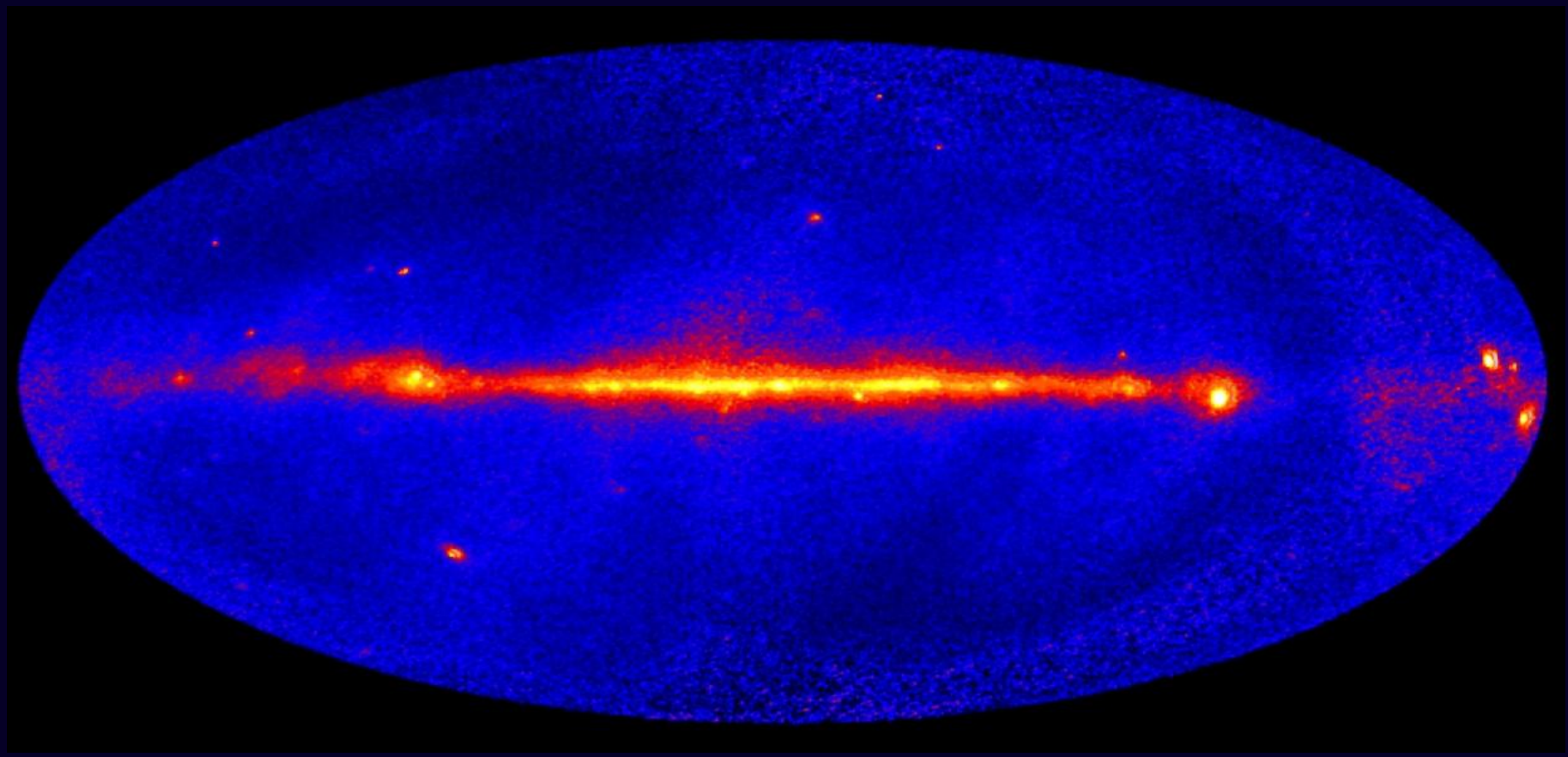
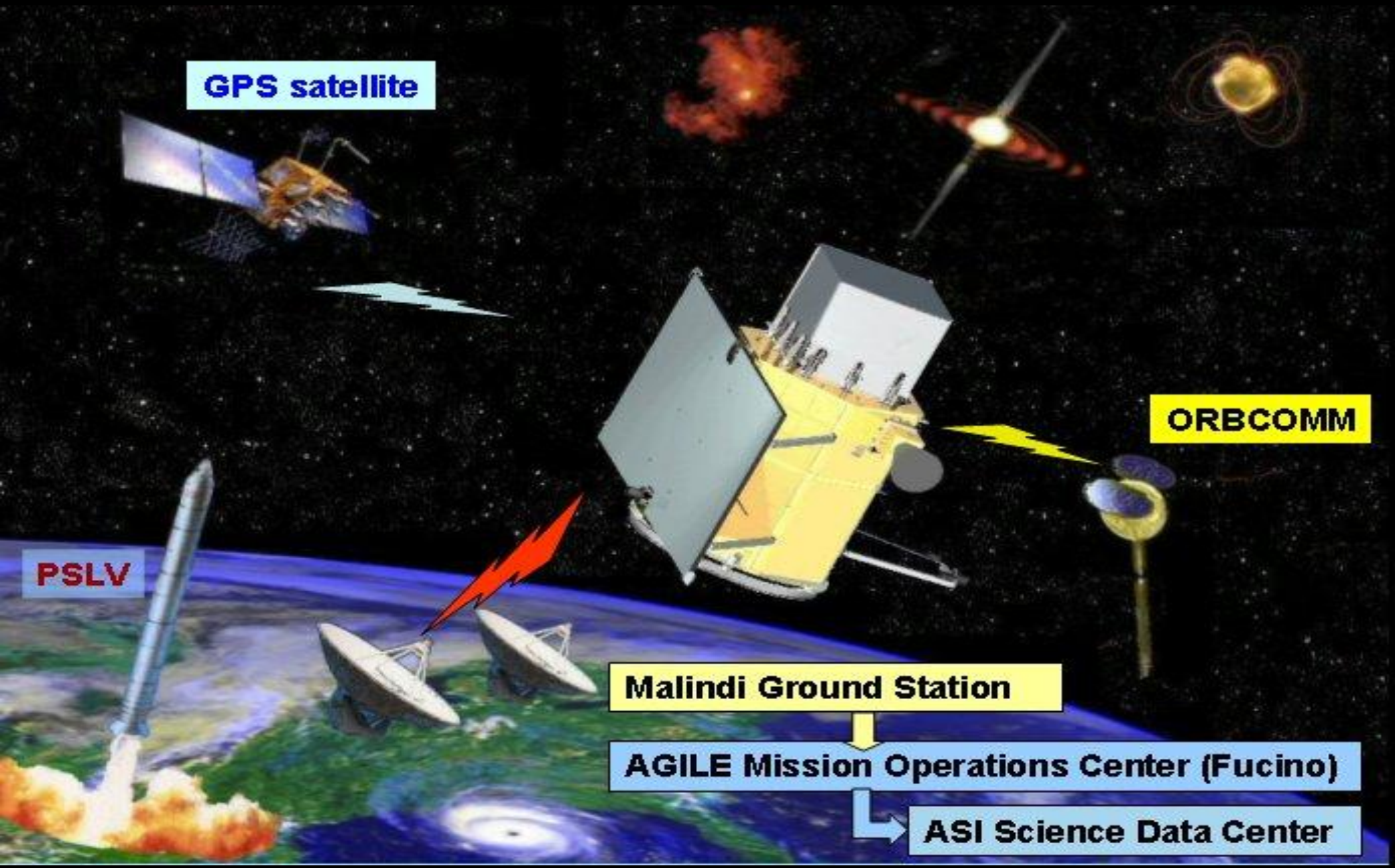
The AGILE Data Center and the First AGILE Catalog

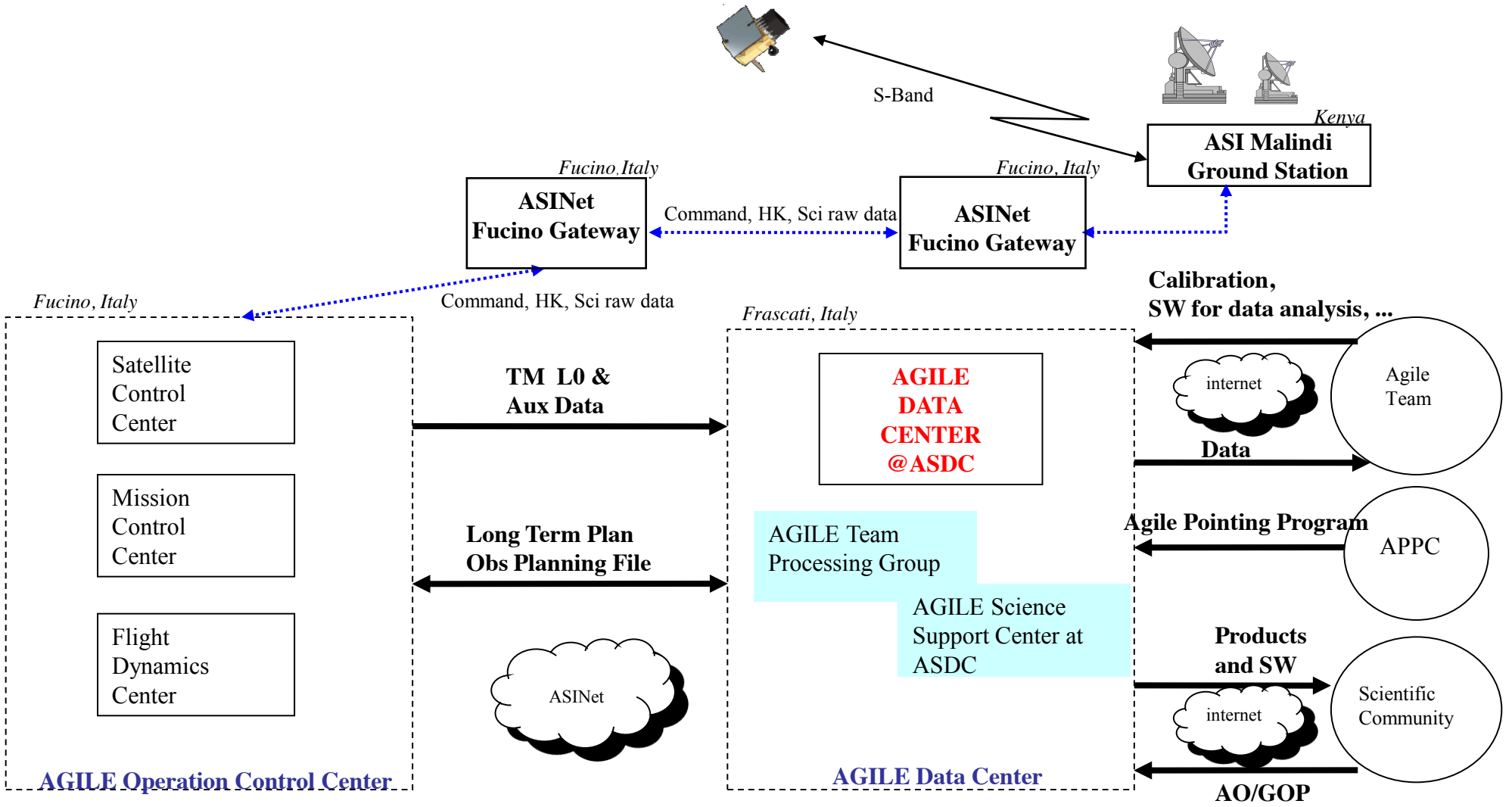


Carlotta Pittori, on behalf of the ADC

7th Agile Meeting & The Bright Gamma-Ray Sky
Frascati, 29 September - 1 October, 2009


GPS satellite
ORBCOMM
PSLV
Malindi Ground Station
AGILE Mission Operations Center (Fucino)
ASI Science Data Center

AGILE GS Architecture

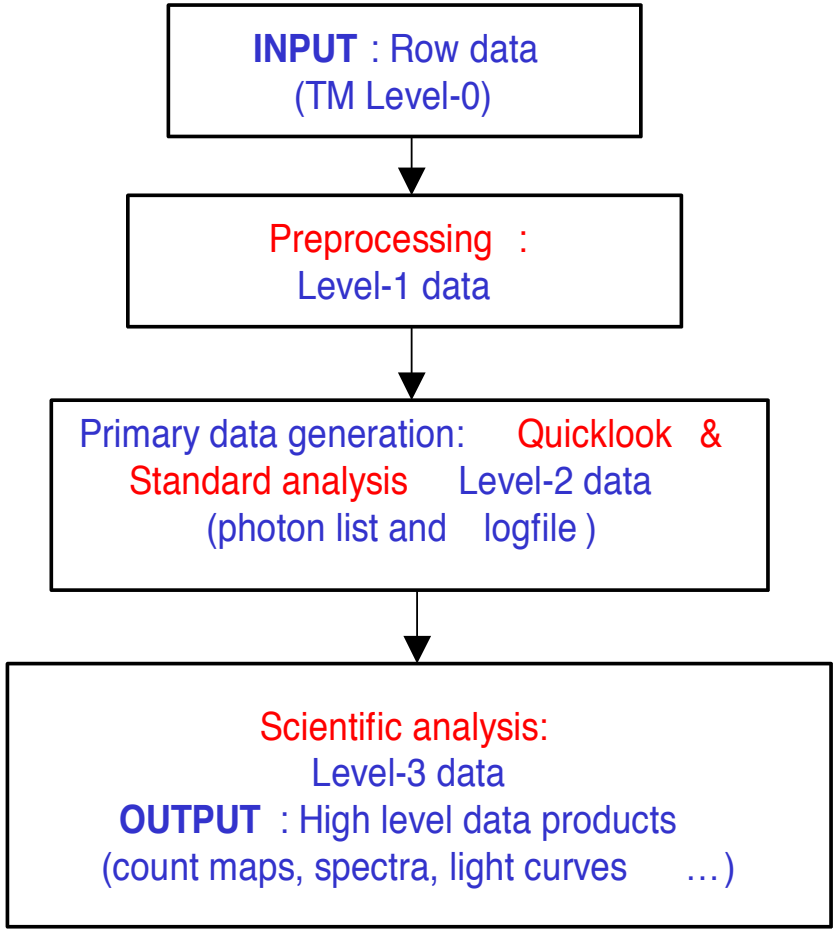


The AGILE Data Center at ASDC – ESRIN

- The ADC, based at ASDC-ESRIN, is in charge of all the scientific oriented activities related to the analysis and archiving of AGILE data:

From scientific telemetry (TM) Level–0:

- ✓ Preprocessing → Level-1 data
- ✓ Quick-Look Analysis (transient detection)
- ✓ Standard analysis → Level-2 data (photon list)
- ✓ Scientific analysis (source detection, diffuse gamma-ray background)
- ✓ Archiving and distributing all scientific AGILE data



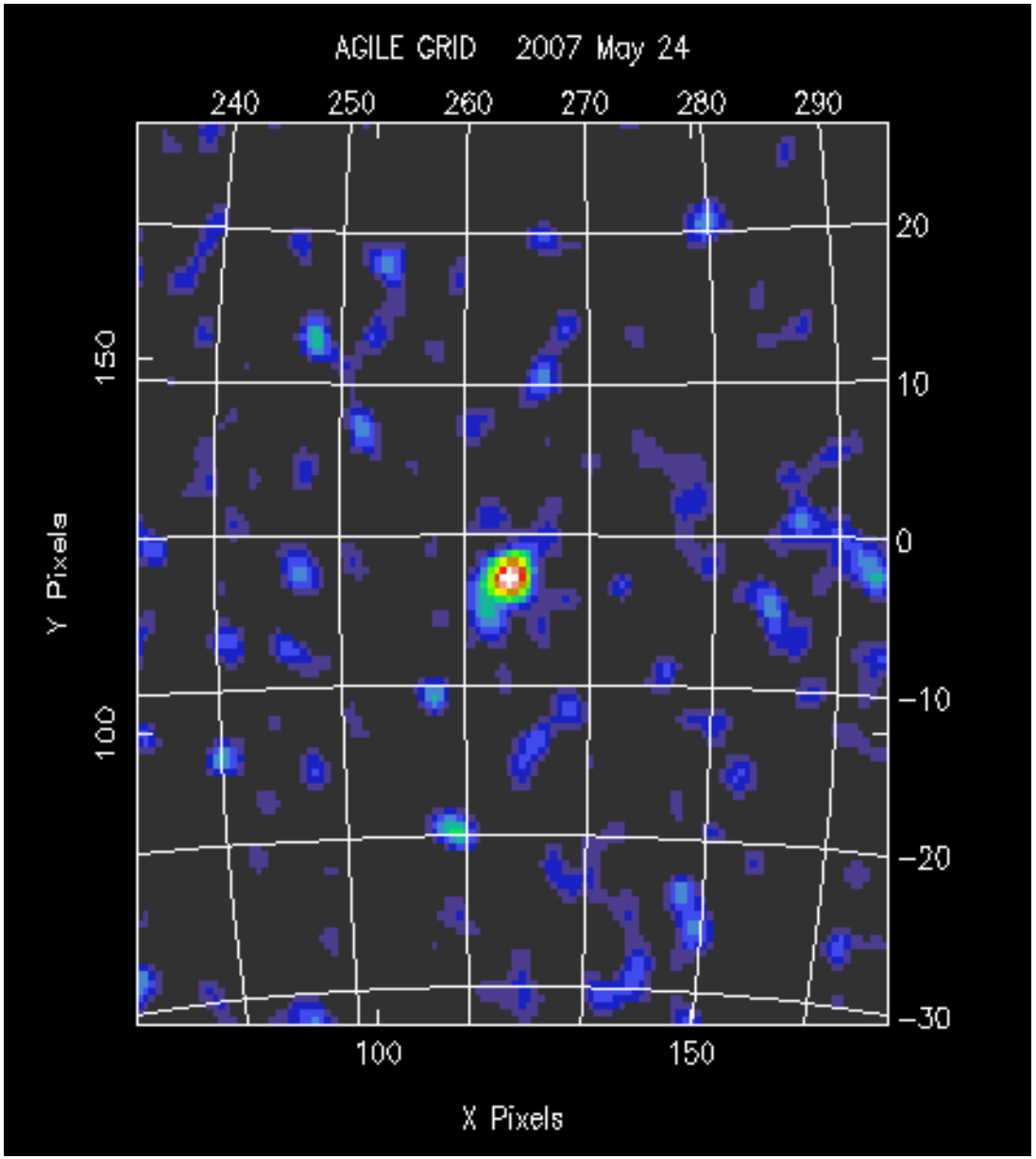
Summary of ASDC activities for AGILE:
(from Agile Science Management Plan)

- Running the Quick Look Analysis
- Running the standard data reduction Analysis
- Performing, when necessary, the Interactive data Analysis
- Managing Announcement of Opportunities
- Contributing to the management of the AGILE Pointing Program
- Archiving all the data (raw, cleaned and calibrated, scientific)
- Distributing the data to the scientific community
- Providing scientific support to the users community
- Officially interface the project for both data and proposals via dedicated web pages
- Providing the standard software support for the data analysis

First AGILE GRID light ADC 24/5/2007

Commissioning Phase:
AGILE Vela PSR Count Map

(~ 20000 s)



AGILE: ~ 2.4 years in orbit

- AGILE demonstrates for the first time the covering of ~ 1/5 of the entire gamma-ray sky (FoV ~ 2.5 sr) with excellent angular resolution and competitive sensitivity.

- AGILE shows for the first time an optimal performance of its gamma-ray and hard X-ray imagers.

- > 12550 orbits, September 28, 2009 (~ 94% Fine Pointings)

- Very good scientific performance, especially at ~ 100 MeV

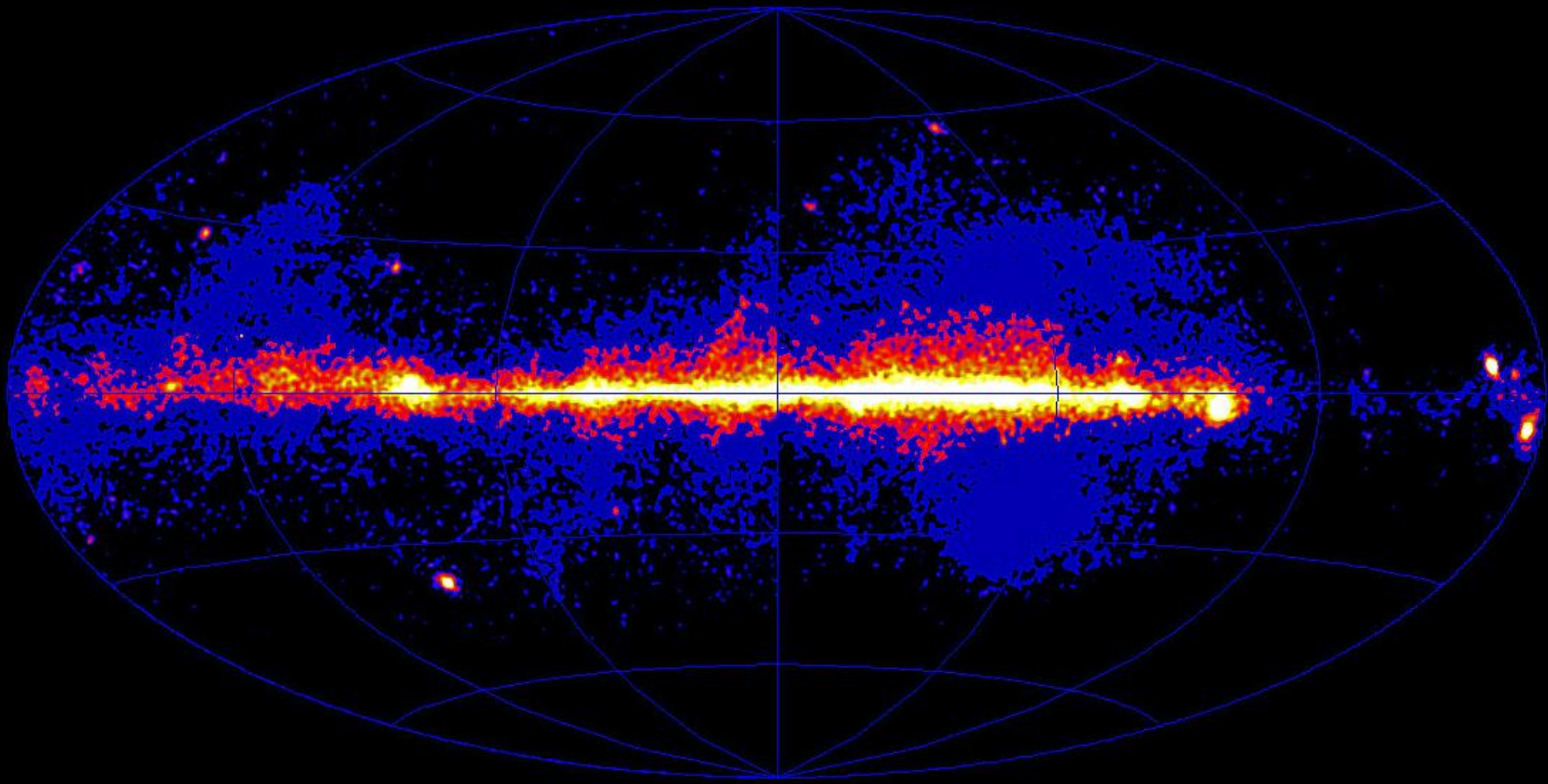
- Guest Observer Program open to the scientific community:

Cycle-1 completed, Dec. 1, 2007 – Nov. 30, 2008

Cycle-2: on-going, Dec. 1, 2008 – Nov 30, 2009

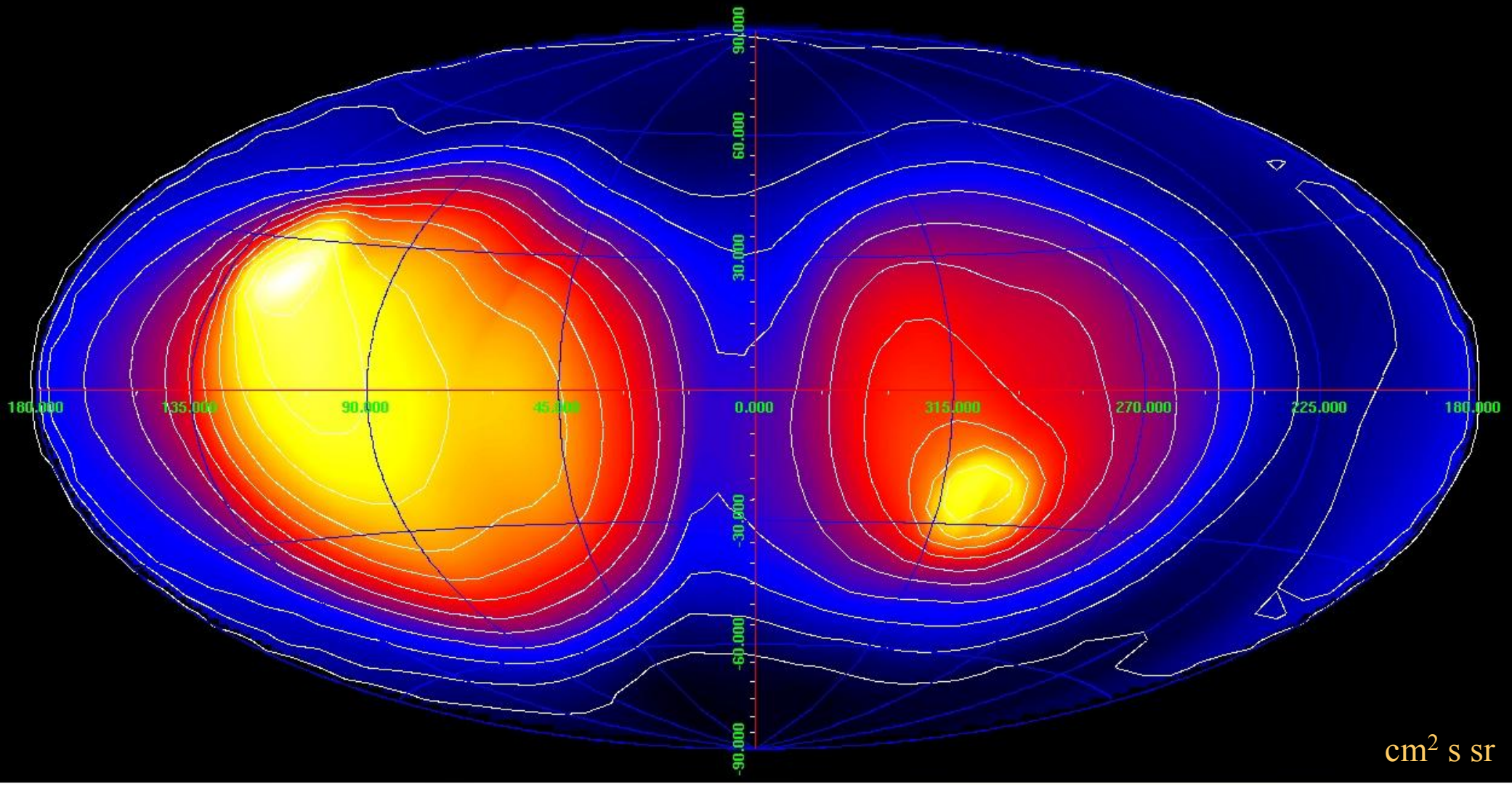
AGILE 1 year COUNT MAP

(July 2007- June 2008)

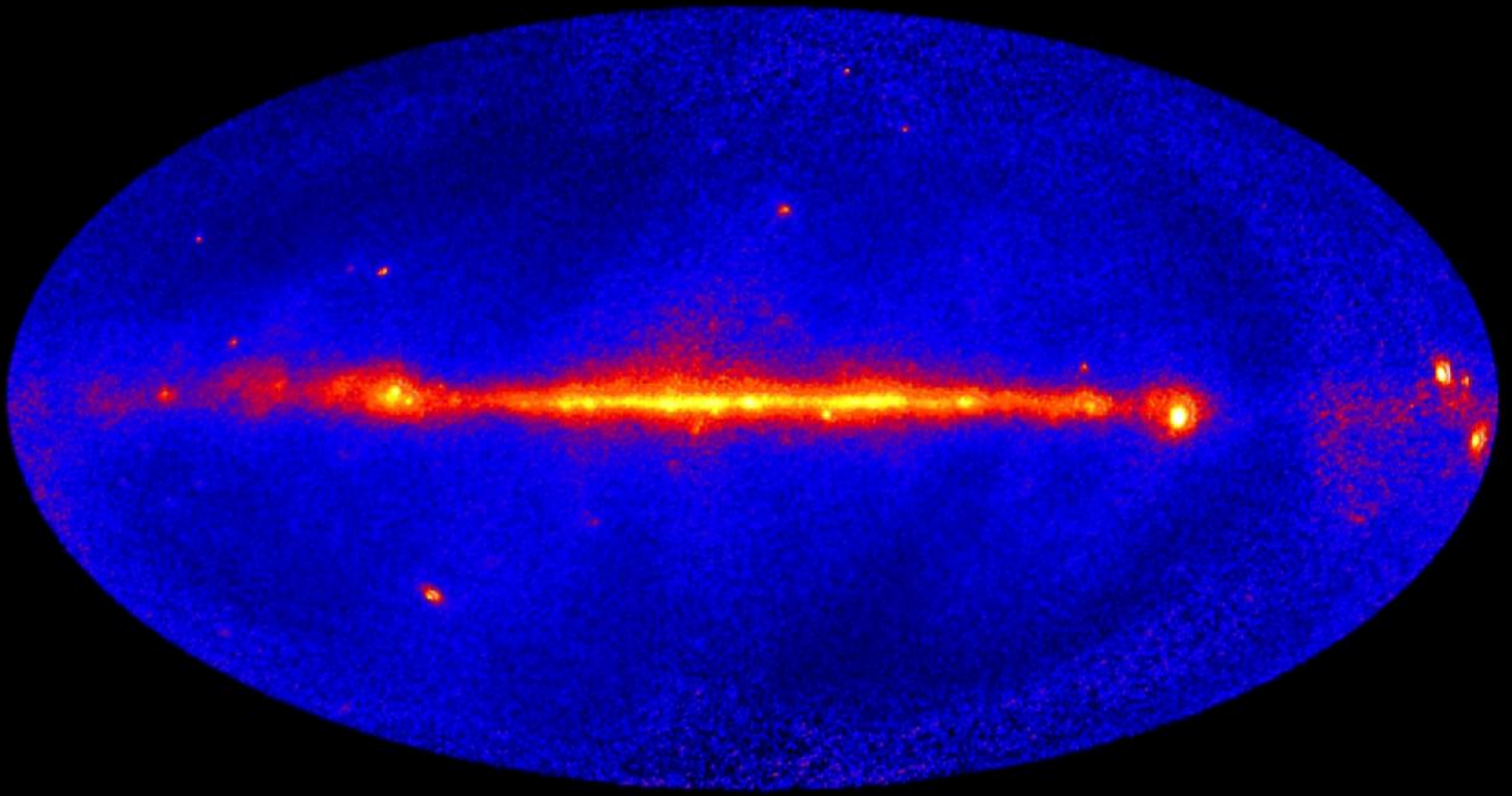


AGILE 2-years EXPOSURE MAP

(July 2007- March 2009)



AGILE 2.4 years INTENSITY MAP



First AGILE Catalog: data analysis

AGILE pointings: predefined long exposures (10 - 30 days) drifting of about 1 degree per day with respect to the starting boresight direction to match solar panels constraints.

For the first AGILE catalog we adopted a **conservative analysis,** with a high-quality gamma event filter (filter F4 with relatively low effective area), optimized to select gamma-ray events within the central zone of the Field of View (radius of 30 degrees).

Merge of the entire "cleaned" dataset with healpix sky pixellisation.

AGILE source detection methods use a Maximum Likelihood (ML) analysis to derive the best parameters estimate for candidate sources, such as source significance, flux, and location.

High confidence detection:
- two independent automatic source detection strategies in cross-correlation
- statistical significance above 4 sigma
- manual refined analysis performed with a multi source likelihood analysis task

$\Rightarrow$ 47 validated, high confidence AGILE sources

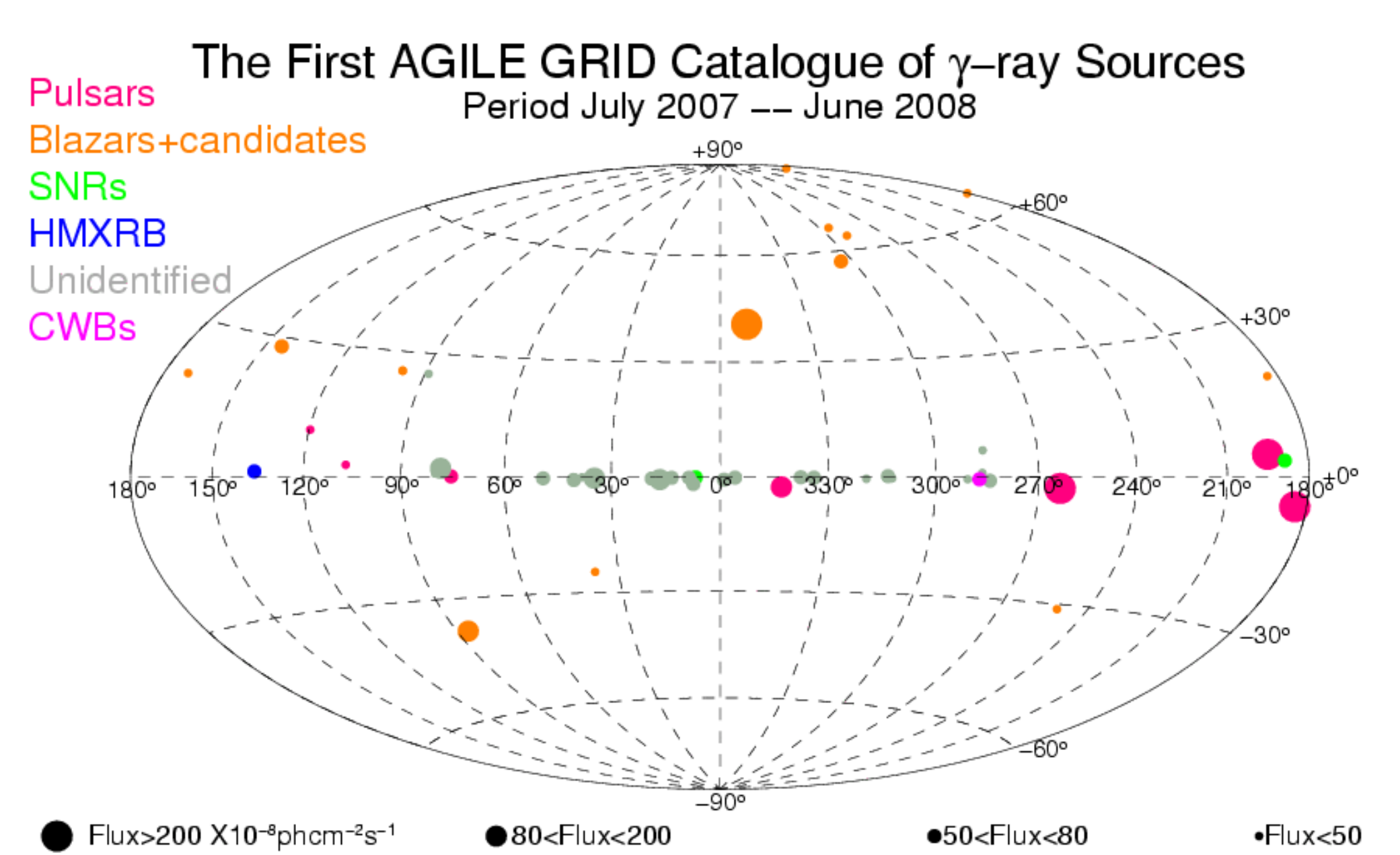
First AGILE Catalog of High Confidence Gamma-Ray Sources

- **First year of scientific operations:** observations from July 9, 2007 to June 30, 2008

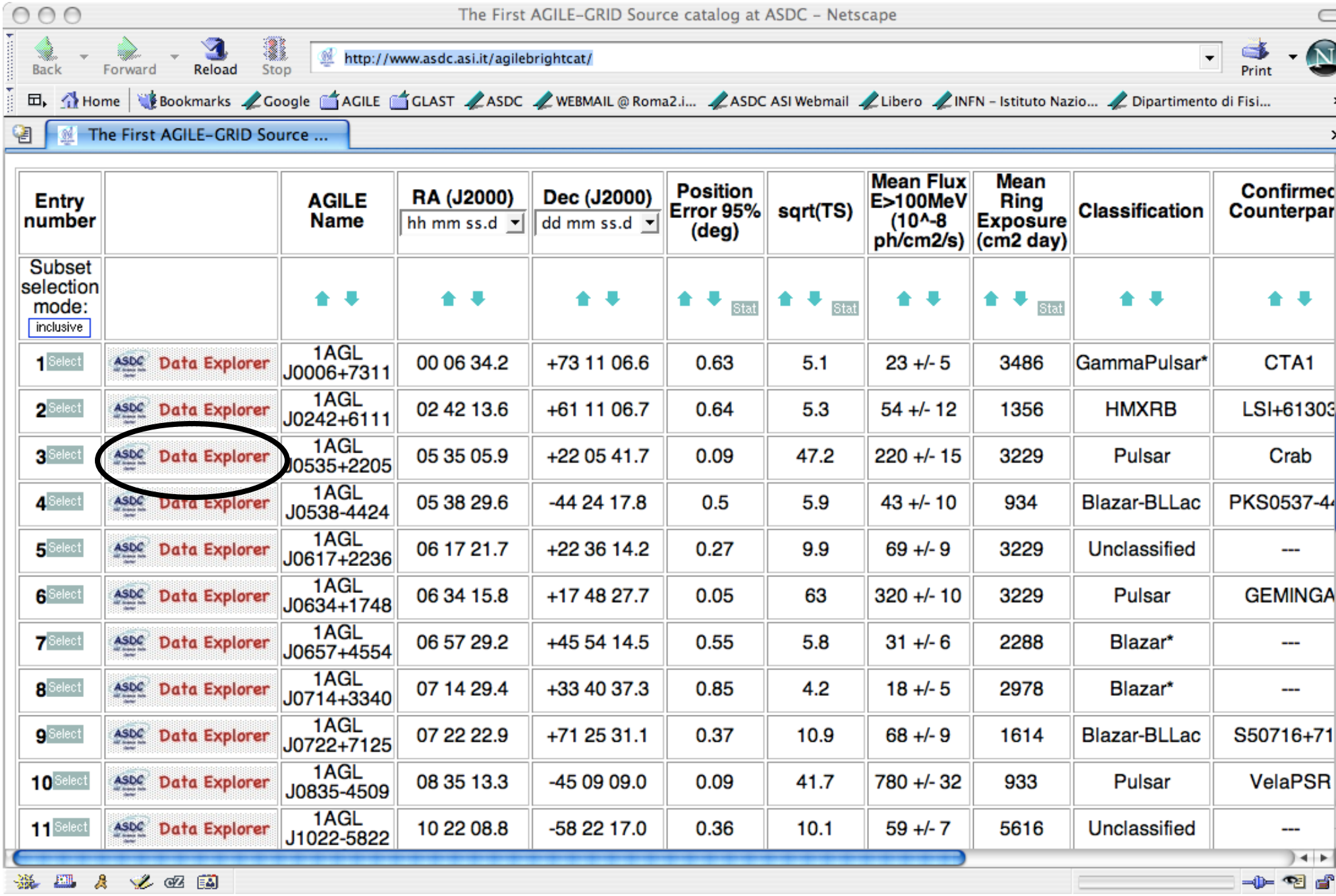
47 high confidence sources E> 100 MeV:

- 21 confirmed and candidate **Pulsars**,
- 13 **Blazars** (7FSRQ, 4BL Lacs, 2 unknown type),
- 2 possible **HMXRB**s,
- 2 possible **SNR**s,
- 1 **Colliding-wind Binary System** (Eta-Car)
- 8 **Unidentified** sources.

Interactive on-line version of the the First AGILE-GRID Catalog from ADC web page http://agile.asdc.asi.it/



C. Pittori et al., 2009, to appear in A&A - arXiv:0902.2959

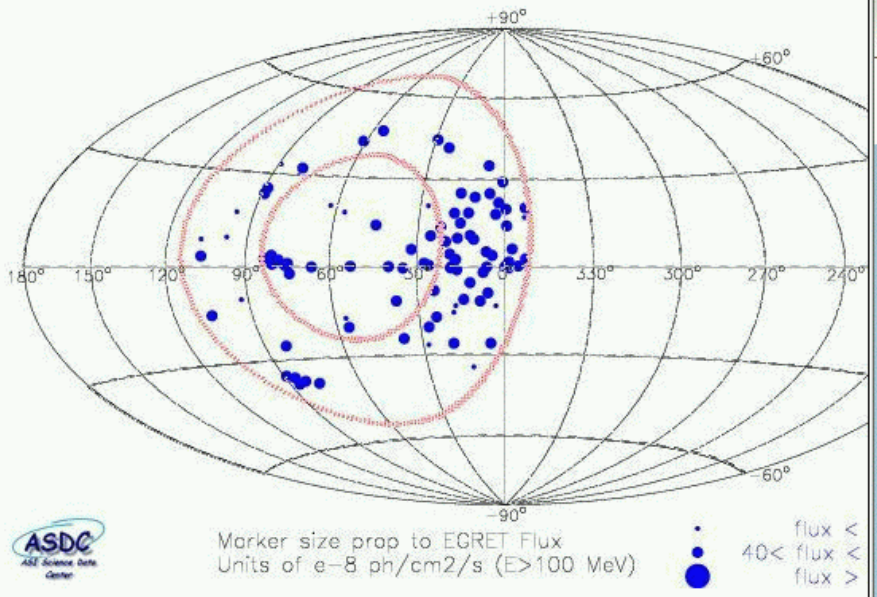


Entry number		AGILE Name	RA (J2000) hh mm ss.d	Dec (J2000) dd mm ss.d	Position Error 95% (deg)	sqrt(TS)	Mean Flux E>100MeV (10^-8 ph/cm2/s)	Mean Ring Exposure (cm2 day)	Classification	Confirmed Counterpar
Subset selection mode: inclusive						Stat		Stat		
1 Select	ASDC Data Explorer	1AGL J0006+7311	00 06 34.2	+73 11 06.6	0.63	5.1	23 +/- 5	3486	GammaPulsar*	CTA1
2 Select	ASDC Data Explorer	1AGL J0242+6111	02 42 13.6	+61 11 06.7	0.64	5.3	54 +/- 12	1356	HMXRB	LSI+61303
3 Select	ASDC Data Explorer	1AGL J0535+2205	05 35 05.9	+22 05 41.7	0.09	47.2	220 +/- 15	3229	Pulsar	Crab
4 Select	ASDC Data Explorer	1AGL J0538-4424	05 38 29.6	-44 24 17.8	0.5	5.9	43 +/- 10	934	Blazar-BLLac	PKS0537-44
5 Select	ASDC Data Explorer	1AGL J0617+2236	06 17 21.7	+22 36 14.2	0.27	9.9	69 +/- 9	3229	Unclassified	---
6 Select	ASDC Data Explorer	1AGL J0634+1748	06 34 15.8	+17 48 27.7	0.05	63	320 +/- 10	3229	Pulsar	GEMINGA
7 Select	ASDC Data Explorer	1AGL J0657+4554	06 57 29.2	+45 54 14.5	0.55	5.8	31 +/- 6	2288	Blazar*	---
8 Select	ASDC Data Explorer	1AGL J0714+3340	07 14 29.4	+33 40 37.3	0.85	4.2	18 +/- 5	2978	Blazar*	---
9 Select	ASDC Data Explorer	1AGL J0722+7125	07 22 22.9	+71 25 31.1	0.37	10.9	68 +/- 9	1614	Blazar-BLLac	S50716+71
10 Select	ASDC Data Explorer	1AGL J0835-4509	08 35 13.3	-45 09 09.0	0.09	41.7	780 +/- 32	933	Pulsar	VelaPSR
11 Select	ASDC Data Explorer	1AGL J1022-5822	10 22 08.8	-58 22 17.0	0.36	10.1	59 +/- 7	5616	Unclassified	---

AGILE, Astro-rivelatore Gamma a Immagini Leggero - Netscape

The ASDC AGILE FOV viewer of EGRET sources agilefov_20080410_20080430_286_20 - Netscape

Move mouse on a source and click



Marker size prop to EGRET Flux
Units of e-8 ph/cm2/s (E>100 MeV)

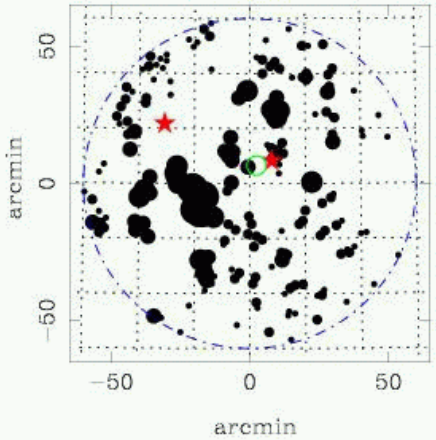
flux <
40< flux <
flux >

The ASDC Multi-frequency Data Explorer: Web and VO data access and tools - Netscape

File Edit View Go Bookmarks Tools Window Help

ASDC + VO Catalogs | Interactive Data Access at ASDC | Spectral Energy Distribution | Error circle EXPLORER | Full Entry Details

Entry ---
with sky coordinates Ra= 20 21 00.0 Dec=+40 17 59.9, L=78.05 b=2.0



Zoom
30

Current position R.A.=20 21 00.0 Dec.=+40 17 59.9, L=78.05 b=2

Multi-λ measurements via ASDC Browse

Multi-λ measurements via VO interface

Opt-DSS from eso

Image size 3 arcmin

NVS

Image

Image

Search radius 0.2 arcmin

STSCI MAST | GSC2 | 2MASS | NED | SIMBAD

HEASARC(X-R-G) | VIZIER(X-R-G) | ASDC-R | ASDC-X | SDSS

USNO

SDSS DR6 Navigate tool

NVO

0.000

	Gal. Center II	359.978	0.627	265.781	-2		
	Anti-Center I	192.637	8.109	100.944	21		
	SA Crab (8,24)	188.961	16.996	108.283	28		
	SA Crab (15,26)	183.008	22.203	111.762	35		
	Anti-Center II	197.296	15.717	110.404	20.758	2008-04-08 12:00	2008-04-10 12:00
➡	Vulpecula Field	53.039	6.474	286.259	20.819	2008-04-10 12:00	2008-04-30 12:00
	North Gal Pole	104.852	35.439	250.075	72.497	2008-04-30 12:00	2008-05-10 12:00

Remarks on AGILE First Catalog :

• The AGILE First Catalog includes only high-significance sources characterized by a prominent mean gamma-ray flux above 100 MeV when integrated over the total exposure period 2007 July - 2008 June and it is not a complete sample due to the non-uniform first year sky coverage.

• The AGILE-GRID spatial resolution reached with long exposures is substantially better than that of EGRET, and the total exposure accumulated by AGILE in several sky regions during the first year, particularly near the Galactic plane, is comparable with that obtained by EGRET in 6 years effective time.

• Cat-1 exposure mostly in the Carina-Crux and in the Cygnus regions, with relatively low exposure at the Galactic center. This explains the relatively small number of sources in the Galactic center region included in this First Catalog.

• With the one-year long integration time scale only sources with “steady" flux values above ~ 20 10^{-8} ph cm^{-2} s^{-1} are detected over 4 sigma. Source detections during flaring state and determination of peak fluxes are not included in this Catalog and will be the subject of a forthcoming publication.

• This should be taken into account when comparing with the results of the Third EGRET Catalog which includes detections over 4 sigma in each of the EGRET viewing periods during its effective 6-year lifetime.

• A variability study of the sources of the First AGILE Catalog over different timescales is in progress (F. Verrecchia et al. 2009).

The X-ray imager SuperAGILE: public source list from interactive pages at ADC:

http://agile.asdc.asi.it/

SuperAGILE Source Catalog

(Webpage updated twice a day)

Available parameters

name ra dec dateobs flux err_flux sign exposure orbit

GO

NOTE for the proper user of the data contained on this Webpage

Reset TXT

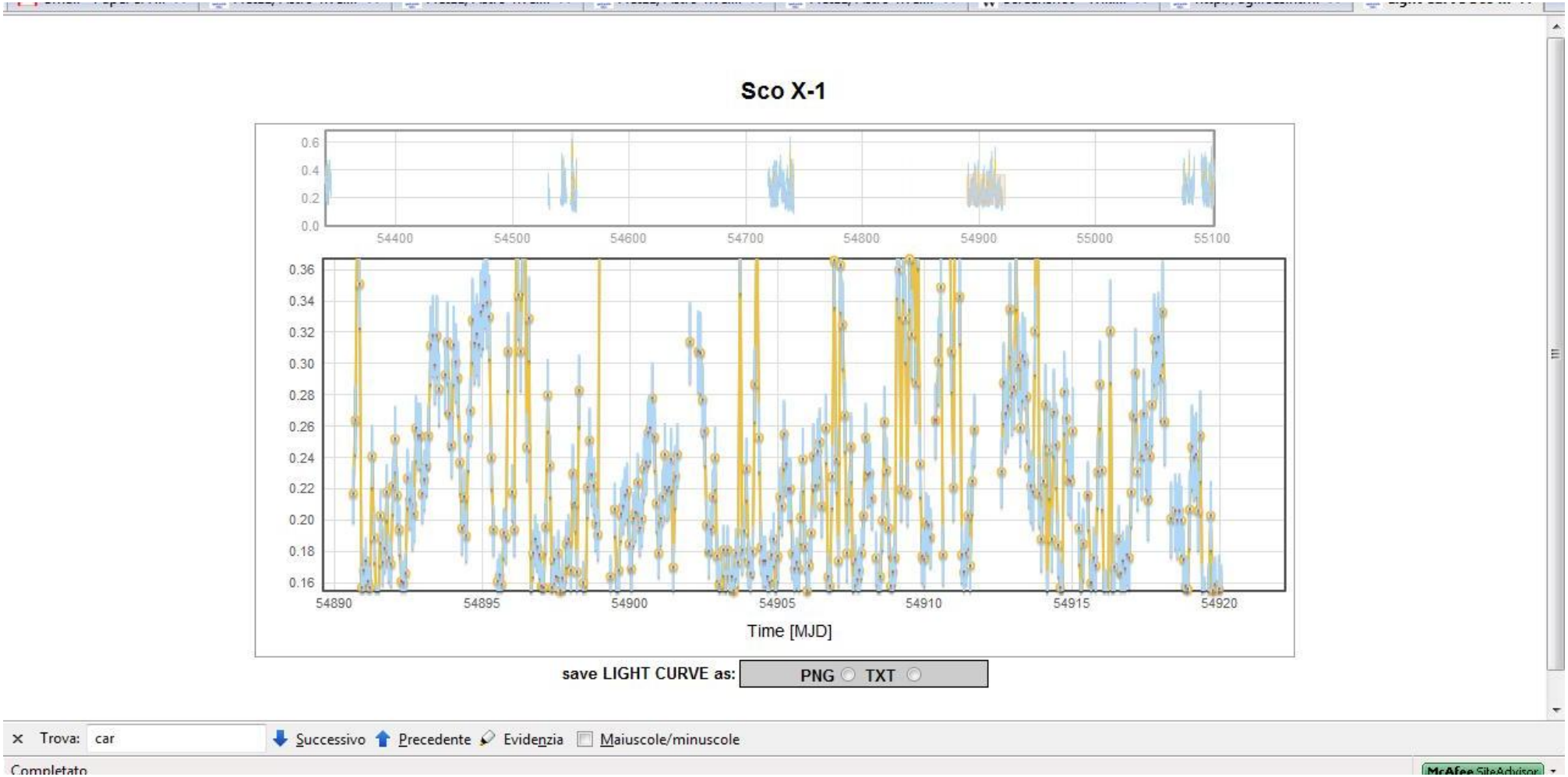
Entry number		Light Curve	Target Name	RA (J2000) hh mm ss.d	Dec (J2000) dd mm ss.d	Latest Observation Time	Flux (cts cm^-2 s^-1)	Flux error (cts cm^-2 s^-1)	Detection Significance	Exposure (sec)	Orbit number
Subset selection mode: inclusive											
1	Data Explorer	Show	4U 1700-377	17 03 56.8	-37 50 38.4	2009-09-27T16:38:25	0.03	0.0069	4.68	3541	012539
2	Data Explorer	Show	Ginga 1826-24	18 29 28.0	-23 47 49.2	2009-09-27T16:38:25	0.017	0.0042	4.17	3429	012539
3	Data Explorer	Show	Sco X-1	16 19 54.9	-15 38 24.0	2009-09-27T16:38:25	0.444	0.0378	34.19	3429	012539
4	Data Explorer	Show	HETE J1900.1-2455	19 00 08.6	-24 55 12.0	2009-09-27T14:56:15	0.018	0.0042	4.46	3601	012538
5	Data Explorer	Show	GX 17+2	18 16 01.4	-14 02 09.5	2009-09-27T14:56:15	0.014	0.0033	4.31	3569	012538
6	Data Explorer	Show	GX 9+1	18 01 32.3	-20 31 44.3	2009-09-27T11:32:14	0.02	0.0045	4.66	3883	012536
7	Data Explorer	Show	GRS 1758-258	18 01 12.2	-25 44 34.7	2009-09-27T09:50:19	0.02	0.0042	5.26	3997	012535
8	Data Explorer	Show	SWIFT J1753.5-0127	17 53 28.3	-01 27 07.1	2009-09-27T06:26:13	0.026	0.0062	4.42	3917	012533
9	Data Explorer	Show	4U 1820-303	18 23 40.5	-30 21 39.6	2009-09-26T13:26:14	0.014	0.0036	4.02	3769	012523
10	Data Explorer	Show	GX 5-1	18 01 08.1	-25 04 44.4	2009-09-25T05:07:47	0.022	0.0033	7.61	3627	012504

Trova: car Successivo Precedente Evidenzia Maiuscole/minuscole

Completato

46 X-ray validated sources up to now (18-60 keV)

SuperAGILE detected sources and public light curves (webpage updated twice a day)



agenzia spaziale italiana

AGILE

ASDC ASI Science Data Center

Agile AO-1

The official list of all AGILE AO-1 approved targets is now available here

The Italian Space Agency (ASI) announces the release of the first Announcement of Opportunity to solicit proposals for the Guest Observer Program (GOP) of the AGILE mission.

This announcement solicits proposals for observations to be carried out during the observing time beginning on December 1st, 2007, and lasting twelve months.

Proposals may be submitted at any time during the period starting 1 October 2007 and ending 31 October 2007.

Top level documentation regarding this AO can be found here.

Proposals may be prepared and submitted using a set of dedicated ASDC GOP on-line services (Proposal Preparation) .

Please remember that users must register in order to access the "proposal submission tool" and to prepare and update their proposals before final submission.

AGILE BASELINE POINTING PLAN (ABPP) - Cycle 1 :

The table provides the coordinates of the pointing centroids at the beginning of the pointing periods

AGILE AO1: completed

Submitted proposals: 29

Approved/P. Approved: 24

Requested Targets: 122

Approved Targets: 100

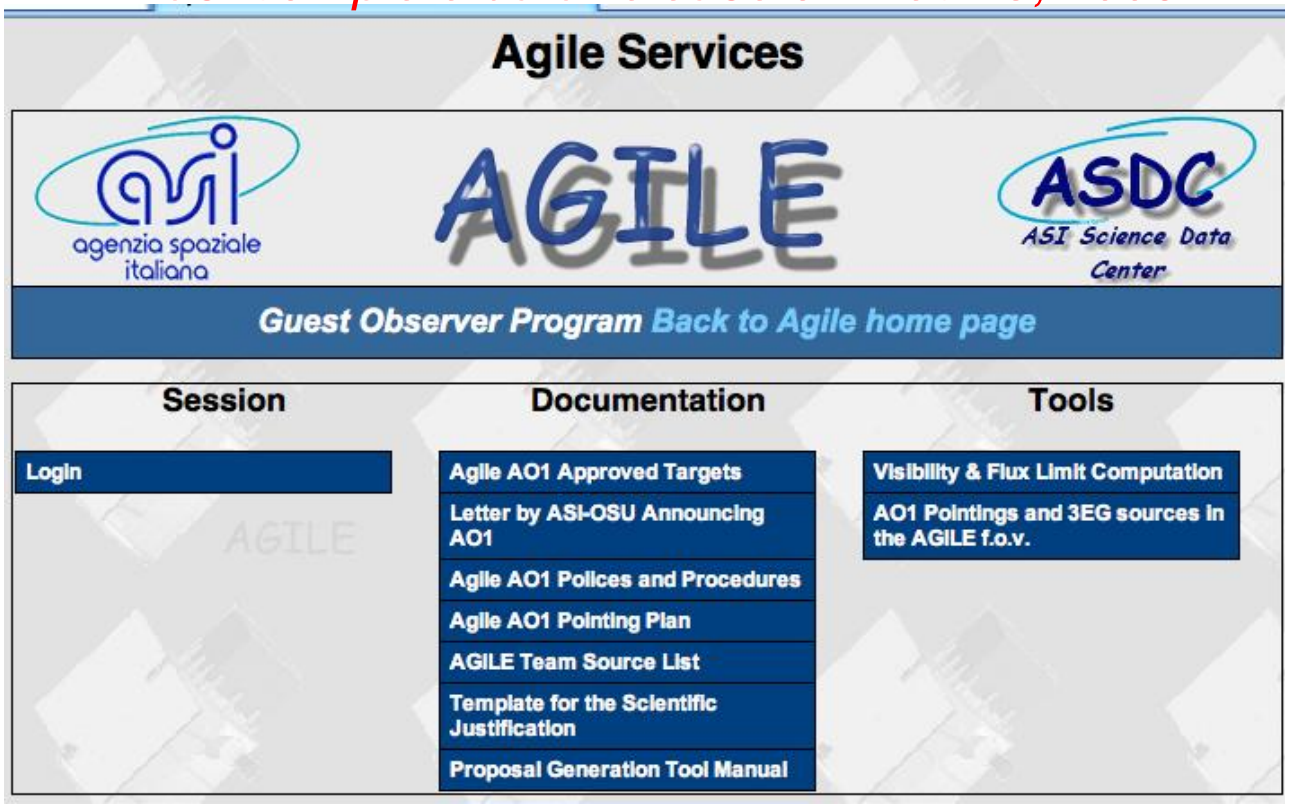
Pulsars: 39

AGN: 31

3EG sources: 30

Cycle-1 GOP Schedule

- SW build GO 1.0 + test dataset: *released on May 22, 2008*
- Cycle-1 data distribution:
- *first delivery (17 OBs) on June 5, 2008*
- *second delivery (3 OB) on July 17, 2008*
- *last complete data release on Dec 23, 2008*



AGILE AO2:

Submitted/Approved proposals: 15

14 PI, 74 co-PI

Requested/Approved Targets: 93

Pulsars: 21

AGN: 62

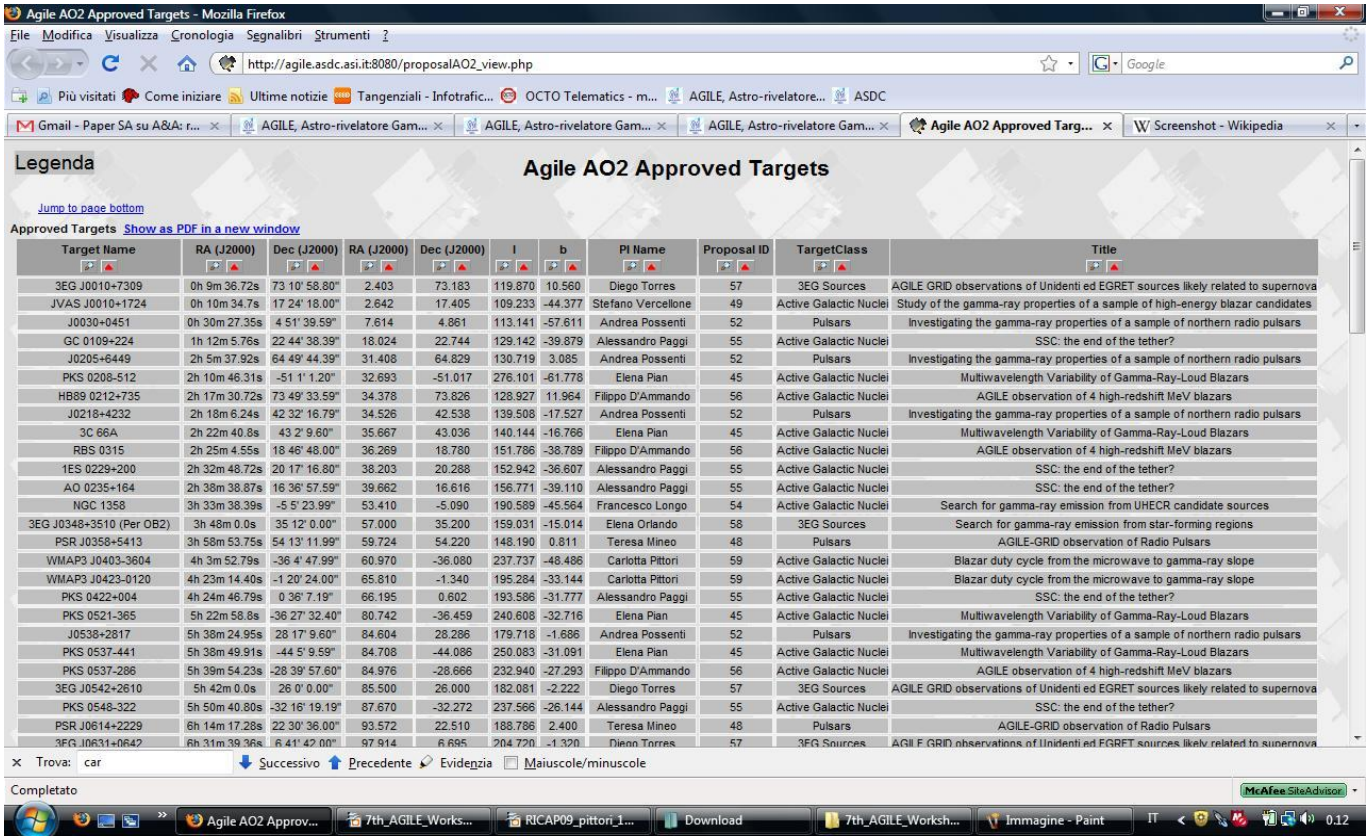
3EG sources: 10

AGILE SW & AO2 Data Distribution Schedule

- First public SW build + test dataset: *delivered on May 22, 2009*

- New SW release (4.0) ready: will be delivered on October 6, 2009

- AO2 (+ AO1 reprocessed) GO data packets ready: will be delivered on October 6, 2009



AGILE Public Data Distribution

Publication of Cycle-1 data:

- ***First public delivery*** *(17 OBs)*: ***June 5, 2009***
- ***Second public delivery*** *(3 OBs)*: ***July 17, 2009***
- ***Publication of a reprocessed Cycle-1 (20 OB) dataset: October, 2009***
- ***Complete Cycle-1 public data release: Dec 23, 2009***

ANNOUNCE:
We offer the possibility of a tutorial on AGILE data analysis with the new SW packet (delivery 4.0). There will be two parallel tutorial sessions of 1 hour each: today and tomorrow at 14h30.
Interested participants should sign-up at the secretary desk.

THANK YOU!

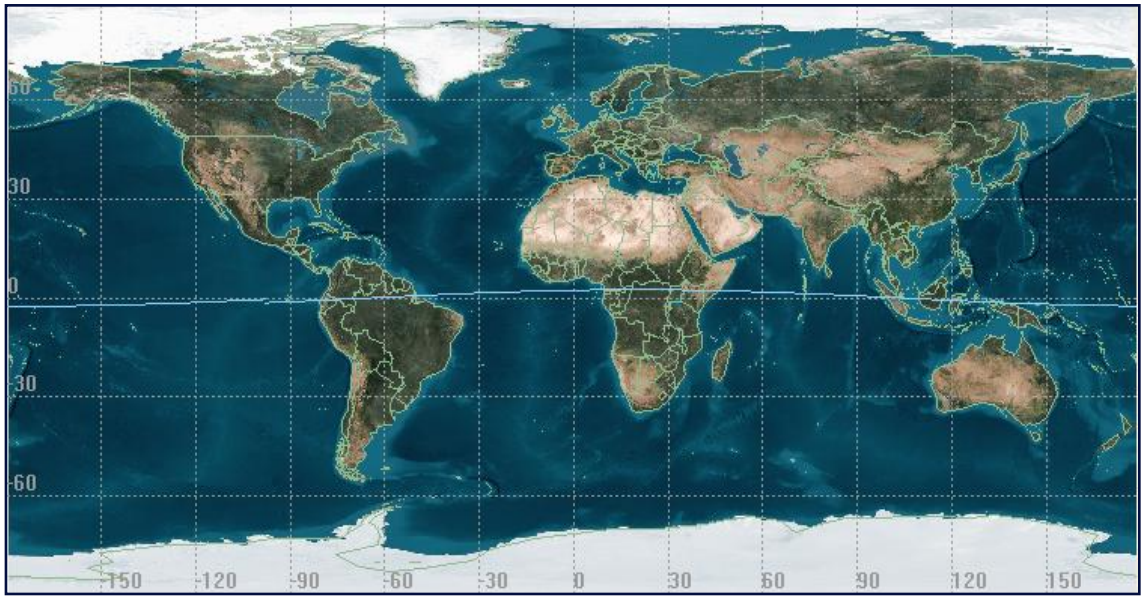
PSLV-C8 launch, 23 Apr. 2007

AGILE orbital parameters

Semi-major axis: 6922.5 km (± 0.1 km)
Requirement: 6928.0 ± 10 km

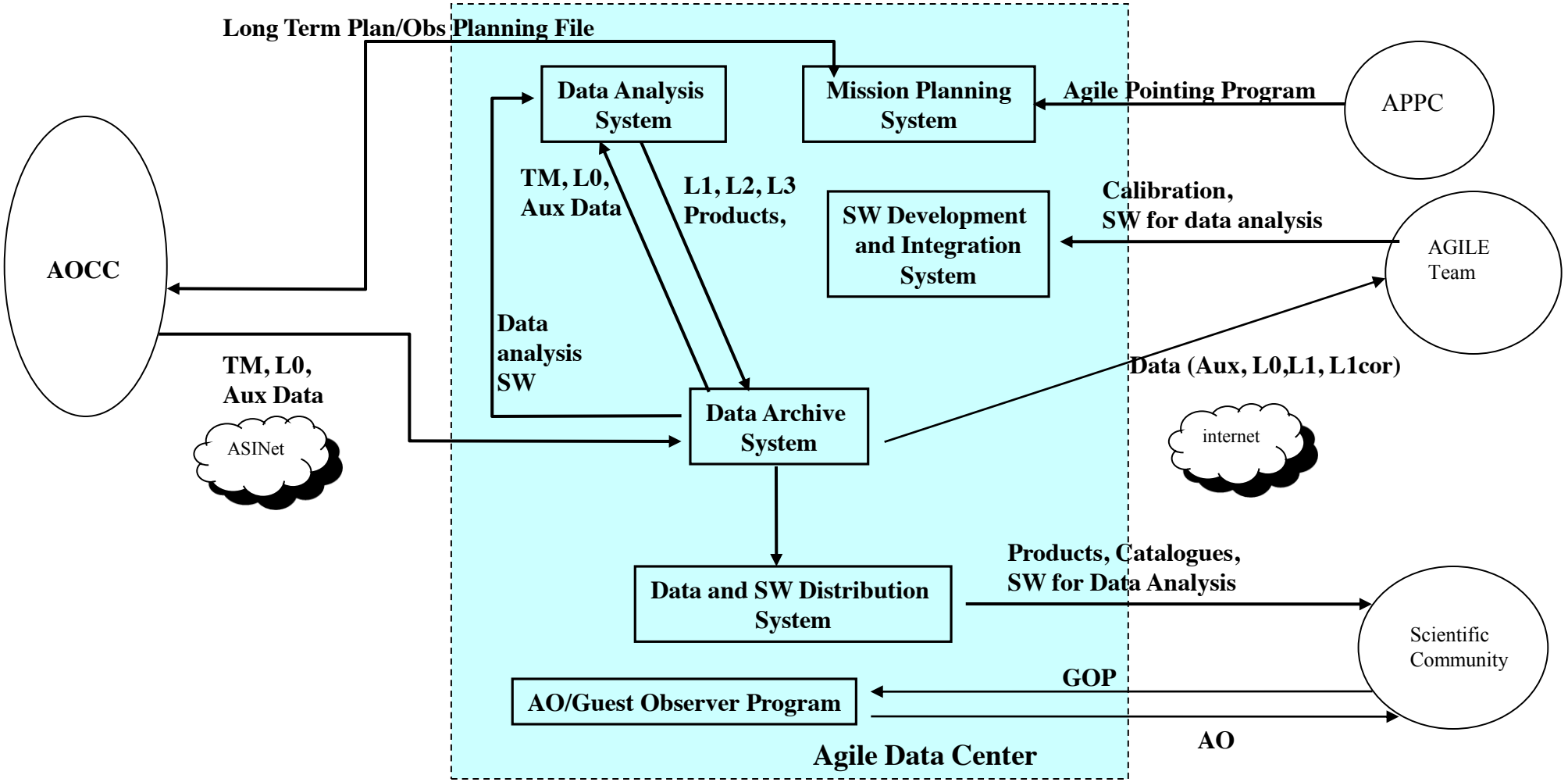
Inclination angle: 2.48° (±0.04°)
Requirement: < 3°

Eccentricity: 0.002 (±0.0015)
Requirement: < 0.1°



Baseline equatorial orbit: 550 Km, 3º inclination

AGILE Data Center



AGILE data flow and Ground Segment organization (from Agile Science Management Plan)

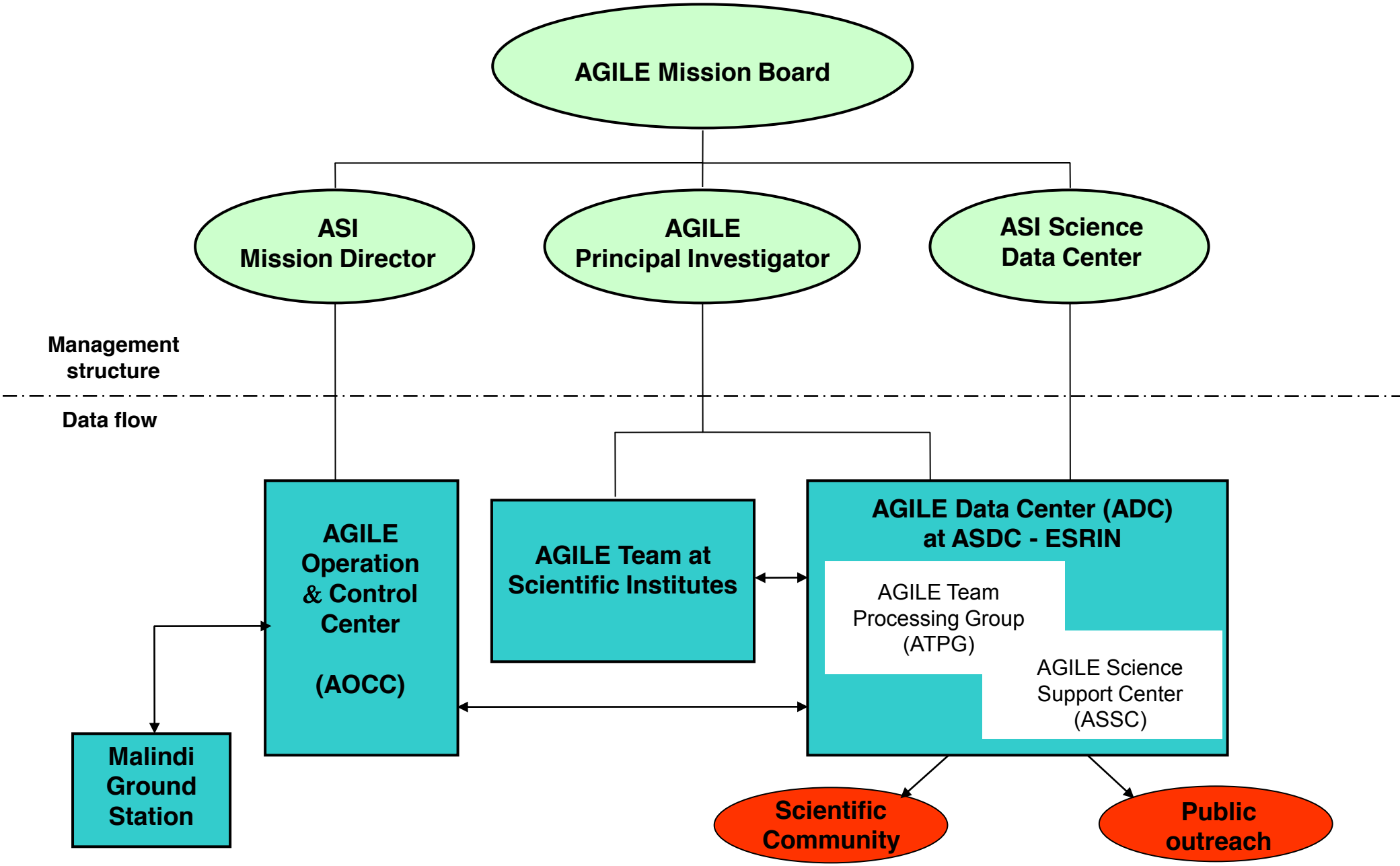


Table 3: AGILE Scientific Performance

Gamma-ray Imaging Detector (GRID)		
Energy Range	30 MeV – 50 GeV	
Field of view	~ 3 sr	
Sensitivity at 100 MeV (ph cm^{-2} s^{-1} MeV^{-1})	6×10^{-9}	(5σ in 10^6 s)
Sensitivity at 1 GeV (ph cm^{-2} s^{-1} MeV^{-1})	4×10^{-11}	(5σ in 10^6 s)
Angular Resolution at 1 GeV	36 arcmin	(68% cont. radius)
Source Location Accuracy	$\sim$5–20 arcmin	S/N$\sim$10
Energy Resolution	ΔE/E$\sim$1	at 300 MeV
Absolute Time Resolution	$\sim 1\,\mu$s	
Deadtime	$\sim 200\,\mu$s	
Hard X–ray Imaging Detector (Super-AGILE)		
Energy Range	10 – 40 keV	
Field of view	107° $\times$68°	FW at Zero Sens.
Sensitivity (at 15 keV)	$\sim$5 mCrab	(5σ in 1 day)
Angular Resolution (pixel size)	~ 6 arcmin	
Source Location Accuracy	$\sim$2-3 arcmin	S/N$\sim$10
Energy Resolution	ΔE$<$4 keV	
Absolute Time Resolution	$\sim 4\,\mu$s	
Deadtime (for each of the 16 readout units)	$\sim 4\,\mu$s	
Mini-Calorimeter		
Energy Range	0.3 – 200 MeV	
Energy Resolution	~ 1 MeV	above 1 MeV
Absolute Time Resolution	$\sim 3\,\mu$s	
Deadtime (for each of the 30 CsI bars)	$\sim 20\,\mu$s	

AGILE name	RA (J2000.0) (hh mm ss)	Dec (J2000.0) (dd mm ss)	LII (deg)	BII (deg)	[a]Pos. Error (95%) (deg)	sqrt(TS)	[b]Mean Ring Exp ($\times 10^8$ cm^2 s)	[c]Mean Flux & Error ($\times 10^{-8}$ ph cm^{-2} s^{-1})	Classification	Confirmed Counterp.	Possible Counterp. & Other Names
1AGL J0006+7311	00 06 34.2	+73 11 06.6	119.65	10.6	0.63	5.1	3.01	23 ± 5	GammaPulsar*	CTA1	3EGJ0010+7309
1AGL J0242+6111	02 42 13.6	+61 11 06.7	135.88	1.13	0.64	5.3	1.17	54 ± 12	HMXRB	LSI+61303	3EGJ0241+6103
1AGL J0535+2205	05 35 05.9	+22 05 41.7	184.56	-5.63	0.09	47.2	2.79	220 ± 15	Pulsar	Crab	3EGJ0534+2200
1AGL J0538-4424	05 38 29.6	-44 24 17.8	250.44	-31.2	0.5	5.9	0.81	43 ± 10	Blazar-BLLac	PKS0537-441	3EGJ0540-4402 BZBJ0538-4405
1AGL J0617+2236	06 17 21.7	+22 36 14.2	189.04	3.07	0.27	9.9	2.79	69 ± 9	Unclassified	—	3EGJ0617+2238 IC443 PSRJ0614+2229
1AGL J0634+1748	06 34 15.8	+17 48 27.7	195.14	4.36	0.05	63	2.79	320 ± 10	Pulsar	Geminga	3EGJ0633+1751
1AGL J0657+4554	06 57 29.2	+45 54 14.5	170.73	20.11	0.55	5.8	1.98	31 ± 6	Blazar	—	BZUJ0654+4514 S40650+45
1AGL J0714+3340	07 14 29.4	+33 40 37.3	184.12	19.1	0.85	4.2	2.57	18 ± 5	Blazar	—	BZUJ0719+3307 GB20716+332
1AGL J0722+7125	07 22 22.9	+71 25 31.1	143.89	28.06	0.37	10.9	1.39	68 ± 9	Blazar-BLLac	S50716+714	3EGJ0721+7120 BZBJ0721+7120
1AGL J0835-4509	08 35 13.3	-45 09 09.0	263.52	-2.79	0.09	41.7	0.81	780 ± 32	Pulsar	VelaPSR	3EGJ0834-4511
1AGL J1022-5822	10 22 08.8	-58 22 17.0	284.39	-0.98	0.36	10.1	4.85	59 ± 7	Unclassified	(C)	3EGJ1013-5915 PSRJ1016-5857
1AGL J1043-5931	10 43 24.7	-59 31 44.7	287.34	-0.59	0.68	5.2	4.85	26 ± 6	Unclassified	(C)	3EGJ1048-5840 EtaCar PSRJ1048-5937
1AGL J1058-5239	10 58 31.1	-52 39 47.5	286.15	6.49	0.30	8.7	4.85	29 ± 4	Unclassified	—	3EG J1058-5234 PSRJ1057-5226
1AGL J1104+3754	11 04 38.5	+37 54 33.6	180.48	65.16	0.66	4.7	0.51	42 ± 13	Blazar-BLLac	Mkn421	3EGJ1104+3809 BZBJ1104+3812
1AGL J1108-6103	11 08 43.6	-61 03 54.3	290.83	-0.63	0.57	6.1	4.85	30 ± 6	Unclassified	—	3EGJ1102-6103 PSRJ1119-6127
1AGL J1222+2851	12 22 39.7	+28 51 02.3	196.09	83.42	0.74	4.7	0.50	38 ± 11	Blazar-BLLac	WComae	3EGJ1222+2841 BZBJ1221+2813 ON +231
1AGL J1228+0142	12 28 59.5	+01 42 41.3	290.04	64.02	0.71	4.7	1.98	24 ± 6	Blazar-FSRQ	3C273	3EGJ1229+0210 BZQJ1229+0203
1AGL J1238+0406	12 38 31.0	+04 06 14.2	294.74	66.77	1.23	4.7	1.98	25 ± 6	Blazar-FSRQ	—	3EGJ1236+0457 BZQJ1239+0443
1AGL J1256-0549	12 56 33.1	-05 49 42.6	305.27	57.02	0.32	10.2	1.98	65 ± 9	Blazar-FSRQ	3C279	3EGJ1255-0549 BZQJ1256-0547
1AGL J1412-6149	14 12 06.1	-61 49 32.5	312.3	-0.43	0.44	6.3	5.44	43 ± 7	Unclassified	(C)	3EGJ1410-6147 PSRJ1410-6132 G312.4-0.4

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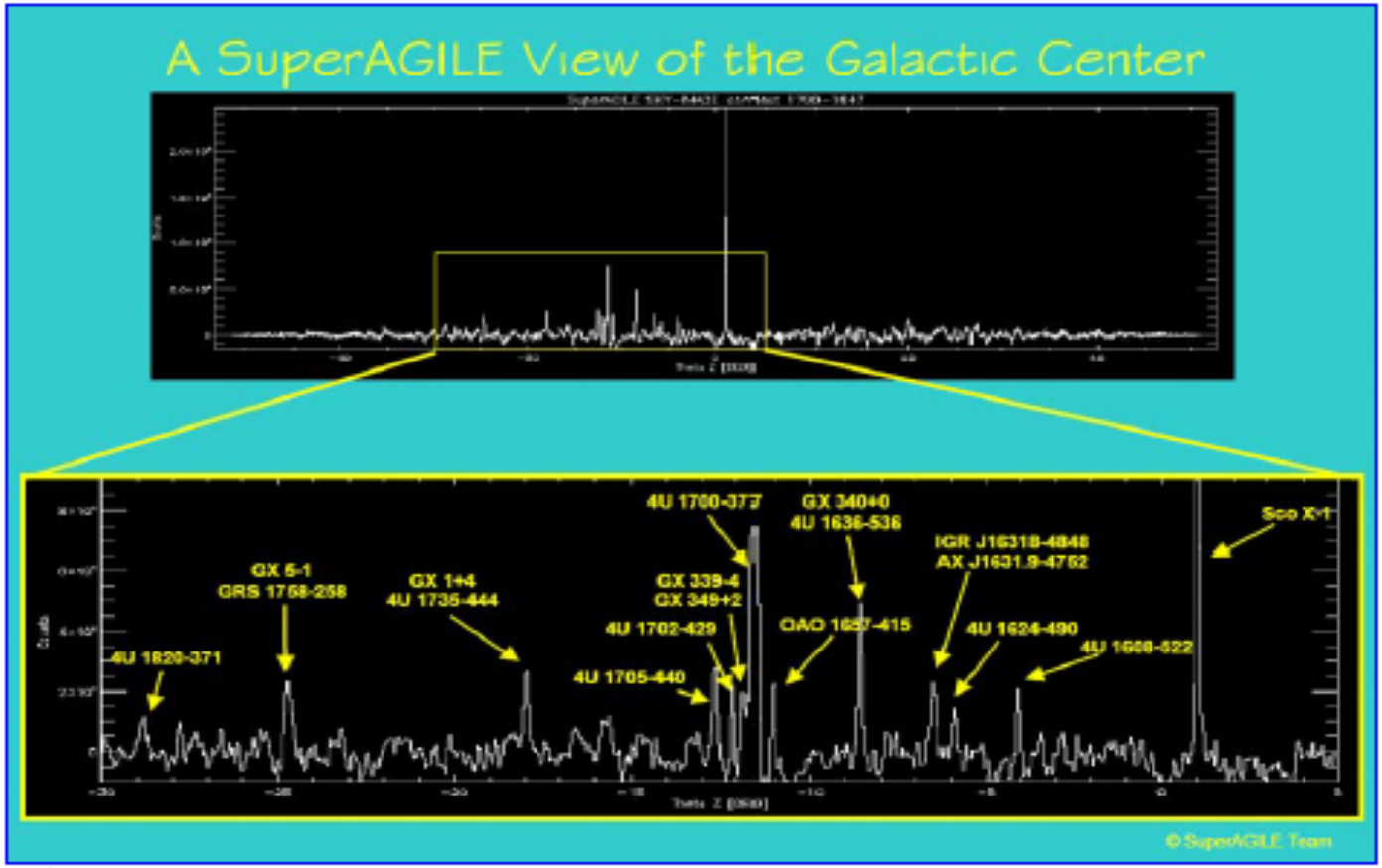
AGILE name	RA (J2000.0) (hh mm ss)	Dec (J2000.0) (dd mm ss)	LII (deg)	BII (deg)	[a]Pos. Error (95%) (deg)	sqrt(TS)	[b]Mean Ring Exp ($\times 10^6$ cm^2 s)	[c]Mean Flux & Error ($\times 10^{-8}$ ph cm^{-2} s^{-1})	Classification	Confirmed Counterp.	Possible Counterp. & Other Names
1AGL J1419-6055	14 19 51.2	-60 55 11.2	313.47	0.13	0.31	7.5	5.44	52 ± 7	Unclassified	(C)	3EGJ1420-6038 PSRJ1420-6048
1AGL J1506-5859	15 06 01.5	-58 59 13.5	319.52	-0.52	0.48	6.9	5.44	41 ± 7	Unclassified	—	PSRJ1509-5850
1AGL J1511-0908	15 11 38.5	-09 08 12.8	350.97	40.31	0.33	11.2	0.39	220 ± 32	Blazar-FSRQ	PKS1510-089	3EGJ1512-0849 BZQJ1512-0905
1AGL J1624-4946	16 24 26.9	-49 46 51.9	334.09	-0.25	0.58	5.7	2.18	67 ± 13	Unclassified	—	PSRJ1623-4949
1AGL J1639-4702	16 39 05.5	-47 02 28.2	337.75	-0.15	0.53	6.4	2.18	76 ± 13	Unclassified	—	3EGJ1639-4702 PSRJ1637-4642
1AGL J1709-4428	17 09 12.6	-44 28 44.5	343.07	-2.64	0.20	13.8	2.18	120 ± 11	Pulsar	PSRJ1709-4429	3EGJ1710-4439
1AGL J1736-3235	17 36 19.9	-32 35 00.8	355.85	-0.24	0.59	5.1	1.56	69 ± 15	Unclassified	(C)	3EGJ1734-3232
1AGL J1746-3017	17 46 01.5	-30 17 23.7	358.89	-0.78	0.68	4.4	1.56	66 ± 16	Unclassified	(C)	3EGJ1744-3011
1AGL J1803-2155	18 03 11.8	-21 55 00.6	7.19	-0.36	0.49	7.6	1.56	110 ± 16	Unclassified	(C)	3EGJ1800-2338 PSRJ1803-2306
1AGL J1824-1414	18 24 35.2	-14 14 30.9	17.23	-0.65	0.8	6.4	1.56	90 ± 16	Unclassified	—	3EGJ1823-1314 LS 5039 PSRJ1826-1334
1AGL J1836+5923	18 36 14.8	+59 23 30.4	88.84	24.99	0.17	15.6	5.52	45 ± 4	Unclassified	—	3EGJ1835+5918 BZBJ1841+5906 S41834+61
1AGL J1846+6714	18 46 19.6	+67 14 17.4	97.59	25.35	0.43	7.0	5.52	20 ± 4	Blazar-FSRQ	—	BZQJ1849+6705 4C66.20
1AGL J1857+0136	18 57 10.2	+01 36 42.6	35.02	-0.54	0.34	10.2	3.06	130 ± 14	Unclassified	—	3EGJ1856+0114 PSRJ1856+0113
1AGL J1908+0613	19 08 11.5	+06 13 29.3	40.38	-0.87	0.49	7.2	3.06	78 ± 12	Unclassified	—	3EGJ1903+0550 PSRJ1905+0616
1AGL J2021+3652	20 21 25.3	+36 52 32.6	75.28	0.07	0.19	14.2	8.31	65 ± 5	Pulsar	PSRJ2021+3651	3EGJ2021+3716
1AGL J2022+4032	20 22 08.5	+40 32 13.4	78.37	2.04	0.12	23.4	8.31	120 ± 7	Unclassified	—	3EGJ2020+4017 SNR Gamma Cygni
1AGL J2026-0732	20 26 30.7	-07 32 45.3	37.05	-24.55	0.53	6.9	3.06	39 ± 7	Blazar-FSRQ	—	3EGJ2025-0744 BZQJ2025-0735 PKS2023-07
1AGL J2032+4102	20 32 27.7	+41 02 00.0	79.91	0.74	0.41	6.8	8.31	37 ± 6	Unclassified	—	3EGJ2033+4118 CygX-3
1AGL J2231+6109	22 31 07.1	+61 09 46.7	106.82	2.76	0.29	8.4	6.26	32 ± 5	Pulsar	PSRJ2229+6114	3EGJ2227+6122
1AGL J2254+1602	22 54 10.3	+16 02 32.6	86.09	-38.3	0.17	23.0	1.16	200 ± 14	Blazar-FSRQ	3C454.3	3EGJ2254+1601 BZQJ2253+1608

The X-ray imager SuperAGILE:



Credit: ASI/ASDC

Grand Central Scan

Mysterious beasts lurk at the center of the Milky Way. They require new and varied methods to be monitored - no one knows when they will act up. A new observatory run by the Agenzia Spaziale Italiana called AGILE is one new tool in the astronomer's toolbox. AGILE (*Astro-rivelatore Gamma a Immagini LEggero*, which roughly translates as "Star imaging detector in Gamma-Ray Light") was launched on April 23, 2007 and is already returning important science during its check-out phase. The image above is a scan by the X-ray monitor on AGILE, called Super-AGILE (which roughly translates as "Above-AGILE"), dedicated to monitoring hard X-ray sources with high sensitivity. This scan, performed shortly after the launch of AGILE, identifies more than a dozen high energy sources (in the range 20-60 keV) in the Galactic center.

AGILE Cycle-2 Baseline Pointing Plan: December 1, 2008 - November 30, 2009

Pointing number	Start date	End date	Pointing name	L II	B II	weeks
1	01 Dec.08	20 Dec.08	Cygnus Field 4	82.7	-10.1	3
2	20 Dec.08	15 Gen.09	Cygnus Field 5	95.7	-10.2	3.5
3	15 Gen.09	28 Feb.09	Cygnus Field 6	105.1	10.5	6
4	28 Feb.09	25 Mar.09	Gal. Center 4	350.5	12.7	4
5	25 Mar.09	01 Apr.09	Crab Field	190.6	3.3	1
6	01 Apr.09	15 Apr.09	Aquila Field 1	15.0	-8.8	2
7	15 Apr.09	30 Apr.09	Aquila Field 2	51.1	0.6	2
8	30 Apr.09	15 Mag.09	Cygnus Field 7	66.8	0.0	2
9	15 Mag.09	31 Mag.09	Vela Field 1	256.6	0.8	2
10	31 Mag.09	15 Jun.09	Virgo Field 1	237.0	59.4	2
11	15 Jun.09	25 Jun.09	Cygnus Field 8	92.8	-10.0	1.5
12	25 Jun.09	15 Jul.09	Cygnus Field 9	99.7	-20.1	4
13	15 Jul.09	12 Aug.09	Cygnus Field 10	112.2	9.6	4
14	12 Aug.09	31 Aug.09	Vela Field 2	307.2	0.3	3.5
15	31 Aug.09	10 Sep.09	Norma Field 1	343.6	10.3	2
16	10 Sep.09	22 Sep.09	Gal. Center 5	0.3	10.5	2
17	22 Sep.09	30 Sep.09	Crab Field 2	187.0	-0.8	1
18	30 Sep.09	15 Oct.09	Aquila Field 3	10.6	-7.3	2
19	15 Oct.0-9	31 Oct.09	Aquila Field 4	60.1	10.4	2
20	31 Oct.0-9	30 Nov.09	Cygnus Field 11	65.1	0.2	4