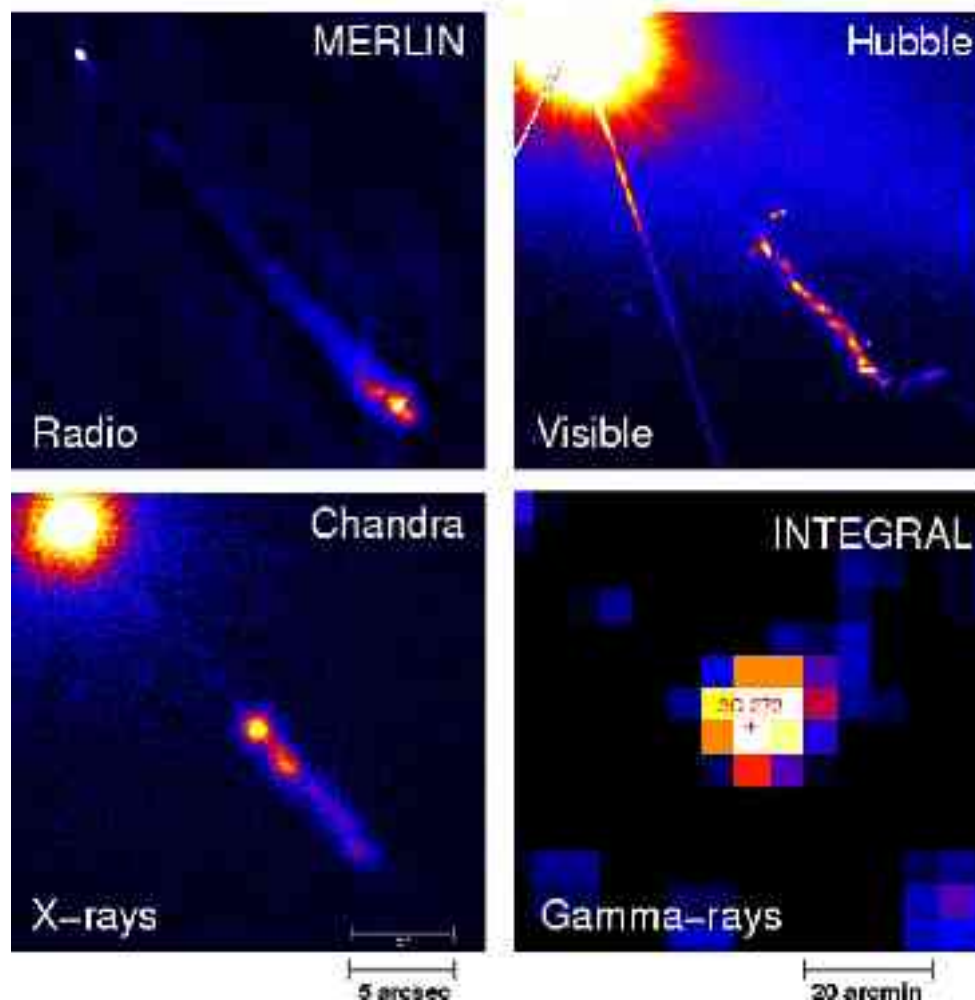


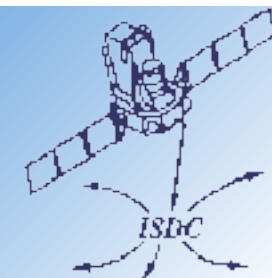
IBIS/ISGRI Analysis of faint source 3C273



Quasar 3C 273

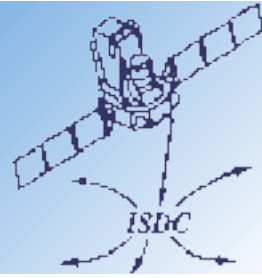


Analysis methodology



- ◆ Data Download
- ◆ List of science window
 - ◆ `scw/0028/002800070010.001/swg.fits[1]`
 - ◆ `scw/0028/002800070020.001/swg.fits[1]`
 - ◆ `scw/0028/002800080010.001/swg.fits[1]`
- ◆ OG creation
 - ◆ `og_create idxSwg=scw.lst ogid=3C273 baseDir="." instrument=IBIS`
 - ◆ `cd obs/3C273`
- ◆ Image step: Mosaic: check of the sources in the FOV
- ◆ Spectra extraction

Analysis Launch



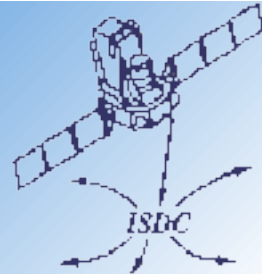
ibis_science_analysis

The screenshot shows the 'ibis_science_analysis' application window. The title bar reads 'ibis_science_analysis'. The main area contains several input fields and controls:

- 'start_level' dropdown menu set to 'CDR'.
- 'end_level' dropdown menu set to 'IM42'.
- 'GENERAL_event List' text field containing 'COR_GT_DEAD,BIN_1,BKG_CAT_1,IM4,IM42,EIN_SPE,LCR,COMP,CLEAN'.
- 'CAT_refCat' text field containing '{ISDC_REF_CAT|ISGRI_FLAG==1}' with a 'browse' button to its right.
- 'SWITCH_disable' checkbox, which is unchecked, with 'checked: y00'.
- 'SWITCH_disableFIC&IT' checkbox, which is checked, with 'checked: y00'.
- 'SCW1 GTI y_Lst' text field with a 'browse' button to its right.
- 'SCW1 GTI Time Limit' dropdown menu set to '100'.

On the right side of the window, there is a vertical stack of buttons: 'Save', 'Save As', 'Run', 'Quit', 'List', and 'Hidden'. At the bottom of the window, there are three tabs: 'ISGRI IMA', 'ISGRI SPE and LCR', and 'FIC&IT'.

Analysis Launch 2



ISGRI_IMA

ISGRI IMAGING

IBIS_II_Channel:

EIS_I_E_band_min:

IBIS_II_E_band_max:

EIS_I_inEnergyValues:

DBSI_SearchMode:

CESI_T_Search:

CESI_MinColSource:

OBS_MinNewSource:

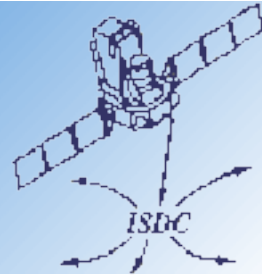
CESI_DuPar:

QBS1_PixSpread:

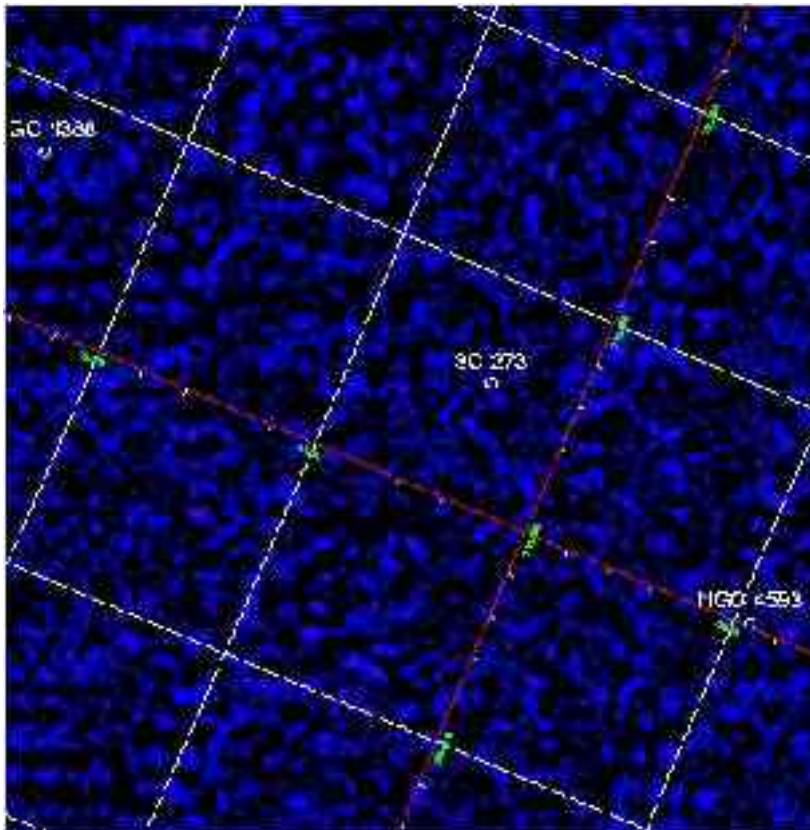
QBS1_SouFl:

SDwt_BYG_ImgElyDu:

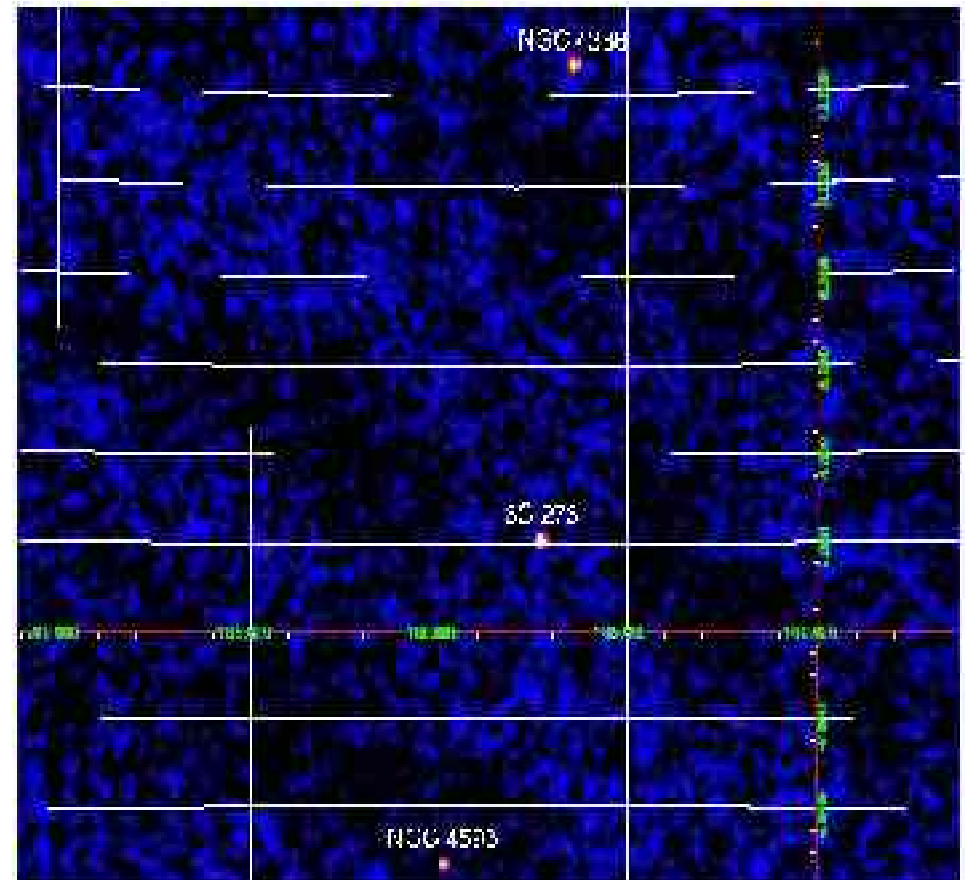
Results of the Image step



- ◆ cat2ds9 isgri_mosa_res.fits\[2] found.reg
- ◆ ds9 isgri_mosa_ima.fits\[4] region found.reg

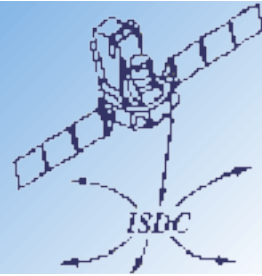


- ◆ isgri_sky_ima.fits[4]



- ◆ isgri_mosa_ima.fits[4]

Energy bins for spectral step



- ◆ fv ic/ibis/rsp/isgr_rmf_grp_0016.fits

Index	Extension	Type	Dimension	View
<input type="checkbox"/> 0	Primary	Image	0	Header Image Table
<input type="checkbox"/> 1	GROUP1	Binary	6 cols X 7 rows	Header Hist Plot All Select
<input type="checkbox"/> 2	ISGR-RMF-RSP	Binary	6 cols X 2166 rows	Header Hist Plot All Select
<input type="checkbox"/> 3	ISGR-FIBER-MOD	Binary	3 cols X 2148 rows	Header Hist Plot All Select

Channel	E_Min (keV)	E_Max (keV)
0	3000.00	3478.70
1	3478.70	3957.40
2	3957.40	4436.10
3	4436.10	4914.80
4	4914.80	5393.50

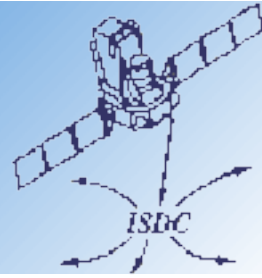
- ◆ 3C273.bin

```

0 15 16
16 24 9
25 35 11
***
600 2047 -1
    
```

- ◆ rbnrmf
infile="isgr_rmf_grp_0016.fits"
outfile="3C273-rmf.fits"
binfile="3C273.bin"

Spectral Extraction



- ◆ `ibis_science_analysis`

The screenshot shows the 'ibis_science_analysis' software window. The main area contains several input fields and checkboxes. The 'start_level' is set to 'COR' and 'end_level' is 'IM42'. The 'GENERAL_level List' contains a list of levels: 'COR, GT_DEAD, BIN_1, 3x3, CAT_1, IM4, IM42, EIB_S, SPE, LCR, COMP, CLEAN'. The 'CAT_refCat' field is set to '#ISDC_REF_CAT[ISGRI_FLAG==1]' and has a 'browse' button next to it. There are two checkboxes: 'SWITCH disable' (unchecked) and 'SWITCH disable FIC&IT' (checked). The 'SWITCH GT y. Lve' field is empty with a 'browse' button, and the 'SWITCH GT Time Limit' is set to '10'. At the bottom, there are three tabs: 'ISGRI IMA', 'ISGRI SPE and LCF', and 'FIC&IT'. On the right side of the window, there is a vertical stack of buttons: 'Save', 'Save As', 'Run', 'Quit', 'Help', and 'hidden'.

Spectral Extraction 2



ISGRI_SPE_and_LCR

ISGRI Spectral extraction and Light Curve

IBIS_3_inEnergyValues: browse

GDW2_cat_for_extract: browse

GDW2_BFG_IsgrElgDo: browse

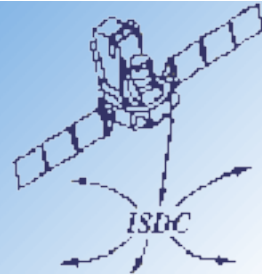
LCR num =:

LCR u min:

LCR u max:

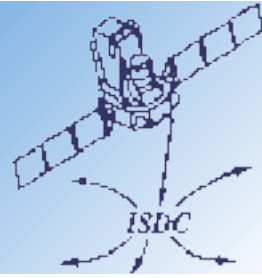
LCR delta t:

Spectral Extraction

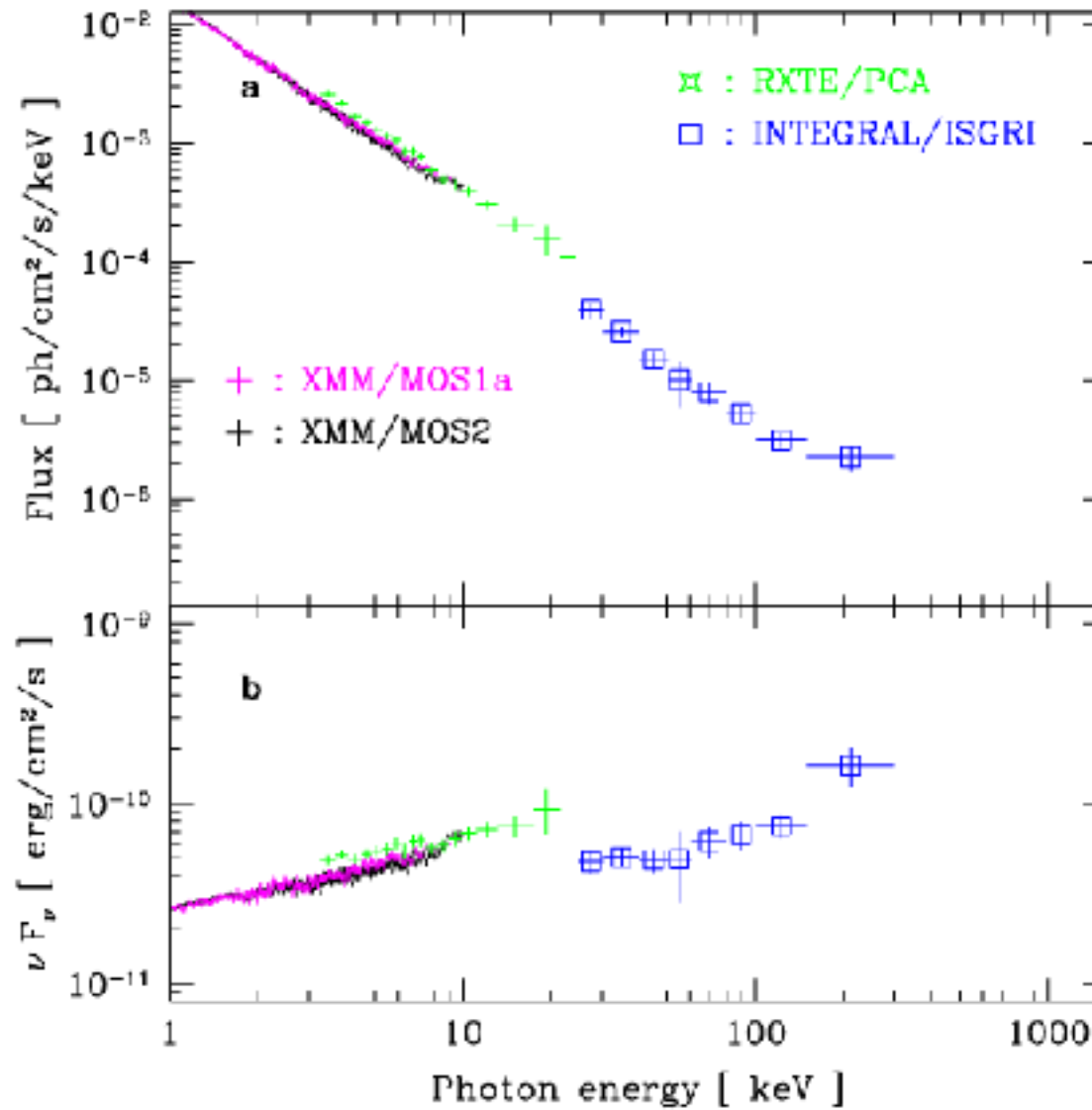


- ◆ `spe_pick group="og_ibis.fits[1]" source="3C 273"`
`response=../../3C273-rmf.fits`
`ancrfile=../../ic/ibis/rsp/isgr_arf_rsp_0010.fits`
`rootname=3C273`
- ◆ `xspec`
 - `data 1:1 3C273_sum_pha.fits`
 - `data 2:2 3C273_xmm.fits`
 - `model const*wabs*power`
 - `fit 100`
 - `setplot energy`
 - `plot ldata`

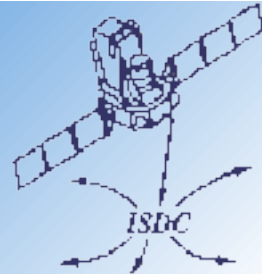
Results



“Raw data” - no intercalibration



Results



Intercalibration is taken into account

