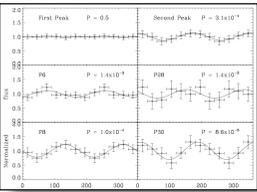
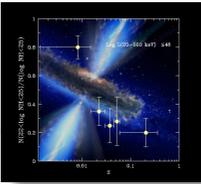


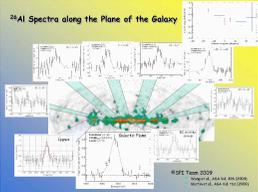
PS Status Report

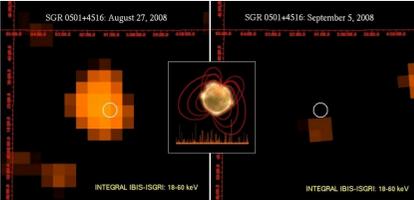




- 🎯 **Observatory status**
- 🎯 **Community interfaces**
- 🎯 **Science highlights**
- 🎯 **Outreach**







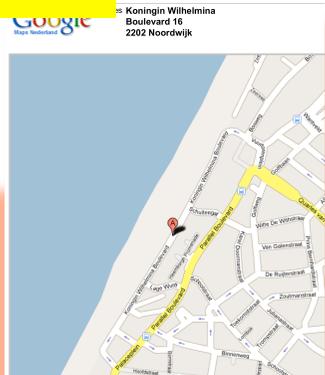
INTEGRAL IUG Meeting
10 - 11 December 2009
Christoph Winkler

TONIGHT, 10 December 2009, 19:30

IUG Dinner @ "Tratto" 

Noordwijk aan Zee, Koningin Wilhelmina 071 – 362 44 77







INTEGRAL IUG Meeting
10 - 11 December 2009
Christoph Winkler



Executed observations

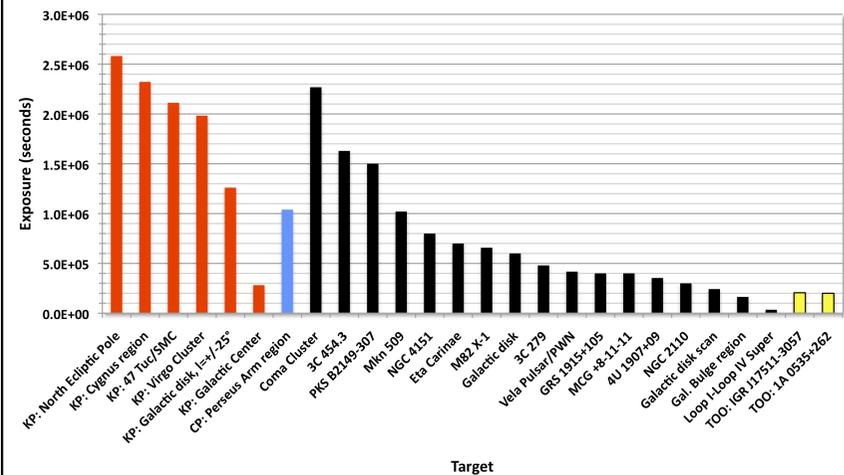
Rev 796 – 866 (20 Apr 2009 – 18 Nov 2009)

Target	PI
KP: North Ecliptic Pole	Ajello
KP: Cygnus region	Knödlseder
KP: 47 Tuc/SMC	Maccarone
KP: Virgo Cluster	Stella
KP: Galactic disk, $l = + / - 25^\circ$	Weidenspointner
KP: Galactic Center	Bélangier
CP: Perseus Arm region	ISWT
Coma Cluster	Eckert
3C 454.3	Donnarumma
PKS B2149-307	Bianchin
Mkn 509	Petrucci
NGC 4151	Walter
Eta Carinae	Leyder
M82 X-1	Sazonov
Galactic disk	Sunyaev
3C 279	Collmar
Vela Pulsar/PWN	Dean
GRS 1915+105	Rodriguez, Wilms
MCG +8-11-11	Soldi, Zhang (amalgam.)
4U 1907+09	Pottschmidt
NGC 2110	Beckmann
Galactic disk scan	Sunyaev
Gal. Bulge region	Kuulkers
Loop I-Loop IV Super	Iyudin
TOO: IGR J17511-3057	Falanga
TOO: 1A 0535+262	Caballero



Executed observations

Executed observations, rev 796 - 866, 24 Ms total science time



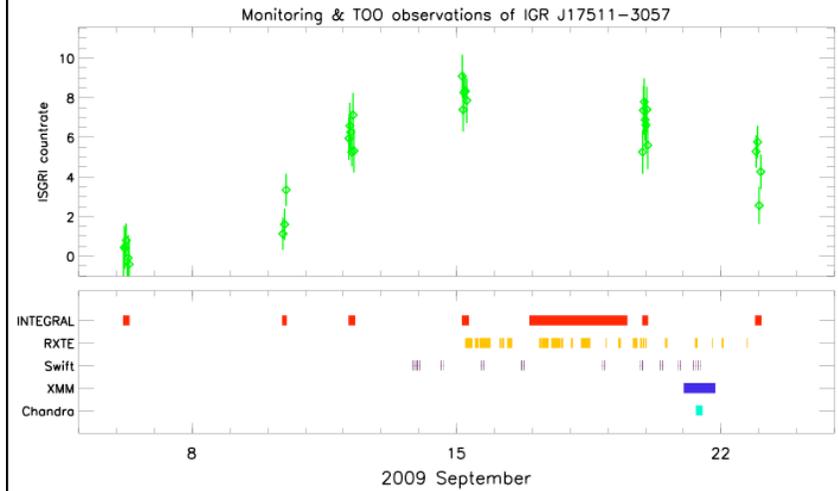


TOO follow-up observations and GRB

Date	Source	PI	Comments
August 2009	1A 0535+26 accreting pulsar	Caballero	Scheduled
September 2009	IGR J17511-3057 ms-pulsar	Falanga	Scheduled
Apr - Dec 2009	-	-	No rejected TOO notifications
GRB 090625B, GRB 090704	GRB inside FOV	Hanlon Wunderer Götz	All instrument data SPI/IBIS data, ms timing analysis only (Fermi) E_{peak} , fluence, E_{peak} vs E_{iso}
GRB 090702, GRB 091015	GRB inside FOV	Hanlon Wunderer	All instrument data SPI/IBIS data, ms timing analysis only
GRB 0810016, 081003, 080922	GRB inside FOV	Hanlon Wunderer	
GRB 090814B, GRB 090817	GRB inside FOV	ISWT	



IGR J17511-3057 campaign





Response to AO-7 (1): Observing proposals

AO-7 for observing time proposals

- 20 Feb 2009: 76 proposals received
 - < 1 Ms: 10 proposals, 3.7 Ms total
 - ≥ 1 Ms (KP): 35 proposals, 84.1 Ms total
 - TOO/GRB: 31 proposals, 190.0 Ms total

- 25 March 2009: TAC recommended 50 proposals, ESA approval 15 April 2009
 - < 1 Ms: 7 proposals, 3.05 Ms total
 - ≥ 1 Ms (KP): 19 proposals, 32.4 Ms total
 - TOO/GRB: 19/5 proposals, 13.2 Ms total
 - Total non-TOO allocated: 35.3 Ms, total non-TOO (A): 21.6 Ms
 - Total non-TOO available: 29 Ms (14.5 months) – 2.6 Ms (TOO earmark) x 120% = 31.7 Ms

- (non-KP vs KP)_{allocated} = 8.6% vs 91.3%
- (non-KP vs KP)_{IUG recommended} = < 20% vs >80%

- Russian return: 11 proposals approved
 - total time approved 11.2 Ms incl 0.8 Ms TOO
 - return in AO-7: 25% (7.25 Ms) + 2.2 Ms (under-return)



AO-7 observing proposals

Non-TOO observations by science category, all grades								
Science category	Time requested		Time accepted		Proposals submitted		Proposals accepted	
	(Ms)	(%)	(Ms)	(%)	(#)	(%)	(#)	(%)
Compact Objects	20.1	22.9	8.1	22.7	16	35.6	9	34.6
Extragalactic Objects	28.0	31.9	8.9	25.1	12	26.7	6	23.1
Nucleosynthesis	12.4	14.1	8.5	24.0	5	11.1	5	19.2
GRB & others	27.3	31.1	10.0	28.2	12	26.7	6	23.1
Total	87.8	100.0	35.5	100.0	45	100.0	26	100.0
Time for TOO observations by science category, all grades								
Science category	Time requested		Time accepted		Proposals submitted		Proposals accepted	
	(Ms)	(%)	(Ms)	(%)	(#)	(%)	(#)	(%)
Compact Objects	91.2	48.1	3.8	28.6	16	51.6	11	45.8
Extragalactic Objects	88.7	46.8	2.8	21.3	6	19.4	5	20.8
Nucleosynthesis	9.6	5.1	6.6	50.2	3	9.7	3	12.5
GRB & others	0.2	0.1	0.0	0.0	6	19.4	5	20.8
Total	189.7	100.0	13.2	100.0	31	100.0	24	100.0

Note: Requested TOO time = # proposed sources x exposure per source. Trigger probability is typically a few% (depending source type) or less.



AO-7 for data rights proposals

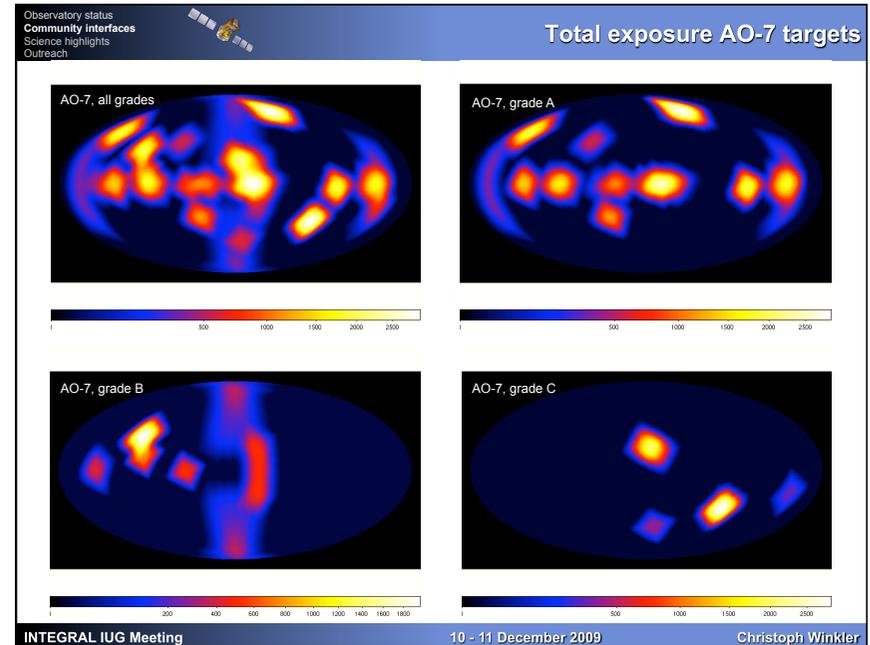
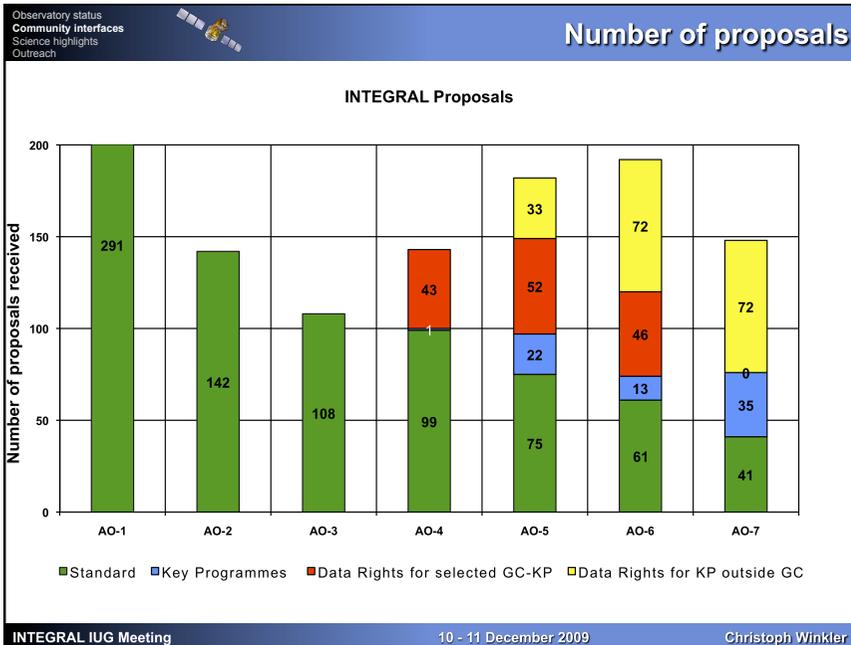
- 03 July 2009: 72 proposals received, > 600 targets
 - 25 non-TOO AO-7 observations open for data rights proposals
- Mid Sep 2009: TAC recommended 62 proposals, ESA approval 30 September 2009
 - 345 targets
 - See INTEGRAL WW for details, source lists etc.

Category	Proposed	Accepted	%
Compact Objects	48	39	81
Extragalactic Objects	17	16	94
Nucleosynthesis	2	2	100
Others	5	5	100



1. Proposals for observing time are generally of good/excellent quality, however, some proposers convincingly demonstrate that
 - the AO documentation has not been read in detail
 - the TAC comments from the previous AO - meant to help improving the proposal for the next time – have also not been read

2. Some (many ?) proposers for data rights are asking for all kinds of sources in a field without clearly stated observing goals. One should clearly scientifically motivate why one wishes to observe these sources: a limited number of sources, well motivated. Not a vaguely motivated "all sources in the field", which, essentially, is forbidden.



Observatory status Community interfaces Science highlights Outreach	Selected science highlights since last meeting
	
<i>The peculiar nature of the hard X-ray eclipse in SS433 from INTEGRAL observations</i>	A. Cherepashchuk et al., MNRAS 379, 497, 2009
<i>Spectral and intensity variations of Galactic ²⁶Al emission</i>	W. Wang et al., A&A 496, 713, 2009
<i>The fraction of Compton-thick sources in an INTEGRAL complete AGN sample</i>	A. Malizia et al., MNRAS in press, 2009, arXiv: 0906.5544
<i>Is there a dark matter signal in the Galactic positron annihilation radiation ?</i>	R. Lingenfelter et al., Phys.Rev.Lett., 103, 031301, 2009
<i>The high energy emission of the Crab nebula from 20 keV to 6 MeV with INTEGRAL</i>	E. Jourdain & J.P. Roques, arXiv: 0909.3437, 2009
<i>The 4th IBIS soft gamma-ray survey catalogue</i>	A. Bird et al., arXiv: 0910.1704, 2009
<i>Discovery of a highly energetic pulsar associated with IGR J14003-6326 and a young uncatalogued Galactic supernova remnant G310.6-1.6</i>	M. Renaudet et al., arXiv: 0910.3074, 2009
<i>The 2nd INTEGRAL AGN catalogue</i>	V. Beckmann et al., arXiv: 0907.0654, 2009
<i>The first outburst of the new magnetar candidate SGR 0501+4516</i>	N. Rea et al., MNRAS 396, 2419, 2009
<i>Strong bursts from the anomalous X-ray pulsar 1E1547.0-5408 observed with the INTEGRAL/SPI anti-coincidence shield</i>	S. Mereghetti et al., ApJ 696, 74, 2009

Observatory status Community interfaces Science highlights Outreach	Outreach
	
	
	
	

Dark matter could be light

Gamma rays from galaxy centre may signify less massive form of dark matter.

17 March 2004
Philip Ball

Gamma rays streaming from the centre of our galaxy could be signature of elusive dark matter, astrophysicists claim. The ray support an exotic theory about dark matter, that it consists of particles.

Physicists know that a large proportion of the universe's mass is accounted for by objects we can see, such as stars and planets. Galaxies such as our own, there could be as much as ten times as much dark matter than normal matter.

One popular idea suggests that the "missing" dark matter consists of particles.

Integrals Stellar Winds Colliding At Our Cosmic Doorstep

ESA's Integral has made the first unambiguous discovery of high-energy X-rays coming from a rare massive star at our cosmic doorstep, Eta Carinae. It is one of the most violent places in the galaxy, producing vast winds of electrically charged particles colliding at speeds of thousands of kilometers per second.

The only astronomical object that emits gamma-rays and is observable by the naked eye.

Mysterieuze magnetar op heterdaad betapt

Door Gert Schilling gepubliceerd op 28 januari 2009 16:41, bijgewerkt op 16:41

Met de Europese kunstmaan Integral zijn de afgelopen dagen gedetailleerde waarnemingen verricht van een zogeheten magnetar tijdens een krachtige uitbarsting. De nieuwe metingen zullen er hopelijk toe bijdragen dat sterrenkundigen een beter inzicht krijgen in de ware aard van deze mysterieuze hemellichamen. Magnetars zijn kleine, compacte neutronensterren (zwaarder dan de zon maar niet veel groter dan een mens).

French explain gamma ray mystery

French scientists have explained a 50-year-old mystery about gamma rays emitted by black holes and neutron stars, which are buried in clusters of dust and gas, according to a French study published on Thursday.

The research, which appears in the British science journal Nature, involves a 50-year-old enigma as to where this so-called "soft" radiation comes from.

Using data from the Milky Way, located in the innermost gamma-ray emitting black holes and neutron stars, which are buried in clusters of dust and gas, according to a French study published on Thursday.

Twenty-six of these sources were previously unidentified, and most of the other sources are binary star systems that had already been detected in the 30-year-old of the energy spectrum.

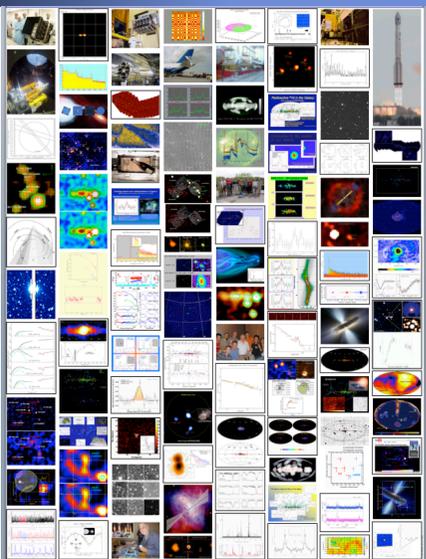
The remaining 10 per cent of the gamma radiation is likely to come from very compact stars.

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INTEGRAL POM

Oct 2001 - Oct 2009

POM #100: Jan 2010



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ESA press/web news releases

Press Releases and Info Notes

- Integral disproves dark matter origin for mystery radiation, ESA News, 22 July 2009.
- Galactic positron annihilation not a signal of dark matter, ESA Science & Technology, 22 July 2009.
- 'Integral': viaje a un agujero negro, El Pais, 26 June 2009.
- At last! After 10 years a new Soft Gamma Repeater is observed, ESA Science & Technology, 16 June 2009.
- Giant eruption reveals 'dead' star, ESA Space Science News, 16 June 2009.
- INTEGRAL sees variable polarization from GRB041219A, ESA Science & Technology, 03 April 2009.
- Dissecting a stellar explosion, ESA Space Science News, 03 April 2009.

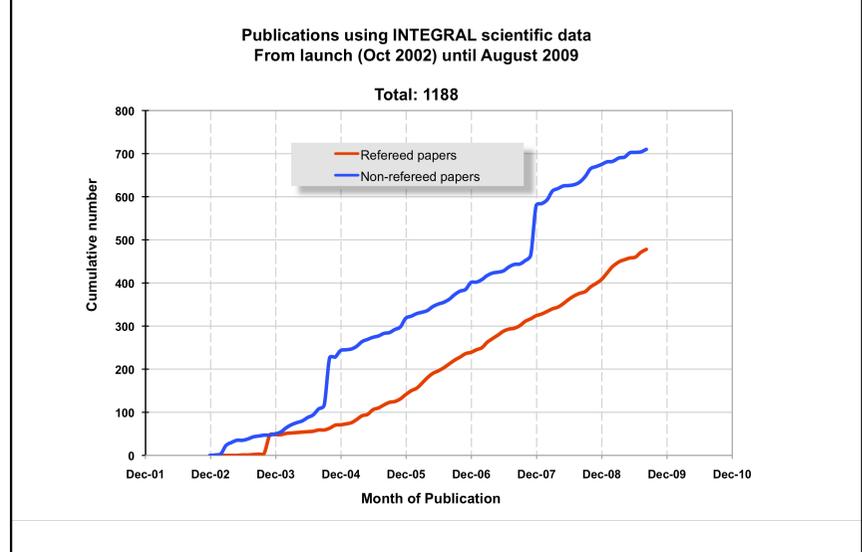
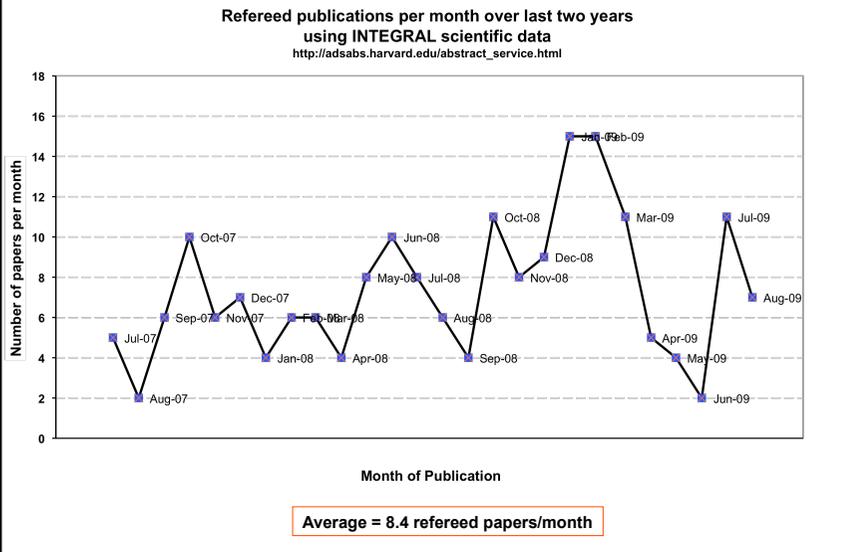
Total: 46 ESA press/web news releases since launch
Archive: <http://integral.esac.esa.int/press/press.html>

In preparation

?

Requests/ideas for new press releases to CW, please.

INTEGRAL IUG Meeting 10 - 11 December 2009 Christoph Winkler



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INTEGRAL publications on the WWW

INTEGRAL Scientific Publications - Pre-Prints

Weekly update

Recent INTEGRAL papers listed on astro-ph during the past 6 months, sorted chronologically.

Author	Title	astro-ph reference number
Cocchi, M. et al.	Wide band observations of the X-ray burster GS 1826-238	arXiv:0911.0346
Torrejón, J.M. et al.	Near-infrared survey of High Mass X-ray Binary candidates	arXiv:0910.5603
Rodes-Roca, J.J. et al.	The first cyclotron harmonic of 4U 1538-52	arXiv:0910.4464
Ubertini, P. et al.	The INTEGRAL view of Gamma-Ray Bursts	arXiv:0910.4346
Renaud, M. et al.	Discovery of a highly energetic pulsar associated with IGR J14003-6326 and a young uncataloged Galactic supernova remnant G310.6-1.6	arXiv:0910.3074
Rodríguez, J. et al.	The nature of the X-ray binary IGR J19294+1816 from INTEGRAL, RXTE, and Swift observations	arXiv:0910.2799
Gebauer, I and de Boer, W	An Anisotropic Propagation Model for Galactic Cosmic Rays	arXiv:0910.2027
Ubertini, P. et al.	The Fermi/LAT sky as seen by INTEGRAL/IBIS	arXiv:0910.1738
Bird, A.J. et al.	The 4th IBIS/ISGRI soft gamma-ray survey catalog	arXiv:0910.1704
Eckert, D. et al.	INTEGRAL probes the morphology of the Crab nebula in hard X-rays/soft gamma-rays	arXiv:0910.1698
Nevalainen, J. et al.	XMM-Newton and Integral analysis of the Ophiuchus cluster of galaxies	arXiv:0910.1364
Scaringi, S. et al.	Hard X-ray properties of magnetic cataclysmic variables	arXiv:0910.0954
Trapp, G. et al.	Soft gamma-ray constraints on a bright flare from the Galactic center supermassive black hole	arXiv:0910.0399
Jourdain, E. and Roques, J.P.	The High Energy Emission of the Crab Nebula from 20 keV to 6 MeV with INTEGRAL	arXiv:0909.3437
Kuulkers, E. et al.	What burns unstably on the neutron star of 4U 0614+091?	arXiv:0909.3391
Risaltì, G. et al.	A strong excess in the 20-100 keV emission of NGC 1365	arXiv:0909.2820
Petry, D. et al.	Soft gamma-ray sources detected by INTEGRAL	arXiv:0909.2802
Gogiel, V.A. et al.	Nuclear Interaction Gamma-Ray Lines from the Galactic Center Region	arXiv:0909.2110
Zhang, S. et al.	INTEGRAL and Swift/XRT observations of IGR J19405-3016	arXiv:0909.0075
Iain, C. et al.	Orbital X-ray modulation study of three Supercritical HMXBs	arXiv:0908.4563

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INTEGRAL publications on the WWW

Monthly update

SAONASA Astrophysics Data System (ADS)

Private IP addresses (192.168.0.0/24) and non-ref publications) for Christoph Winkler (the link on the history page is a public link to this library)

selected and retrieved 1231 abstracts.

#	Abstract	Authors	Score	Date	Link to ADS	Access Control	Help
1	2009MNRAS...368.1194C	Capitanio, F., Belloni, T., De Santis, M., Ubertini, P.	1.000	09/2009	A failed outburst of H1743-322	A E E X	B G S U
2	2009PASA...61.6329	Saitogawa, Akio; Tsubota, Masahito; Kitamoto, Shunji; Ishida, Masaru; Hamaoka, Koep; Mori, Hiroyuki; Tsuboi, Yoshio	1.000	09/2009	Super-Hard X-Ray Emission from η Carinae Observed with Suzaku	A E E X D	B G S U
3	2009MNRAS...397.1288B	Sokol, L., Romano, P., DiStefano, L., Paoletti, A., Cucumano, G., Mangano, V., Kottis, H. A., Worsfold, S., Burrows, D. N., Kamezaki, J. A., Galassi, N.	1.000	09/2009	Supergiant Fast X-ray Transients in outburst: new Swift observations of XTE J1739-302, IGR J17544-2619 and IGR J08498-4503	A E F X	B G U
4	2009IAC...26.4502P	Pirhaei, Kobra	1.000	09/2009	History of gamma-ray telescopes and astronomy	A E	B U
5	2009MNRAS...397.1194C	Kivimäki, R., Tuohimäki, S., Sarajedini, R., Melnikov, S., Blinnikov, I., Pavlenko, M., Burrows, R.	1.000	09/2009	Two new hard X-ray sources (IGR J18151-1052 and IGR J17009-3559) discovered with INTEGRAL	A E	U
6	2009MNRAS...397.1194C	Caballero, I., Ferrigno, C., Knäuper, P., Wilms, J., Kreykenbohm, I., Potzschmidt, K., Sarajedini, A., Buchi, S., Lebrun, F., Mandrou, P.	1.000	09/2009	INTEGRAL and RXTE observations of A0535-26	A E	U
7	2009MNRAS...397.1194C	Ishibe, S., Longo, S., Colmar, Werner.	1.000	09/2009	Fermi LAT and INTEGRAL detection of increased high-energy activity of blazar IC 3639	A E	C U
8	2009MNRAS...397.1194C	Probst, N., Beckmann, V., Marousaki, A., Bianchini, V., Budtz-Jørgensen, C., Costero, A., Kuulkers, E., Lubrano, A., Mandrou, P., Paul, J., and 2 coauthors	1.000	09/2009	INTEGRAL observes outburst from 1A 0535-262	A E	U
9	2009MNRAS...397.1194C	Coussaert, T. J. L.	1.000	09/2009	Some Connections Between Radio Astronomy and High Energy Astrophysics	A E	I U
10	2009MNRAS...397.1194C	Tanaka, John A., Chab, Sylvain, Rodriguez, Jerome, Walter, Roland, Kauer, Philip	1.000	09/2009	Chandra Localizations and Spectra of Integral Sources in the Galactic Plane: The Cygnus Sample	A E E X D	B G S U
11	2009MNRAS...397.1194C	Gotthelf, E. V., Hakkim, J. P.	1.000	09/2009	Discovery of a Highly Energetic X-Ray Pulsar Powering HESS J1815-178 in the Young Supernova Remnant G12.82-0.02	A E E X	B G S U

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Top 10 citations to papers, as of October (February) 2009

N. Arkani-Hamed et al. <i>Phys. Rev D</i> 79, 015014, 2009	A theory of dark matter	228 (100)
C. Böhm et al. <i>Phys. RevL</i> 92, 101301, 2004	MeV dark matter: has it been detected ?	188 (145)
A. Bird et al. <i>ApJS</i> 170, 175, 2007	The third IBIS source catalogue	145 (113)
P. Jean et al. <i>A&A</i> 407, 55, 2003	Early SPI/INTEGRAL measurements of 511 keV line emission from the 4th quadrant of the Galaxy	145 (117)
J. Knödseder et al. <i>A&A</i> 441, 513, 2005	The all-sky distribution of 511 keV electron-positron annihilation emission	136 (98)
J. Knödseder et al. <i>A&A</i> 411, 457, 2003	Early SPI/INTEGRAL constraints on the morphology of the 511 keV line emission in the 4th galactic quadrant	118 (105)
R. Diehl et al. <i>Nature</i> 439, 45, 2006	Radioactive ^{26}Al from massive stars in the Galaxy	102 (70)
J. F. Beacom & H. Yüksel <i>Phys. RevL</i> 97, 071102, 2006	Stringent constraints on Galactic positron production	92 (71)
A. Bird et al. <i>ApJ</i> 607, 33, 2004	The first IBIS source catalogue	89 (80)
P. Jean et al. <i>A&A</i> 445, 579, 2006	Spectral analysis of the Galactic e^+e^- annihilation emission	86 (<70)