GRB analysis

We have no public tools to discover GRB in our data

So lets say we have exact time and/or position of the GRB

Example will be GRB031203

From GCN 2459

TITLE: GCN GRB OBSERVATION REPORT
NUMBER: 2459
SUBJECT: GRB 031203: A long GRB detected with INTEGRAL
DATE: 03/12/03 23:20:36 GMT
FROM: Diego Gotz at IASF-CNR <diego@mi.iasf.cnr.it>

D. Gotz, S Mereghetti, M. Beck and J. Borkowski on behalf of the IBAS Localization Team, N. Mowlavi on behalf of the INTEGRAL Science Data Centre and the INTEGRAL Science Working Team report:

A 20 s long GRB has been detected with IBAS at 22:01:28 UTC.
The GRB has been detected in IBIS/ISGRI data in the 15-200 keV energy band.

The coordinates (J2000) are R.A. 08h 02m 30s Dec. -39deg 50" 49' with an uncertainty of 2.5 arcmin.

This message can be cited

Conversions

Convert position and time:

root

.L radec.C

decimal(08,02,30,-39,50,49)

.q

gives ra=-39.8469 dec=115.229

isdclin2:0001 221> converttime UTC 2003-12-03T22:01:28 ""
Log_1 : Input Time(UTC): 2003-12-03T22:01:28 Output Time(REVNUM): 0139
Log_1 : Input Time(UTC): 2003-12-03T22:01:28 Output Time(UTC): 2003-12-03T22:01:28
Log_1 : Input Time(UTC): 2003-12-03T22:01:28 Output Time(YYYYDDDHH): 200333722
Log_1 : Input Time(UTC): 2003-12-03T22:01:28 Output Time(SCWID): **013900150010**

og_create and first image

The standard og create

The best now is just to make an image of the full scw
to see what are the source

So ibis_science analysis from COR to IMA
(or from COR to DEAD, save it and then
from DEAD to IMA)
Look at image, identify sources

This is the image,
there are 2 source (Vela X1 and Ginga 0836-429)   beside the GRB

GRB031203

Make catalog, and light curve of the GRB

Make a catalog with all the seen sources and the GRB:
 use fv or private tools
 for example
   isdcroot addsource.C my_cat.fits GRB031203 120.625 -39.8469
   isdcroot addsource.C my_cat.fits "Vela X-1"
   isdcroot addsource.C my_cat.fits "Ginga 0836-429"
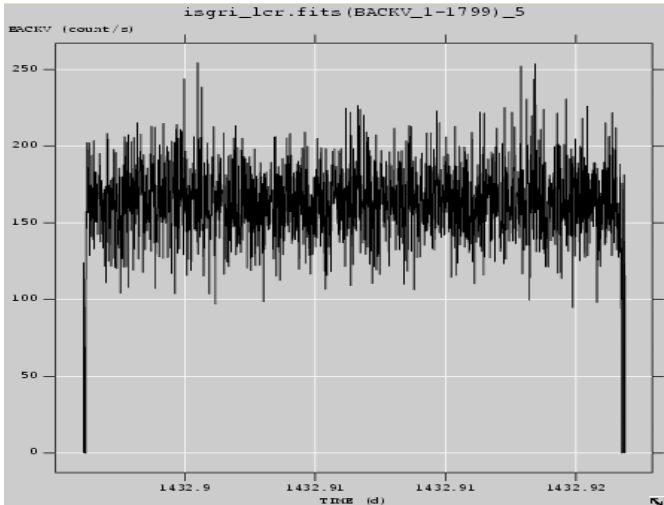   cat2ds9 my_cat.fits+1 my.reg
   ds9 scw/013900150010/ibis/res/isgri_sky_ima.fits -region my.reg

Now you can run ibis_science analysis from CAT_S to LCR
method =2 avoiding SPE with a 1 sec binning and this catalog

Light curves
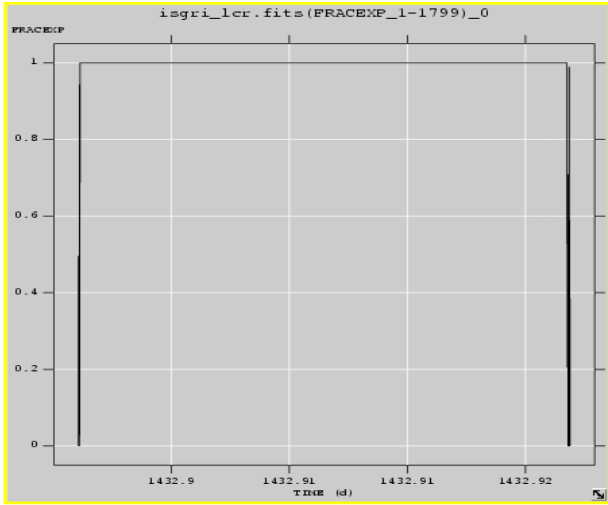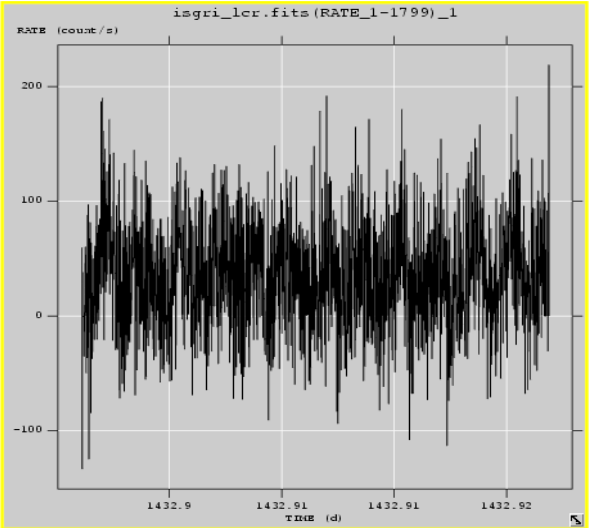

eff
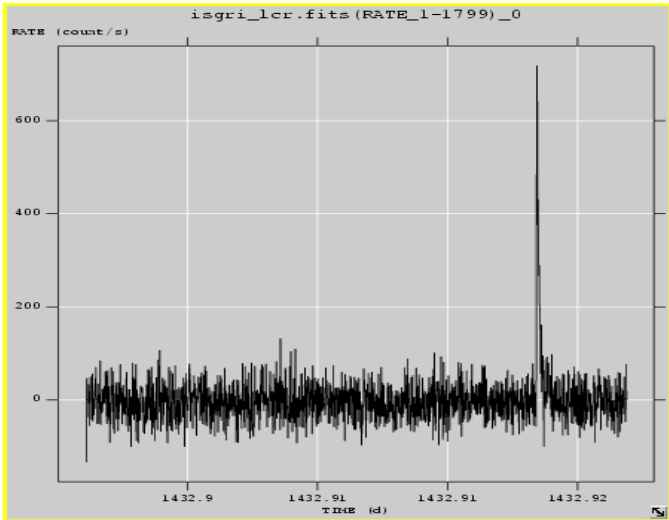
noise
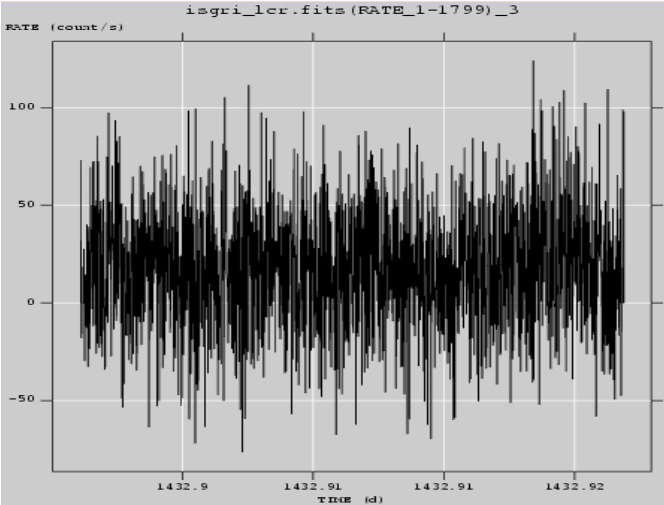
Ginga

Vela

GRB

Now redo full analysis with user GTI

Create a user GTI
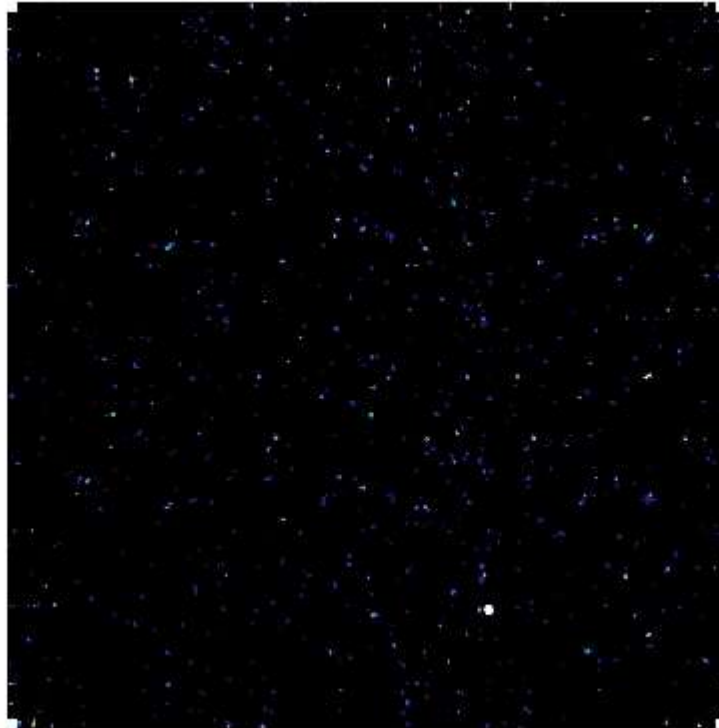
gti_user my_gti.fits IJD1 IJD2 group=og_ibis.fits+1

ibis_science analysis
my_gti.fits[1]
COR CLEAN
method=2

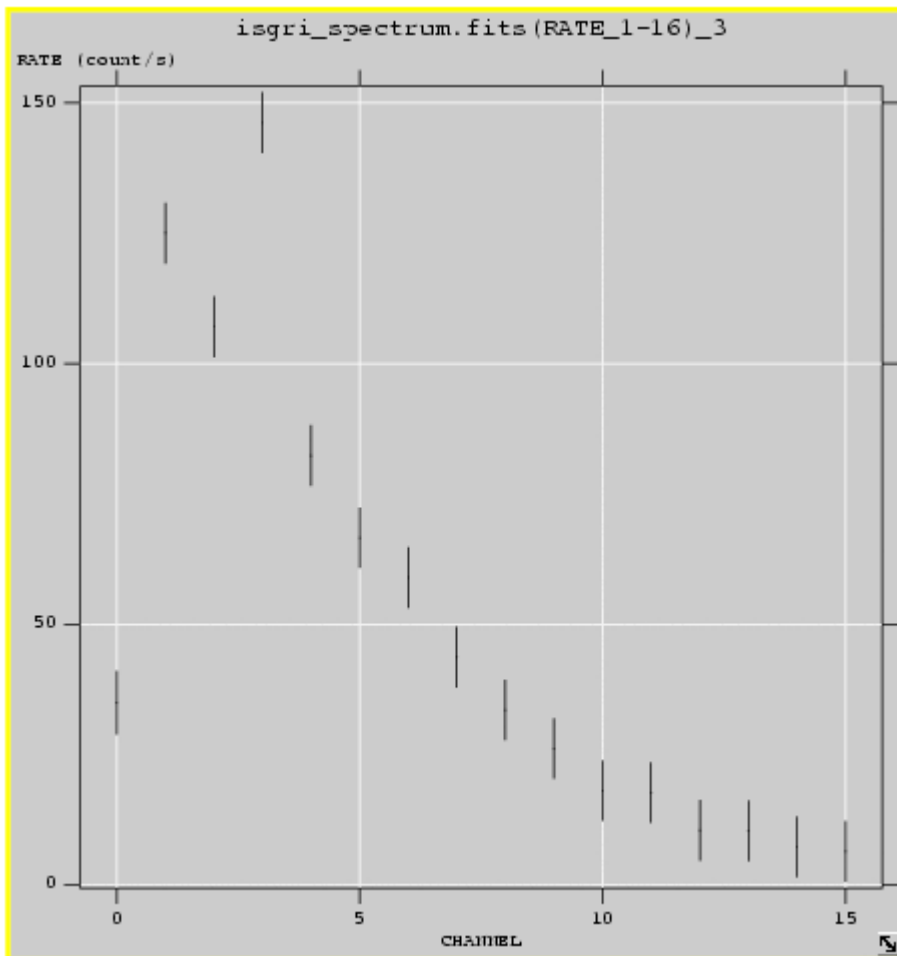# Image

Spectrum

Back spectrum
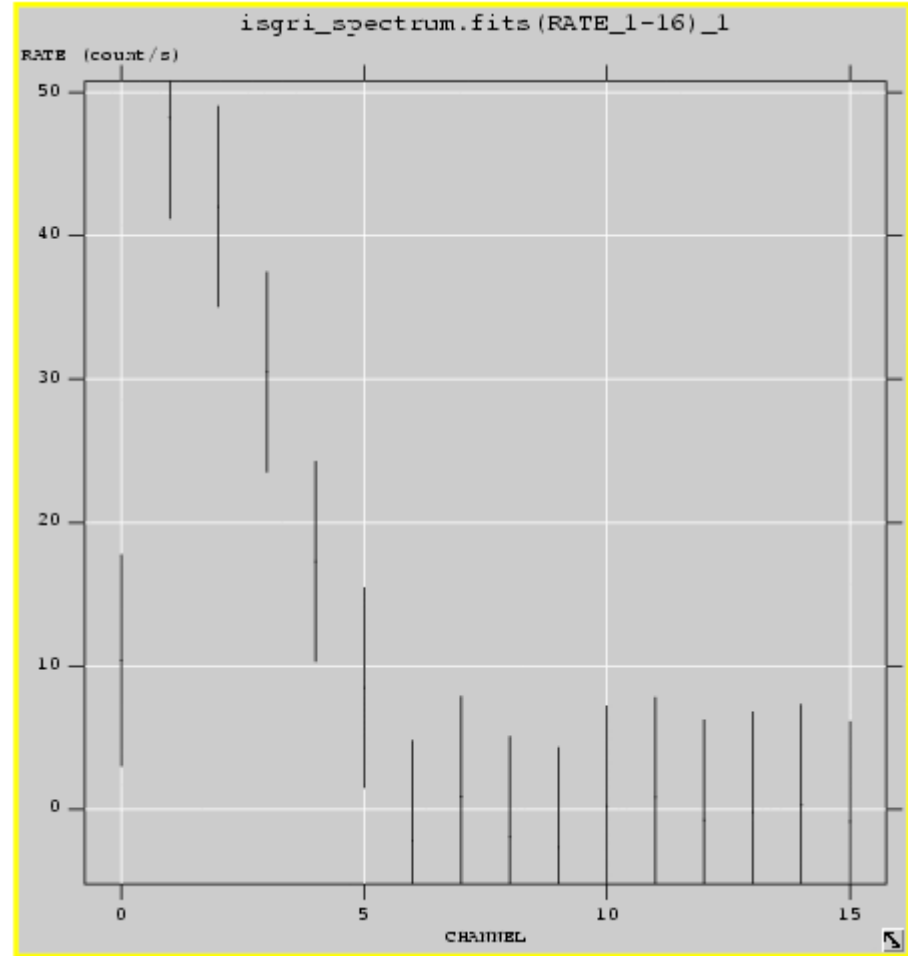
GRB spectrum

Zoom of the light curve (0.5 sec bins)
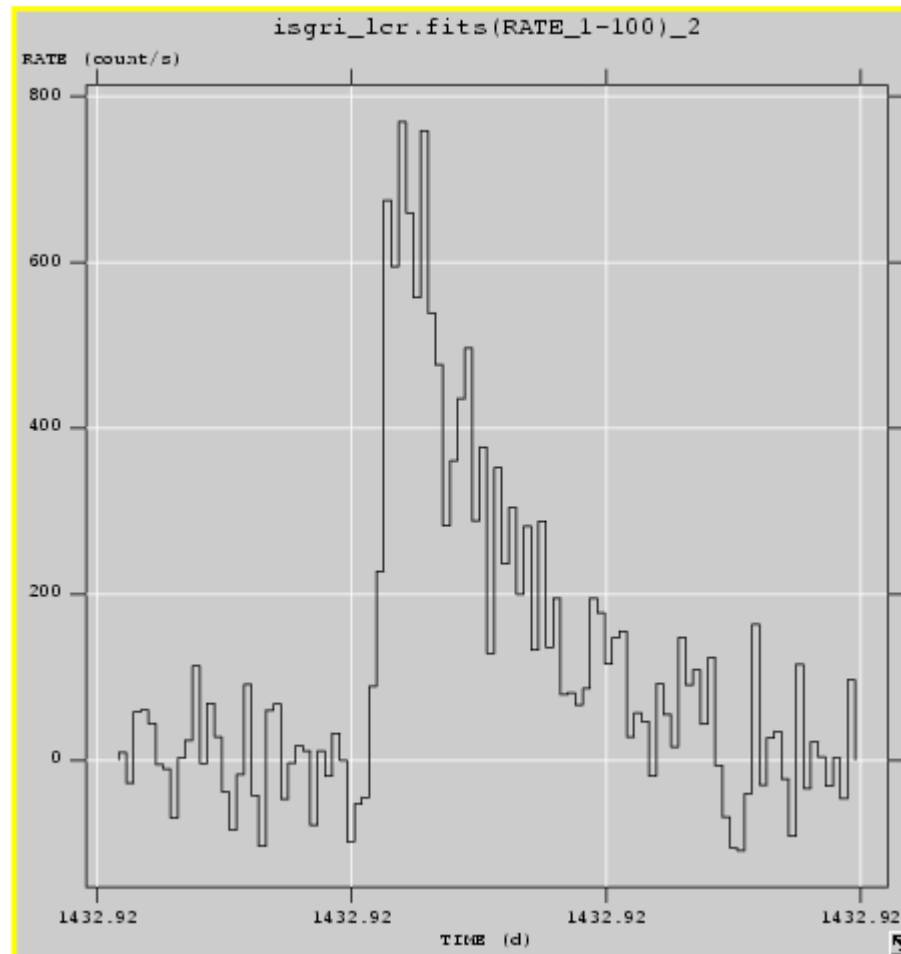
If you have a group of level DEAD the step you have to do are:

GTI CAT_S SPE using parameter
method 2
with each time another user GTI

For light curve you can repeat the LCR step as many time as you want

Caveat

ARF and RMF was not tuned for method=2

Actual ii_spectral does not correct for NOMEX effect
(but can be easily done by hand)