0	58.8	ToO (07-Sep-2019)	ODF Data	PPS Data	(Dr. G.Luna)
3521	0831791001	ASASSN-19bt	07:00:11.30	-66:02:25.8	41.4	ToO (07-Sep-2019)	ODF Data	PPS Data	(Dr. K. Auchettl)
3517	0831790901	Sco X-1	16:19:55.07	-15:38:25.0	101.1	ToO (27-Aug-2019)	ODF Data	PPS Data	(Dr. S. Motta)
3506	0832000101	C2018 Y1 Iwamoto	13:15:00.00	-15:02:37.0	45.3	ToO (04-Aug-2019)	ODF Data	PPS Data	(Dr. K. Dennerl)
3503	0729161201	GRB190114C	03:38:01.63	-26:56:48.1	47.8	ToO (29-Jul-2019)	ODF Data	PPS Data	(Dr. S. Campana)
3499	0831790701	GSN 069	01:19:08.60	-34:11:30.5	141.4	ToO (21-Jul-2019)	ODF Data	PPS Data	(Dr. G. Minuitti)
3498	0729161101	GRB190114C	03:38:01.63	-26:56:48.1	55.0	ToO (Public)	ODF Data	PPS Data	(Dr. N. Schartel)
3495	0831790601	Mrk 335	00:06:19.50	+20:12:10.5	117.8	ToO (15-Jul-2019)	ODF Data	PPS Data	(Dr. M. Parker)
3493	0831790501	Mrk 1310	12:01:14.40	-03:40:41.1	27.4	ToO (10-Jul-2019)	ODF Data	PPS Data	(Dr. B. Luo)
3483	0831790401	ASASSN-18fv	10:36:15.46	-59:35:53.6	51.9	ToO (22-Jun-2019)	ODF Data	PPS Data	(Dr. K. Sokolovsky)

TOO & DDT II

Rev	Observation Id	Target	RA	Dec	Exp. Time (ksec)	Data Status	ODF Data when available	PPS Data when available	Comments
3481	0831790301	1ES 1927+654	19:27:19.54	+65:33:54.0	59.3	ToO (16-Jun-2019)	ODF Data	PPS Data	(Dr. E. Kara)
3480	0831790201	AT2018fyk	22:50:16.06	-44:51:52.4	33.0	ToO (14-Jun-2019)	ODF Data	PPS Data	(Dr. D.J. Pasham)
3471	0831790101	Swift J005139.2-7217	00:51:39.20	-72:17:04.0	22.0	ToO (29-May-2019)	ODF Data	PPS Data	(Dr. F. Haberl)
3468	0830192001	Gaia17bpi	19:31:05.60	+18:27:52.0	57.6	ToO (22-May-2019)	ODF Data	PPS Data	(Dr. M. Kuhn)
3447	0830191901	MAXI J1820+070	18:20:21.93	+07:11:07.1	23.9	ToO (09-Apr-2019)	ODF Data	PPS Data	(Dr. T. Maccarone)
3425	0830191801	HD93129A	10:43:57.46	-59:32:51.2	33.1	ToO (Public)	ODF Data	PPS Data	-
3398	0830191001	GW170817	13:09:48.09	-23:22:53.4	119.2	ToO (Public)	ODF Data	PPS Data	-
3395	0830190901	Wasp-107	12:33:32.85	-10:08:46.1	63.0	DPS (Public)	ODF Data	PPS Data	-
3391	0830191601	M51	13:30:00.90	+47:13:44.0	60.0	ToO (Public)	ODF Data	PPS Data	-
3390	0830191501	M51	13:30:00.90	+47:13:44.0	60.0	ToO (Public)	ODF Data	PPS Data	-
3389	0830191301	ASASSN-18jd	22:43:42.88	-16:59:08.4	28.0	ToO (Public)	ODF Data	PPS Data	-
3386	0830191101	1ES 1927+654	19:27:19.50	+65:33:54.0	46.4	ToO (Public)	ODF Data	PPS Data	-
3382	0830191201	ASASSN-18jd	22:43:42.88	-16:59:08.4	25.0	ToO (Public)	ODF Data	PPS Data	-
3381	0830191401	M 51	13:30:00.90	+47:13:44.0	98.0	ToO (Public)	ODF Data	PPS Data	-
3380	0830190801	ch cyg	19:24:33.07	+50:14:29.1	36.1	ToO (Public)	ODF Data	PPS Data	-

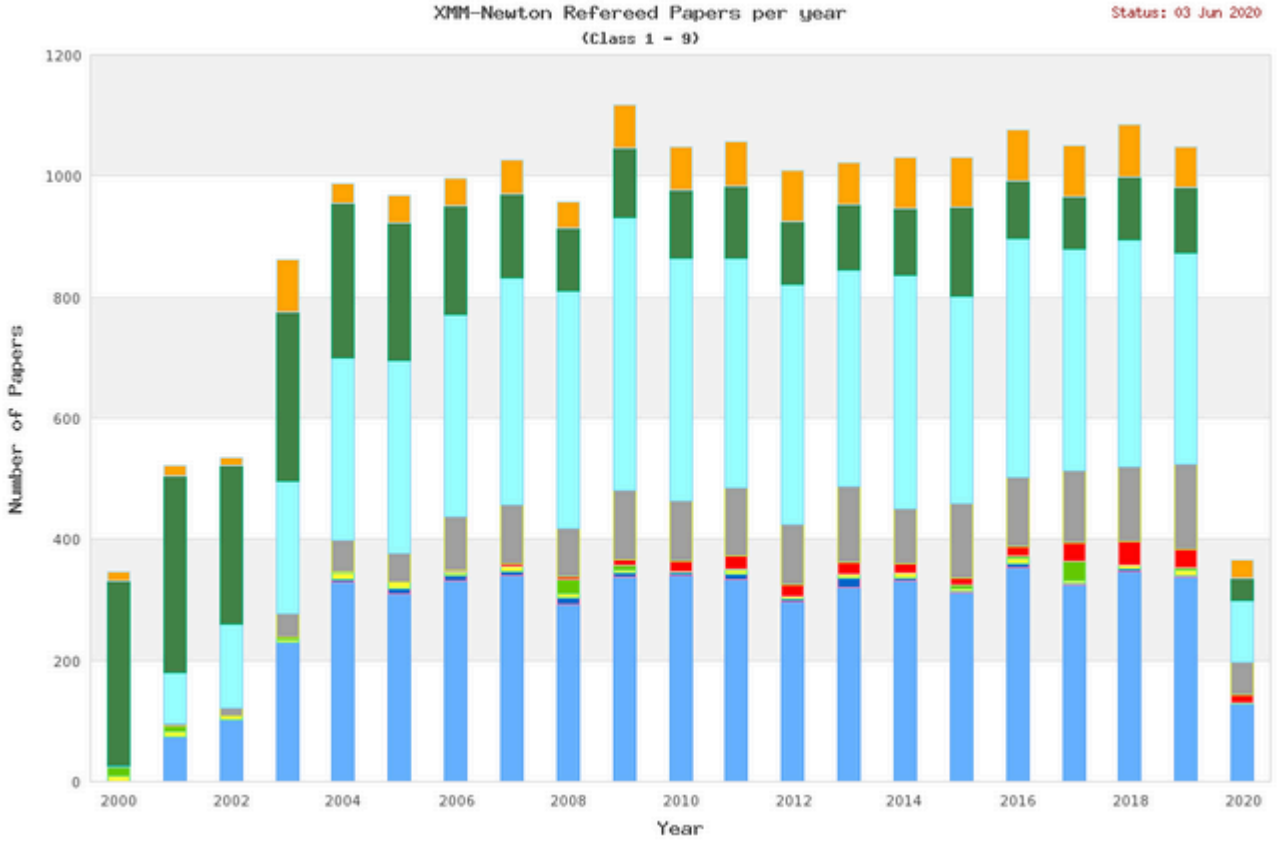
Publications

XMM in Name
Mentions XMM
XMM & Citation

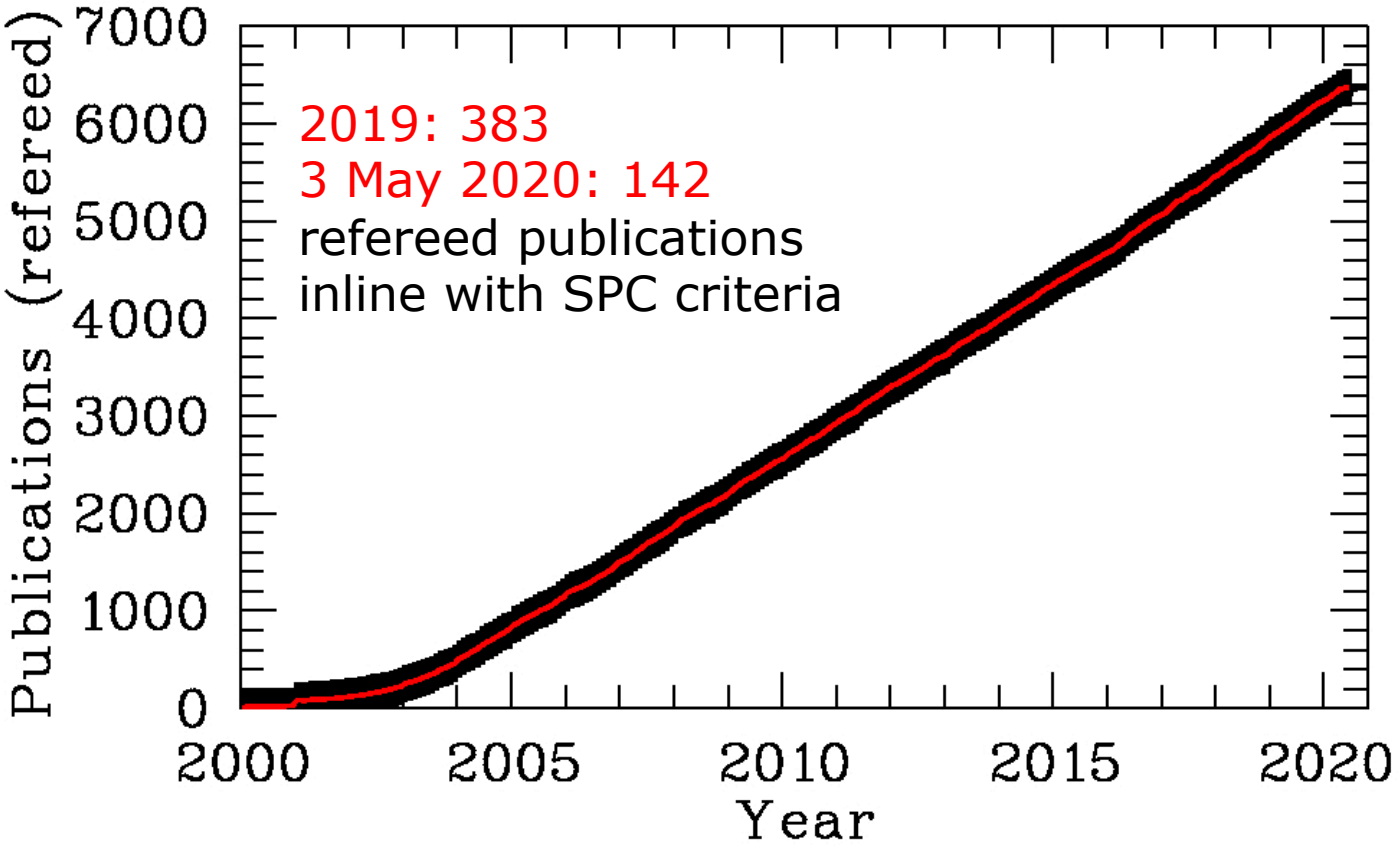
Uses Others

--- SPC ---

Uses Products
Describes
Predicts
Catalogue
Uses Data



Publications



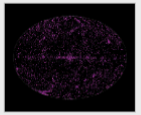
Public Outreach I

20-Aug-2019
XMM-NEWTON 19TH ANNOUNCEMENT OF OPPORTUNITY (AO-19)
The XMM-Newton Nineteenth Announcement of Opportunity is now open and observing proposals may be submitted.
The deadline is **11 October 2019, 12:00 UT**
Further details here on our **XMM-Newton SOC website**.

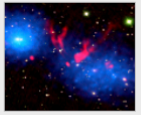
24-Jul-2019
HOW BLACK HOLES SHAPE GALAXIES
Data from ESA's XMM-Newton X-ray observatory has revealed how supermassive black holes shape their host galaxies with powerful winds that sweep away interstellar matter.
Further details on ESAS's **Science & Technology** portal.

23-Jul-2019:
HAPPY BIRTHDAY CHANDRA
Congratulations to colleagues and partners from the Chandra X-ray Observatory for their 20 years and counting of excellence science. Best wishes for many more years to come.
Further details in **Chandra X-ray Observatory** web pages.

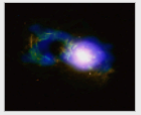
08-Jul-2019:
X-RAY SERENDIPITY
The purple lines and blotches scattered across this image show something incredible: all of the X-ray sources that were serendipitously detected - that is, not intentionally targeted - by ESA's XMM-Newton X-ray space observatory from 2000 to 2017.
Further details on ESAS's **Space in Images** portal.



24-Jun-2019:
X-RAYS REVEAL HOW COSMIC GIANTS MEET
Scientists have uncovered an extremely powerful shock wave in a distant part of the Universe where two massive galaxy clusters appear to come into first contact ahead of merging. The study is based on data from several astronomical facilities, including ESA's XMM-Newton X-ray space observatory.
Further details on ESAS's **Science & Technology** portal.

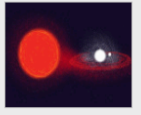


06-May-2019:
STORM IN THE TEACUP QUASAR
This image shows a quasar nicknamed the Teacup due to its shape. The Teacup is 1.1 billion light years away and was thought to be a dying quasar until recent X-ray observations with ESA's XMM-Newton telescope and NASA's Chandra X-ray observatory shed new light on it.
Further details on ESAS's **Space in Images** portal.

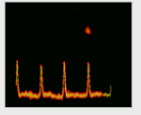


10-Dec-2019
XMM-NEWTON'S 20TH ANNIVERSARY IN SPACE
On 10 December, ESA's XMM-Newton X-ray space observatory is celebrating its 20th launch anniversary. In those two decades, the observatory has supplied a constant stream of outstanding science. One area that the mission has excelled in is the science of black holes, having had a profound effect on our understanding of these cosmic enigmas.
Further details on ESAS's **Science &Exploration** portal.

13-Sep-2019
MYSTERIOUSLY IN SYNC PULSAR CHALLENGES EXISTING THEORIES
For the first time, astronomers have detected synchronised pulses of optical and X-ray radiation from a mysterious pulsar some 4500 light years away. The observations indicate that a new physical mechanism might be needed to explain the behaviour of fast-spinning sources like this one, known as transitional millisecond pulsars.
Further details on ESAS's **Science & Technology** portal.



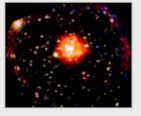
12-Sep-2019
UNEXPECTED PERIODIC FLARES MAY SHED LIGHT ON BLACK HOLE ACCRETION
ESA's X-ray space telescope XMM-Newton has detected never-before-seen periodic flares of X-ray radiation coming from a distant galaxy that could help explain some enigmatic behaviours of active black holes.
Further details on ESA's **Space Science** portal.



28-Aug-2019
XMM-NEWTON ANNIVERSARY PRODUCTS
Explore the scientific impact of ESA's (the European Space Agency's) XMM-Newton observatory for its 20th anniversary in space, as told by Ph.D. scientists whose work the mission enabled. XMM-Newton's telescopes and its ability to make long uninterrupted exposures provide highly sensitive observations of many targets, including active galaxies powered by supermassive black holes, star formation in galaxies, and X-ray flares from stars in our own Milky Way galaxy.
Further details on **NASA's pages.**

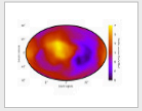
27-Aug-2019
CLUSTER AND XMM-NEWTON PAVE THE WAY FOR SMILE
The Solar wind-Magnetosphere-Ionosphere Link Explorer (SMILE) mission is still four years away from launch, but scientists are already using existing ESA satellites, such as the XMM-Newton X-ray observatory and the Cluster mission studying Earth's magnetosphere, to pave the way for this pioneering venture.
Further details on ESAS's **Science & Technology** portal.

26-Aug-2019
X-RAYING A GALAXY'S STELLAR REMNANTS
This colourful spread of light specks is in fact a record of extremely powerful phenomena taking place in a galaxy known as Messier 83, or M83. Located some 15 million light-years away, M83 is a barred spiral galaxy, not dissimilar in shape from our own Milky Way, and currently undergoing a spur of star formation, with a handful of new stars being born every year.
Further details on ESAS's **Science & Exploration** portal.



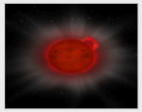
Public Outreach II

08-Apr-2020
RETHINKING COSMOLOGY: UNIVERSE EXPANSION MAY NOT BE UNIFORM
Astronomers have assumed for decades that the Universe is expanding at the same rate in all directions. A new study based on data from ESA's XMM-Newton, NASA's Chandra and the German-led ROSAT X-ray observatories suggests this key premise of cosmology might be wrong.
Further details on ESAS's **Science & Exploration** portal.

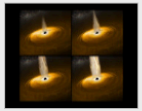


27-Feb-2020
THE MOST POWERFUL BLACK HOLE ERUPTION IN THE UNIVERSE
Astronomers using ESA's XMM-Newton and NASA's Chandra X-ray space observatories, along with radio telescopes on ground, have spotted the aftermath of the most powerful explosion ever seen in the Universe.
Further details on ESAS's **Science & Exploration** portal.

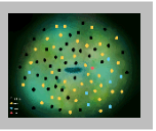
20-Feb-2020
XMM-NEWTON REVEALS GIANT FLARE FROM A TINY STAR
A star of about eight percent the Sun's mass has been caught emitting an enormous 'super flare' of X-rays – a dramatic high-energy eruption that poses a fundamental problem for astronomers, who did not think it possible on stars that small.
Further details on ESAS's **Science & Exploration** portal.



20-Jan-2020
XMM-NEWTON MAPS BLACK HOLE SURROUNDINGS
Material falling into a black hole casts X-rays out into space - and now, for the first time, ESA's XMM-Newton X-ray observatory has used the reverberating echoes of this radiation to map the dynamic behaviour and surroundings of a black hole itself.
Further details on ESAS's **Science & Exploration** portal.



16-Jan-2020
XMM-NEWTON DISCOVERS SCORCHING GAS IN IN MILKY WAY'S HALO
ESA's XMM-Newton has discovered that gas lurking within the Milky Way's halo reaches far hotter temperatures than previously thought and has a different chemical make-up than predicted, challenging our understanding of our galactic home.
Further details on ESAS's **Science &Technology** portal.

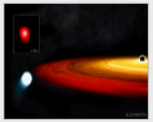


10-Jan-2020
FIRST SIGHTING OF HOT GAS SLOSHING IN GALAXY CLUSTER
ESA's XMM-Newton X-ray observatory has spied hot gas sloshing around within a galaxy cluster - a never-before-seen behaviour that may be driven by turbulent merger events.
Further details on ESAS's **Science & Exploration** portal.

27-May-2020
ANDREW FABIAN
The Norwegian Academy of Science and Letters has decided to award the Kavli Prize in Astrophysics for 2020 to Andrew Fabian "for his groundbreaking research in the field of observational X-ray astronomy, covering a wide range of topics from gas flows in clusters of galaxies to supermassive black holes at the heart of galaxies."
Further details on **Kavliprize** portal.

11-May-2020
A BENT BRIDGE BETWEEN TWO GALAXY CLUSTERS
A new study, based on data from ESA's XMM-Newton and NASA's Chandra X-ray observatories, sheds new light on a three million light-year long bridge of hot gas linking two galaxy clusters, whose shape is being bent by the mighty activity of a nearby supermassive black hole.
Further details on ESAS's **Science & Exploration** portal.

23-Apr-2020
STAR SURVIVES CLOSE CALL WITH A BLACK HOLE
Astronomers may have discovered a new kind of survival story: a star that had a brush with a giant black hole and lived to tell the tale through exclamations of X-ray.Data from NASA's Chandra X-ray Observatory and ESA's XMM-Newton uncovered the account that began with a red giant star wandering too close to a supermassive black hole...
Further details on **NASAS's web portal.**



Public Outreach III

Follow

ESA XMM-Newton

@ESA_XMM

ESA's X-ray satellite, in orbit since 1999 💫✨💔
Opinions are our own.
For formal requests please contact the helpdesk at cosmos.esa.int/web/

Space cosmos.esa.int/web/xmm-newton/ Joined August 2015

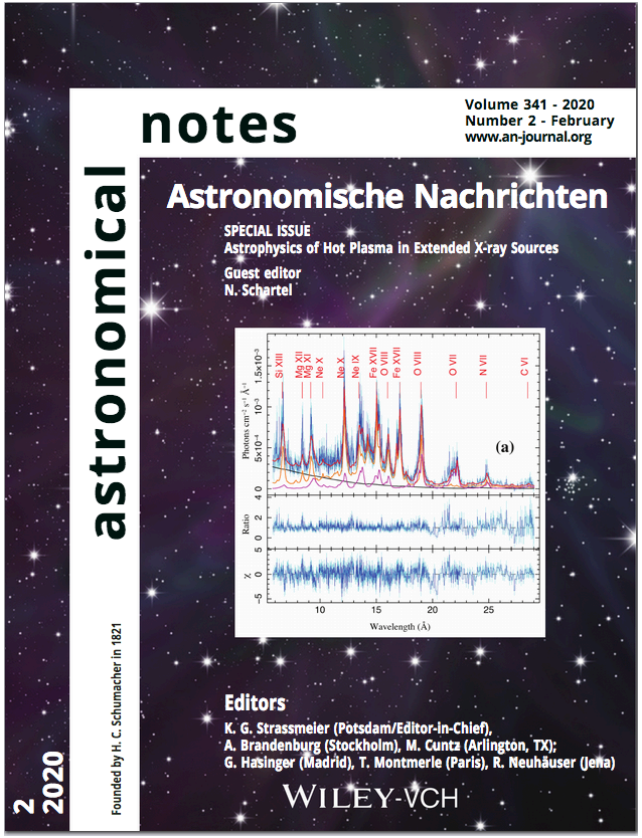
41 Following **2,389** Followers

Workshop 2019

Astrophysics of hot plasma in extended X-ray sources

12 - 14 June 2019

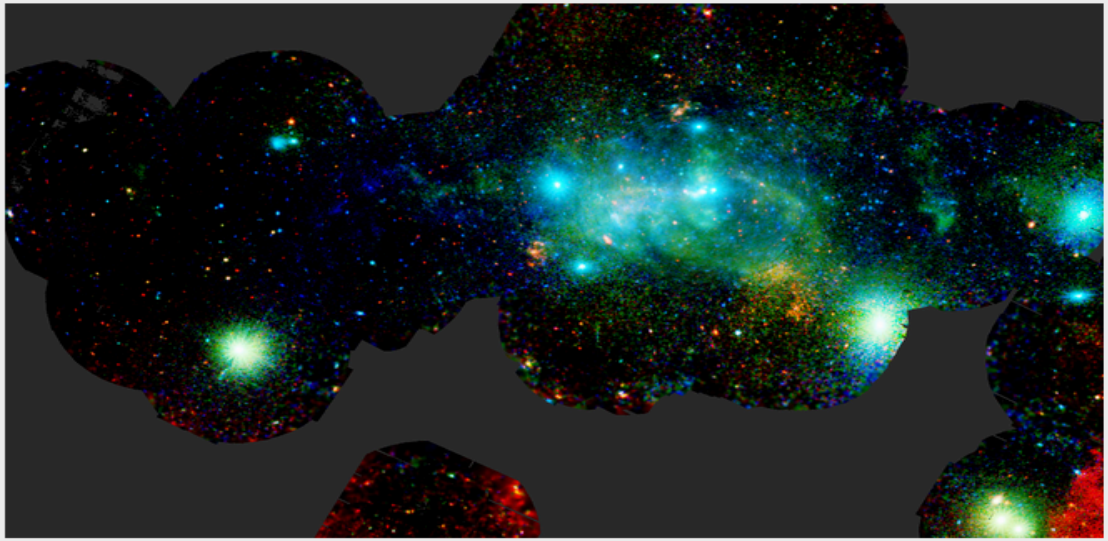
- **Chairperson: Anne Decourchelle**
- **100 Participants**



Symposium S16

1 - 2 July 2020

XMM-Newton: Current scientific highlights and future prospects



Aims and scope

The 20 years of XMM-Newton observations have dramatically changed and increased our understanding of all astronomical

https://xmm-tools.cosmos.esa.int/external/xmm_news/20th_Anniversary/

20th Anniversary I

SPECIAL EVENT

XMM-NEWTON 20TH ANNIVERSARY EVENT

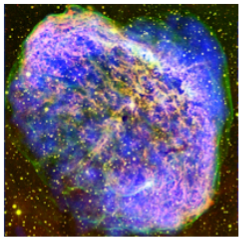
Tuesday, 10 December		
Chair: Maria Santos-Lleo		
10:00 - 10:10	Guenther Hasinger	Welcome
10:10 - 10:30	Norbert Schartel	Scientific Highlights and Perspectives (Video)
10:30 - 10:50	Juergen Schmitt	Exoplanets and Host Stars (Video)
10:50 - 11:10	Anne Decourchelle	Supernovae Remnants (Video)
11:10 - 11:30	Felix Fuerst	Ultra-Luminous X-Ray Sources (Video)
11:30 - 12:00	**Coffee**	
Chair: Simone Migliari		
12:00 - 12:10	Xavier Barcons	Workhorse observatories for European astronomy (Video)
12:10 - 12:30	Nanda Rea	Magnetars (Video)
12:30 - 12:50	Giovanni Miniutti	Quasi Periodic Eruptions (Video)
12:50 - 13:10	Michael Parker	AGN Outflows and Absorption (Video)
13:10 - 13:30	Fabio Gastaldello	Cluster Structure and Feedback (Video)
13:30 - 15:00	**Lunch**	
Chair: Rosario Gonzalez		
15:00 - 15:20	Monique Arnaud	Cluster Cosmology (Video)
15:20 - 15:40	Elisabeta Lusso	Hubble Diagram of Quasars (Video)
15:40 - 16:00	Matteo Guainazzi	Athena (Video)
16:00 - 17:30	**Reception Cocktail at ESAC**	
21:00	**Dinner**	

Wednesday, 11 December		
Chair: Peter Kretschmar		
09:40 - 10:10	Robert Lainé / Tommy Strandberg	Spacecraft1, Spacecraft2 (Video1, Video2)
10:10 - 10:30	Jan Willem Herder & Jelle Kaastra	RGS (Video1, Video2)
10:30 - 10:40	Richard Mushotzky	US Participation in XMM (Video)
10:40 - 11:00	Keith Mason & Matt Page	OM1, OM2 (Video1, Video2)
11:00 - 11:20	Tony Abbey	EPIC-MOS (Video)
11:20 - 11:50	**Coffee**	
Chair: Norbert Schartel		
11:50 - 12:10	Lothar Strueder & Frank Haberl	EPIC-pn (Video)
12:10 - 12:20	Marcus Kirsch	MOC (Video)
12:20 - 12:40	Mike Watson & Natalie Webb	SSC (Video)
12:40 - 13:00	Maria Santos-Lleo & Peter Kretschmar	SOC / 2020+, SOC / 2020+(2) (Video1, Video2)
	Recollection I: "Early X-ray Astrophysics and XMM-Newton" in cooperation with Max-Planck-Institut für Wissenschaftsgeschichte	
13:00 - 13:15	Ken Pounds	X-ray Astronomy in Europe (Video)
13:15 - 13:30	Joachim Truemper	Lead-up to XMM-Newton (Video)
13:30 - 15:00	**Lunch**	
Chair: Norbert Schartel		
	Recollection II: "Early X-ray Astrophysics and XMM-Newton" in cooperation with Max-Planck-Institut für Wissenschaftsgeschichte	
	Starting statements	
15:00 - 15:05	Brian G. Taylor (Video)	
15:05 - 15:10	Piet de Korte (Video)	
15:10 - 15:15	David Lumb (Video)	
	Panel Discussion (Video)	
15:15 - 16:30	Ken Pounds Brian G. Taylor Joachim Truemper Piet de Korte David Lumb Richard Mushotzky Robert Lainé	

20th Anniversary I

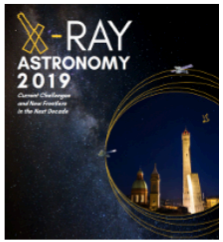
20th Anniversary II

LECTURES, WORKSHOPS & CONFERENCES



HEAD Meeting
Special session on XMM-Newton
Monterey, CA, USA
17-21 March 2019

"Astrophysics of hot plasma in extended X-ray sources"
XMM-Newton Workshop
ESAC, Madrid, Spain
12-14 June 2019



X-ray Astronomy
Special lecture about XMM-Newton mi
Bologna, Italy
8-13 September 2019

X-ray Astrophysics from XMM-Newton to Athena: The heritage of XMM and opportunities of Athena
Specialist Discussion Meeting
Royal Astronomical Society, London, UK
13 December 2019

Special Session: Celebrating 20 Years of XMM-Newton Discoveries
235th Meeting of the
American Astronomical Society, Honolulu, Hawaii
5 January 2020

20 years XMM-Newton: Europe's flagshi X-ray observatory ready for next decade
ESOC, Darmstadt, Germany
26 March 2020

XMM-Newton 20th Anniversary Goddard Symposium
GSFC, Greenbelt, MD, USA
21-22 October 2019

Spanish X-Ray Astronomy 2019: present, future and synergies
Alicante, Spain
26-27 November 2019

Twenty Years of Chandra Scienc
Symposium
Boston, MA, USA
3-6 December 2019

The X-ray Universe
ESLAB, ESTEC, The Netherlands
25-29 May 2020

XMM-Newton: Current scientific highlights and future prospects
European Astronomical Society
Leiden, The Netherlands
29 June - 3 July 2020

If you are organising an event related to XMM-Newton or where XMM-Newton can contribute, please contact us

20th Anniversary III

RECOLLECTIONS

Roots of the XMM-Newton Space Observatory: A blast from the past, Johan Bleeker and Brian Taylor

Realization of the Reflection Grating Spectrometer on XMM-Newton, Jan-Willem den Herder

Recollections on X-ray Optics and satellite developments for XMM-Newton, Robert Lainé, with support from Daniel de Chambure

Recollections of XMM, David Lumb

XMM OM history (video), Keith Mason

X-ray astronomy and Eddington winds, Ken Pounds

The development and use of the pnCCDs for science and industry, Lothar Strüder

The XMM 20 year reunion – random thoughts for the panel discussion, Brian Taylor

XMM, I remember..., Gabriele Villa

20th Anniversary IV

PAPERS

XMM-Newton: 20 años observando el universo más violento (Spanish)

J. Ebrero, Revista Astronomía, no.246, p.28-37

Ils radiographient le cosmos depuis vingt ans (French)

Y. Nazé, La Recherche, mensuel 554, Dec 2019

Blick ins heiße Universum (German)

(full article - restricted)

Norbert Schartel & Günther Hasinger, Physik Journal 12, Seite 41, 2019

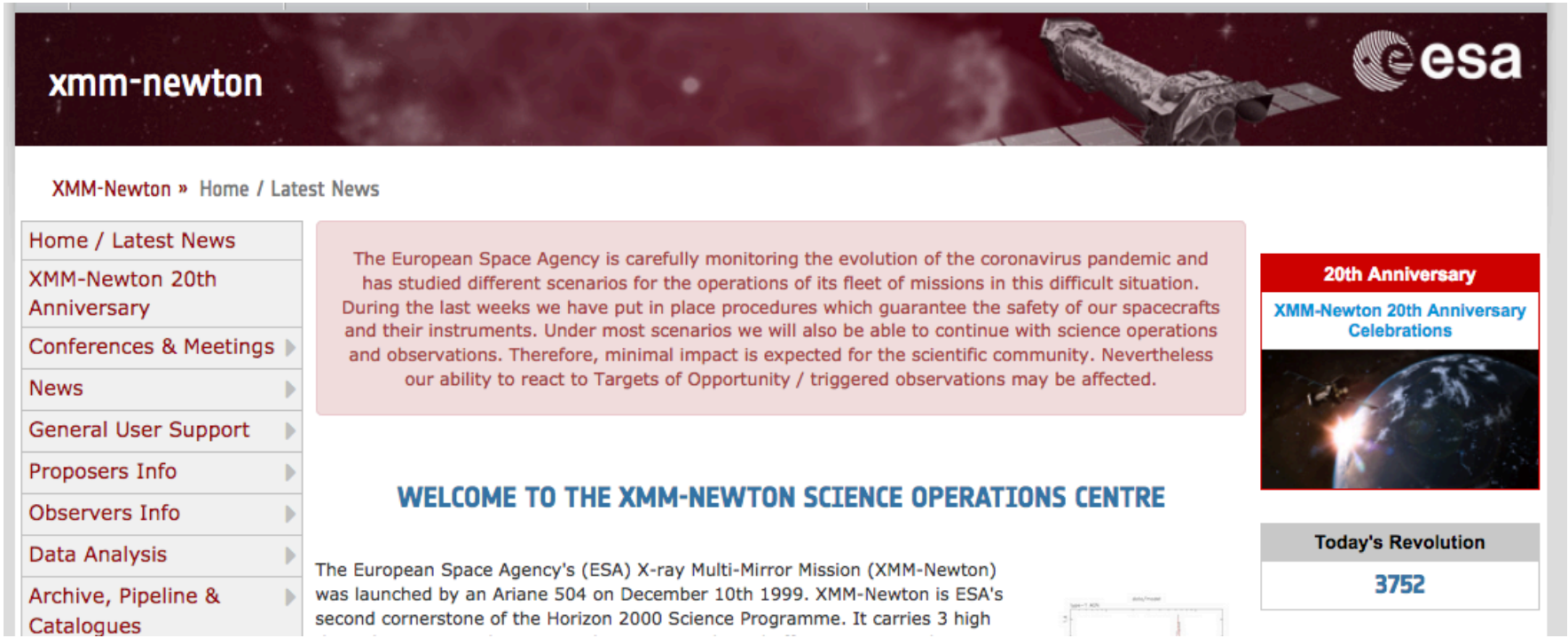
Revealing the X-Ray Universe

Sky and Telescope, Issue August 2019

7 Incredible Discoveries from Two Decades of X-rays

Sky and Telescope, 18 June 2019

20th Anniversary V



Next Workshop / Conference?

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