GLAST The Gamma Ray Large Area Space Telescope

Data Challenges

GLAST DC2: 55 days worth of realistic simulated data.

DC2 data analysis: work in progress @ ASDC

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To-Do: from the Blazars and other AGN Confluence page:

Blazar catalog, sample definition

Once the list of GLAST sources is available, three steps are foreseen:

a) A source subset will readily be associated with known sources (e.g. blazars from existing catalogs);

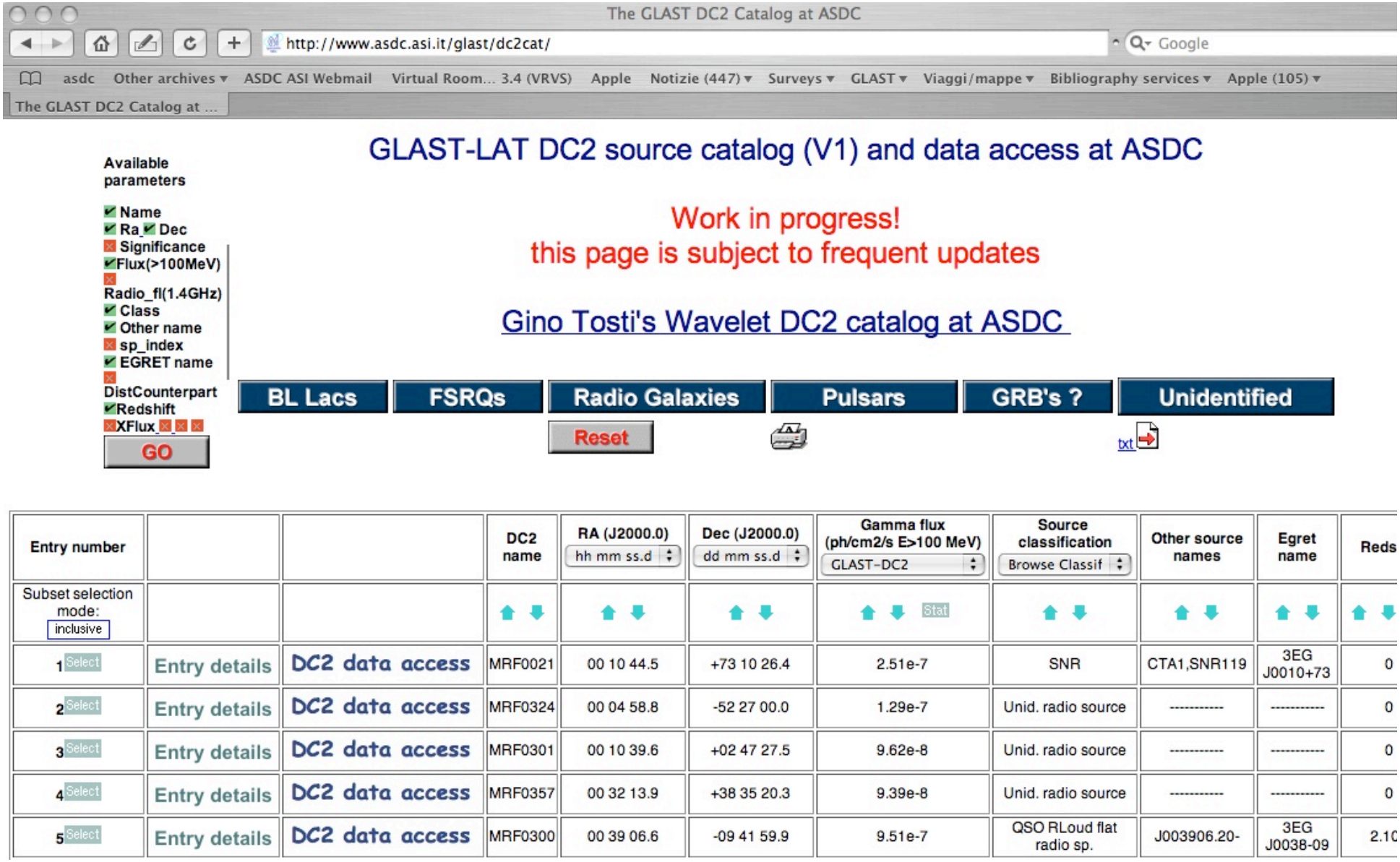
b) Some new GLAST sources will be identified via cross-correlation with radio, X-ray... catalogs.
The candidate optical counterparts will be observed. The spectroscopy will confirm their identity as a blazar, and lead to the redshift and luminosity determination.

c) Some information about the blazar contents of the remaining subset can be obtained by statistical studies.

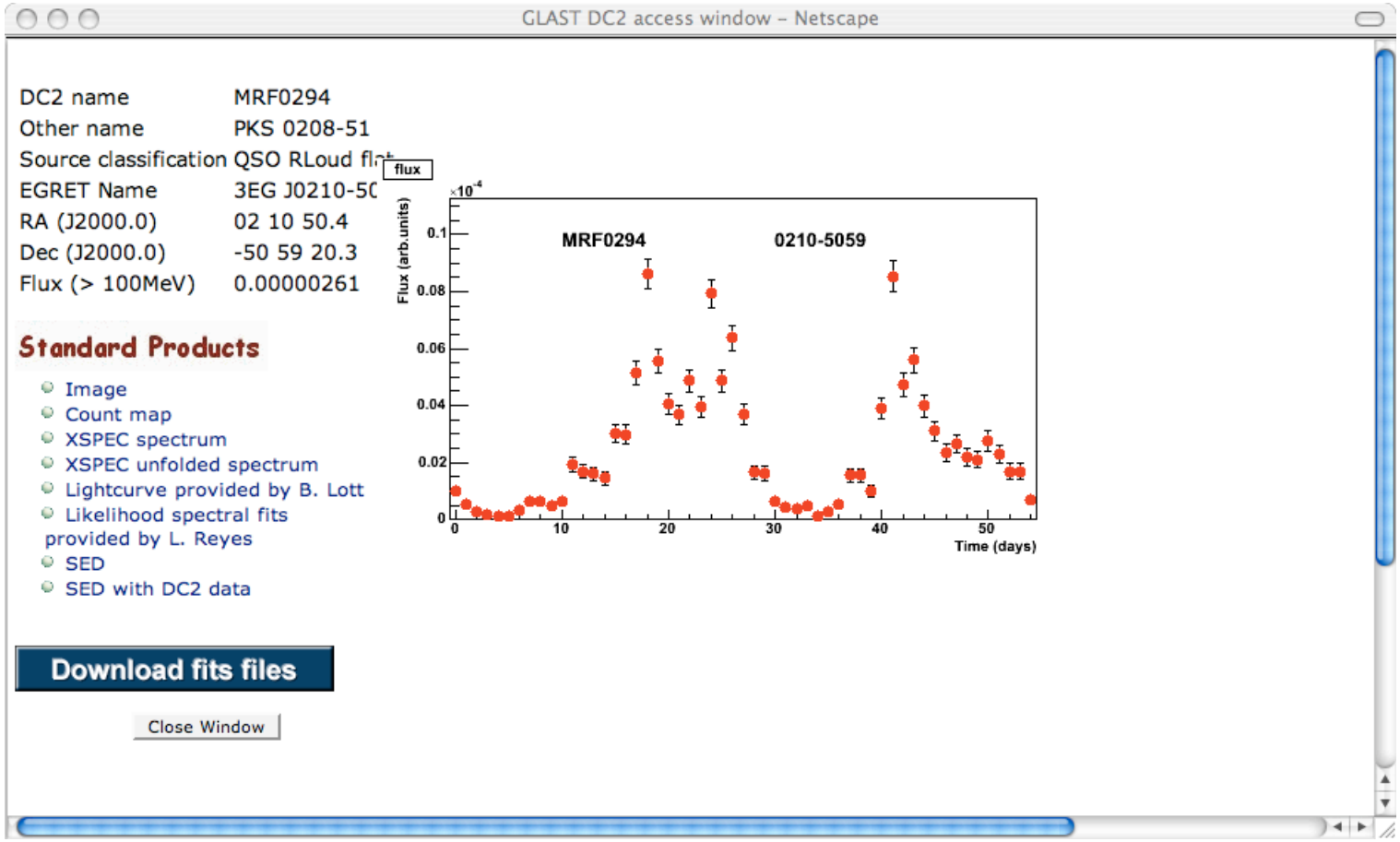
Work in progress @ ASDC

- GLAST DC2 source catalog integrated in the ASDC database system
- Cross correlations of all DC2 sources with the ASDC blazars catalogue and EGRET sources
- Cross correlations with other local and web-accessed radio, infrared, optical and X-ray data, including Pulsars, SNR, X-ray Binaries and Galaxy Clusters catalogues
- Identification of some GRBs from some extremely variable light curves
- Interactive DC2 source catalog web page created @ ASDC:

http://www.asdc.asi.it/glast/dc2cat/


The GLAST DC2 Catalog at ASDC
http://www.asdc.asi.it/glast/dc2cat/
Google
asdc
Other archives
ASDC ASI Webmail
Virtual Room... 3.4 (VRVS)
Apple
Notizie (447)
Surveys
GLAST
Viaggi/mappe
Bibliography services
Apple (105)
The GLAST DC2 Catalog at ...
GLAST-LAT DC2 source catalog (V1) and data access at ASDC
Work in progress!
this page is subject to frequent updates
Gino Tosti's Wavelet DC2 catalog at ASDC
Available parameters
Name
Ra Dec
Significance
Flux(>100MeV)
Radio_fl(1.4GHz)
Class
Other name
sp_index
EGRET name
DistCounterpart
Redshift
XFlux
GO
BL Lacs
FSRQs
Radio Galaxies
Pulsars
GRB's ?
Unidentified
Reset
txt
Entry number
DC2 name
RA (J2000.0)
hh mm ss.d
Dec (J2000.0)
dd mm ss.d
Gamma flux (ph/cm2/s E>100 MeV)
GLAST-DC2
Source classification
Browse Classif
Other source names
Egret name
Reds
Subset selection mode:
inclusive
Stat
1 Select Entry details DC2 data access MRF0021 00 10 44.5 +73 10 26.4 2.51e-7 SNR CTA1,SNR119 3EG J0010+73 0
2 Select Entry details DC2 data access MRF0324 00 04 58.8 -52 27 00.0 1.29e-7 Unid. radio source ---------- ---------- 0
3 Select Entry details DC2 data access MRF0301 00 10 39.6 +02 47 27.5 9.62e-8 Unid. radio source ---------- ---------- 0
4 Select Entry details DC2 data access MRF0357 00 32 13.9 +38 35 20.3 9.39e-8 Unid. radio source ---------- ---------- 0
5 Select Entry details DC2 data access MRF0300 00 39 06.6 -09 41 59.9 9.51e-7 QSO RLoud flat radio sp. J003906.20- 3EG J0038-09 2.1

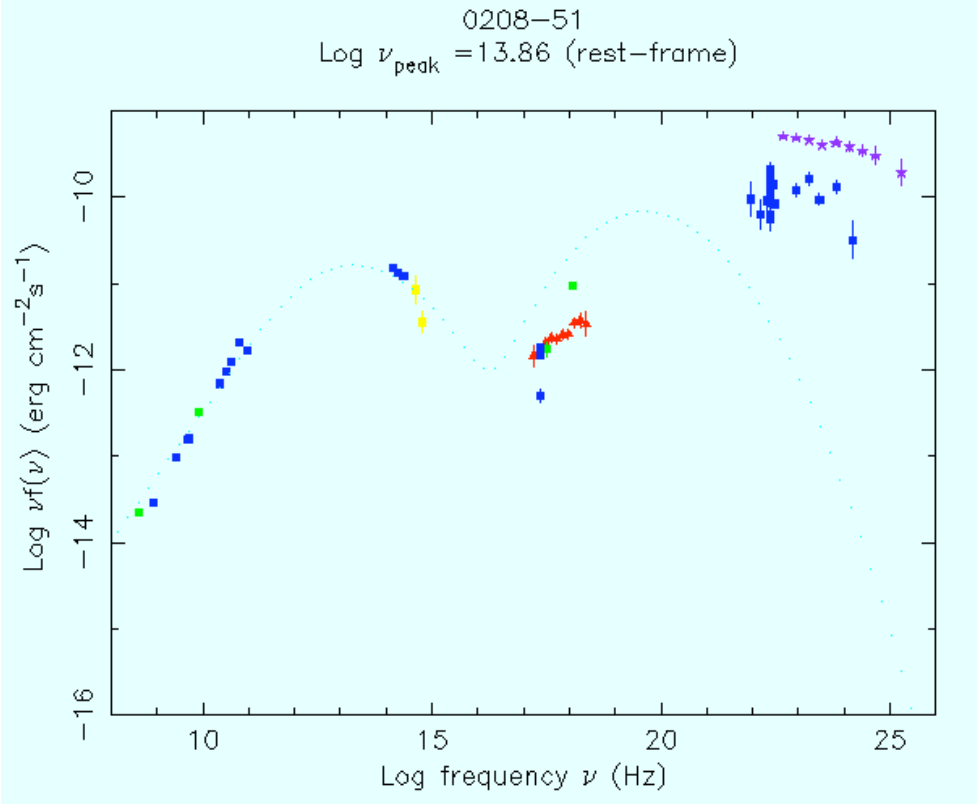
For the sub-sample of the 18 selected sources, indicated as th "Preliminary list of monitored sources" during the Blazar Group F-to- Meeting, March 04, we provide access to a set of Standard Product Image, Count Map, XSPEC generated spectrum and unfolded spectrun as well as LC by B. Lott and Likelihood spectral fits by L. Reyes. W also provide the source SED, without and with DC2 simulated data.



Source name	3EG name	LAT name
0208−512	J0210−5055	MRF0294
PKS 0528+134	J0530−1323	MRF0194
0827+243	J0829+2413	MRF0264
Mrk 421	J1104+3809	MRF0404
3C 273	J1229+0210	MRF0409
3C 279	J1255−0549	MRF0253
1406−076	J1409−0745	MRF0224
PKS 1622−297	J1625−2955	MRF0362
1633+383	J1635+3813	MRF0258
NRAO 530	J1733−1313	MRF0020
3C 454.3	J2254+1601	MRF0293
LSI +61 303	J0241+6103	MRF0044
Mrk 501		MRF0257
W Com	J1222+2841	MRF0234
1ES 1959+650 (TeV Blazar)		MRF0012
1ES 2344+514 (TeV Blazar)		MRF0351
H 1426+428 (TeV Blazar)		MRF0240
PSK 2155−304 (TeV Blazar)	J2158−3023	MRF0330

MRF0294

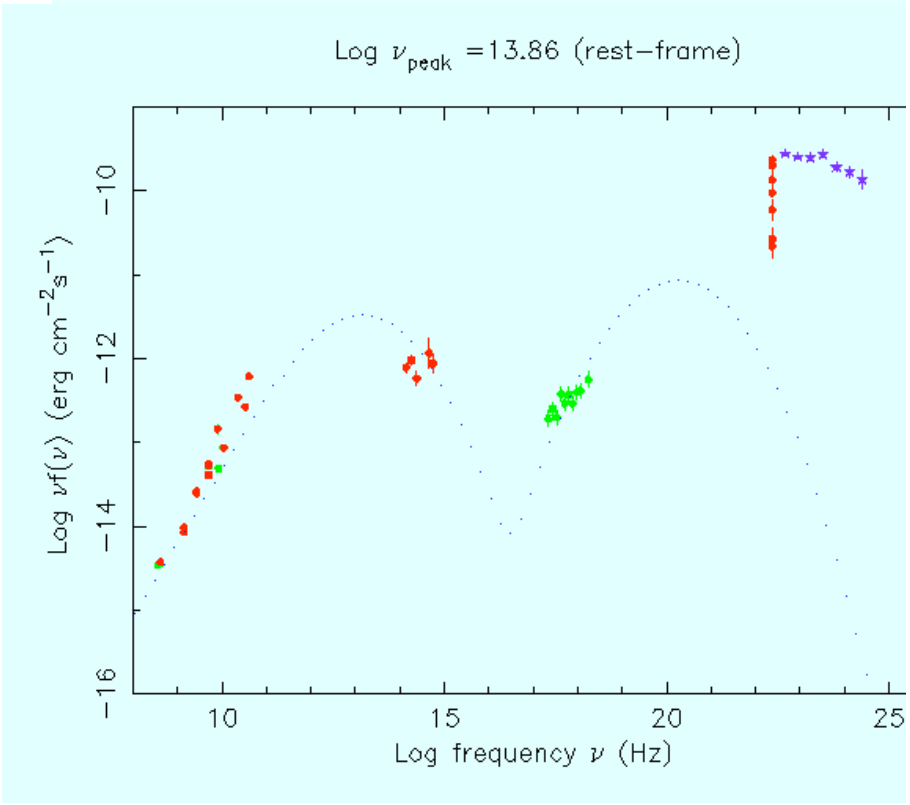
(purple stars=DC2 data)



GLAST/EGRET Flux Ratio = 1,9

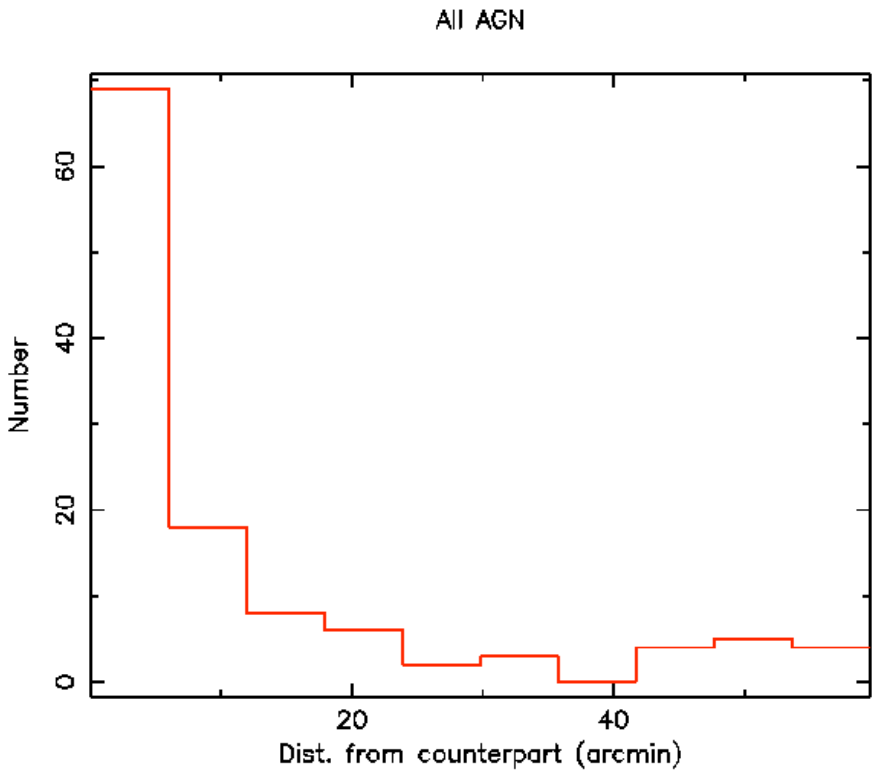
MRF0224

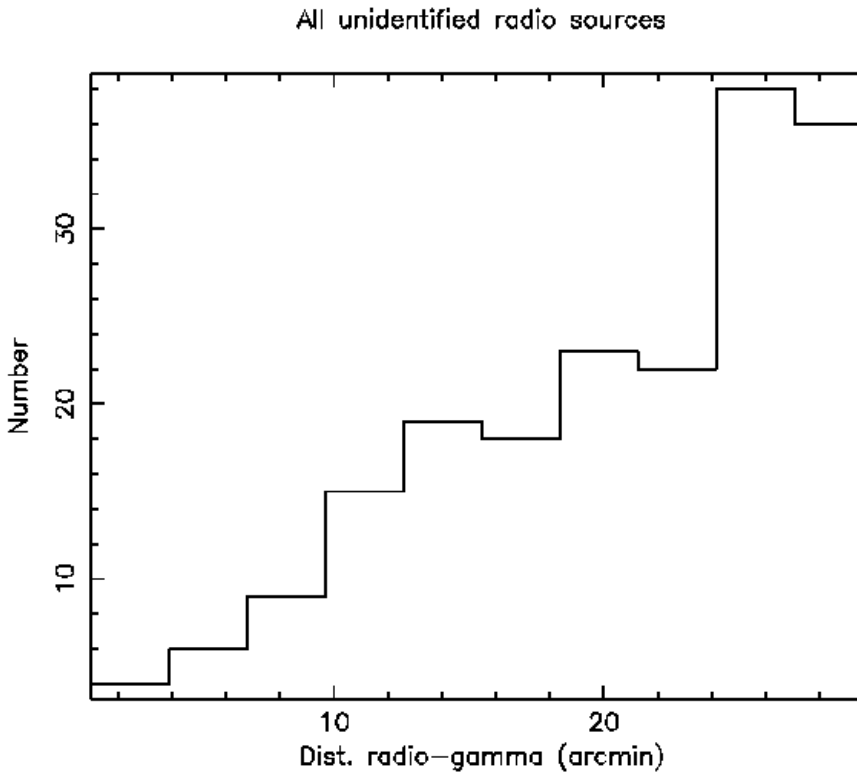
(purple stars=DC2 data)



GLAST/EGRET Flux Ratio = 0,9

On the left: distribution of the distances from the counterpart for all DC2 sources identified as AGNs
On the right: distribution of the distances between DC2 source positions and brightest radio-sources (>30 mJy) within 1 degree.





Today's addition: Gino Tosti's Wavelet DC2 catalog

-80°< dec <+80°

650 sources, 303 in common with other catalog

Some sources in the Galactic plane are spurious

http://www.asdc.asi.it/glast/gino_dc2

Cross-correlation results:

- 39 BL Lacs (34 in DC2 catalog v1) including BL Lac itself!
- 90 FSRQs (84)
- 56 Pulsars/SNR (32) some may be spurious?
- 457 unidentified (220) some may be spurious

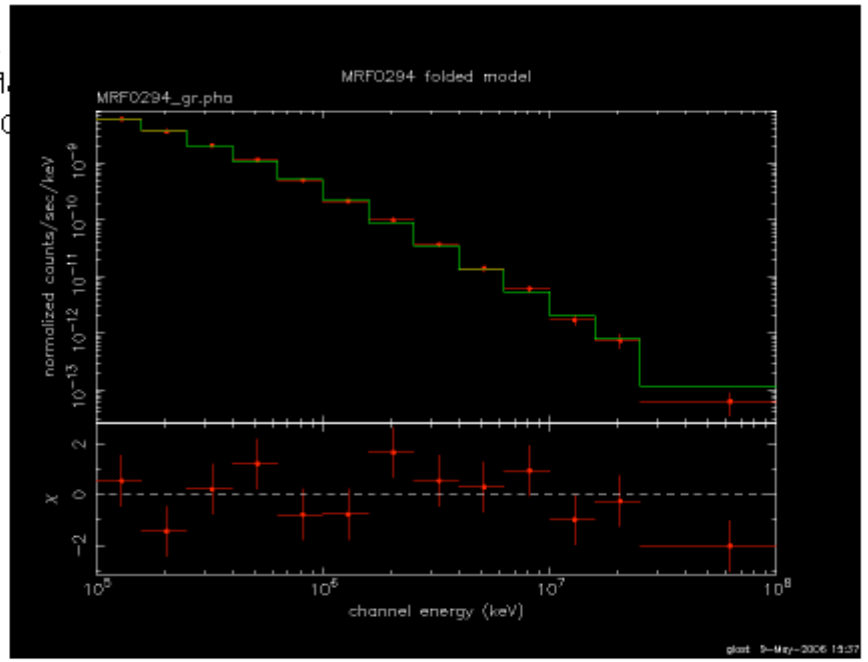
Same work done for the 18-blazars sample has been extended to the entire subsample of FSRQ (~ 60 sources) and BLLacs (~ 20 sources):

- Image
- Count Map
- Fitted Spectra with background subtraction (Galactic and ExtraGalactic)
- SED with or without DC2 Data

DC2 name	MRF0294
Other name	PKS 0208-51
Source classification	QSO RLoud fl
EGRET Name	3EG J0210-5(
RA (J2000.0)	02 10 50.4
Dec (J2000.0)	-50 59 20.3
Flux (> 100MeV)	0.00000261

Standard Products

- Image
- Count map
- XSPEC spectrum
- XSPEC unfolded spectrum
- Lightcurve provided by B. Lott
- Likelihood spectral fits provided by L. Reyes
- SED
- SED including DC2 data



Much other work in progress on:

- background subtraction
- estimate of gamma-ray flux from 94Ghz data
- XRB and low latitude gamma-ray sources (in collaboration with P. Santolamazza, F. Verrecchia)
- Galaxy Clusters (in collaboration with S. Colafrancesco)
- GRBs (in collaboration with A. Antonelli)