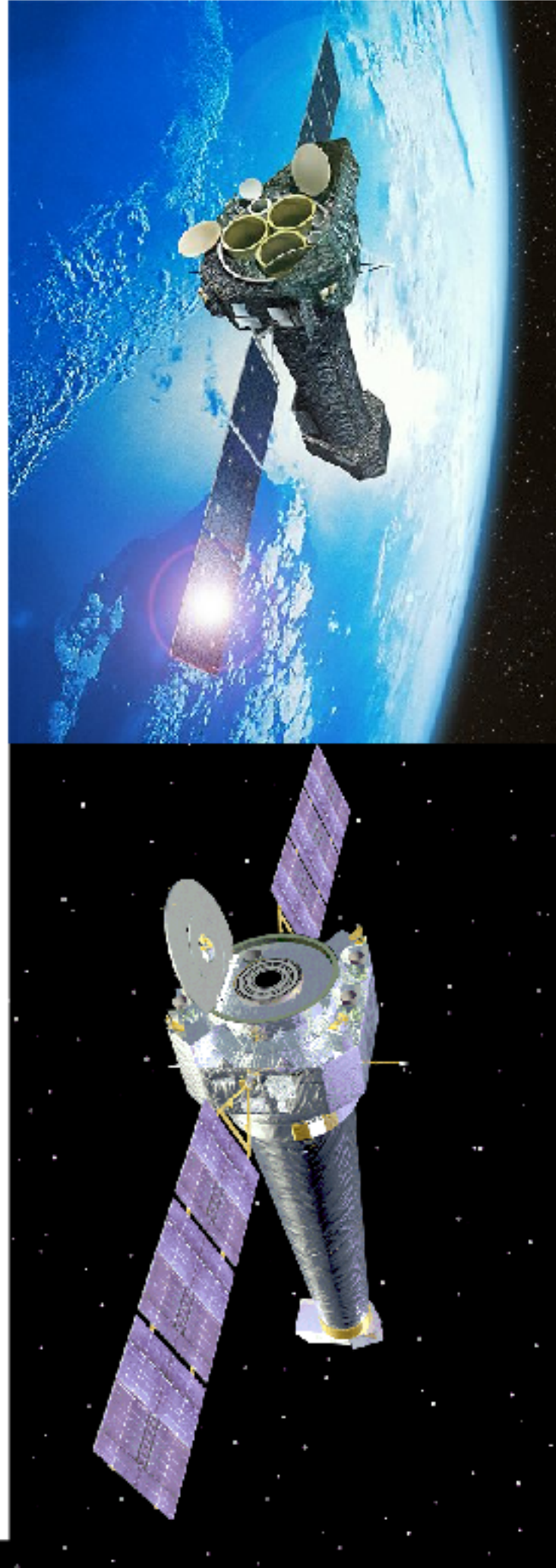


Database of LETGS spectra for cross calibration purposes



Vadim Burwitz (MPE Garching)

2004 Chandra Calibration Workshop, Cambridge







Oct. 26, 2004

Issues









- Spectral Cross Calibration Work requires
 - generation of many spectra
 - reprocessing with latest CAL data
 - and/or development track CAL data
- Problems
 - many calibrators -> different pipelines
 - difficult to keep track of how spectra were generated
 - usually only spectra for some specific object are provided
 - arf and rmf files are not always easy obtain

A feasible solution: Generate a Spectral Database for

Cross Calibration

- Steps taken
 - Reprocess data with most up-to-date CALDB
 -  standard CIAO pipeline
 -  parallel calibrators pipelines
 - Generate for all data sets
 -  mean spectrum
 -  source/bg light curves
 -  search low bg times -> make new GTIs
 -  Generate 2nd set of low bg spectra
- Nomenclature
 - need to keep track how data was processed

Providing Spectra to fellow calibrators

- Best method via a web page
- What is provided
 - page with overview of all datasets for
 -  lightcurves
 -  spectra
 - extracted spectra provided in different formats including the effective area and rmf files for use
 -  Sherpa
 -  XSPEC (data + arfs rmfs)
 -  ASCII (CORA)
 -  or any other format that calibrators may need.
 - Page for each object
 -  with gif, ps images and
 -  tar files with data including arfs rmfs

Sequence Number	Target	ObsID	Exposure Time	Type	picture line_bk	picture line_cal_req	picture line_so	picture line_diff	bg main	sb sigma	sb main	sb sigma	14 main	18 sigma	18 sigma bg	sigma bg / main bg in %	good bg / time in %	good time intervals	number of passes
200009	AJval	40012	30151.734	GTO					1.005784	0.000480	1.825614	0.210447	1.815634	0.210275	3.0	14.72	22.28	1	2
200021	PS-LMa	40023	30203.932	GTO					1.016612	0.000736	0.098400	0.024813	1.087797	0.024767	3.0	20.82	38.68	2	3
200022	AD Leo	40024	18121.816	IGTO					1.016282	0.000081	0.402700	0.067638	1.597874	0.066647	3.0	23.68	39.54	1	2
200023	zeta Pup	40025	24113.767	IGTO					1.016823	0.000486	0.571450	0.043633	1.544874	0.042700	3.0	14.77	40.68	11	2
200026	VY_Cen	40026	57333.258	GTO					1.011524	0.000638	0.374680	0.101639	1.314334	0.104495	3.0	16.61	45.17	7	2
200027	Alpha_Cen	40029	80819.446	GTO					1.016028	0.000516	0.162786	0.020220	1.152422	0.020190	3.0	15.16	55.64	18	2
200028	HL 504-65	40030	25126.082	GTO					1.016987	0.000682	0.888719	0.164022	1.874544	0.164862	3.0	19.88	36.02	2	2
200033	MC1: TMA0	40035	91251.200	IGTO					1.016111	0.000456	0.071405	0.010646	1.017491	0.010496	3.0	14.28	40.87	22	2
200038	GD 306	40035	48158.737	IGTO					1.016198	0.000486	0.771698	0.057541	1.250543	0.057443	3.0	12.02	76.13	11	2
200074	UX_Ari	40037	112227.141	GTO					1.005741	0.001281	0.867466	0.083186	1.857287	0.084820	3.0	38.82	38.25	3	5
200082	AD Leo	40075	48414.083	GTO					1.005823	0.000911	0.348195	0.078586	1.520984	0.078806	3.0	27.81	77.78	5	2
200085	KP 3016+0116	40076	19419.306	IGTO					1.015737	0.001996	0.042404	0.012716	1.026404	0.012479	3.0	9.788	49.59	1	2
200097	Ipsilon Nem	41849	183908.173	IGTO					1.016826	0.000486	0.571672	0.043281	1.547127	0.043285	3.0	14.72	42.64	14	2
200107	ICR_1093	41879	95319.881	GO					1.016797	0.000583	1.894512	0.297119	1.882991	0.297301	3.0	20.23	34.56	18	2
200108	TV_Cas	41880	74596.252	GO					1.016428	0.000465	0.172790	0.037430	1.167951	0.037619	3.0	14.68	34.68	13	2

Spectra overview page (ascii)

[lightcurve.html-page](#)

[spectrum.html-page](#)

[spectrum3.html-page](#)

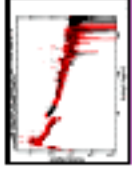
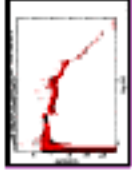
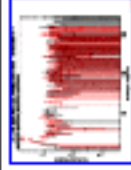
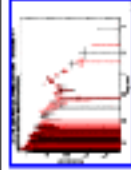
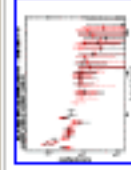
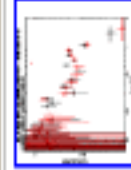
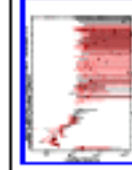
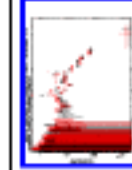
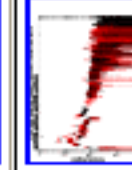
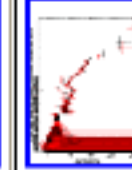
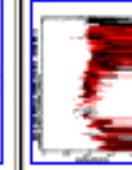
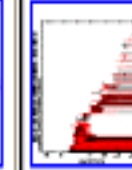
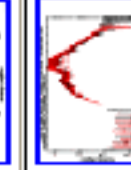
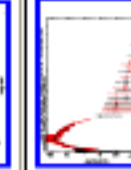

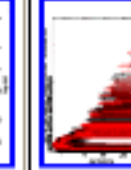
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200000	Algol	00002	80051.734	2000-03-12	GTO		
200021	PI-1 UMa	00023	30203.932	2000-01-15	GTO		
200022	AD Leo	00024	10121.106	2000-01-22	GTO		
200023	Zeta Pup	00025	24973.357	2000-10-02	GTO		
200026	YY Gem	00028	57933.258	2000-09-29	GTO		
200027	Alpha Cen	00029	80019.446	1999-12-24	GTO		
200028	111504165	00030	25126.082	2000-09-27	GTO		

Spectra overview page (xspec)

[cora.html-page.html-page](#)

[lightcurve.html-page](#)

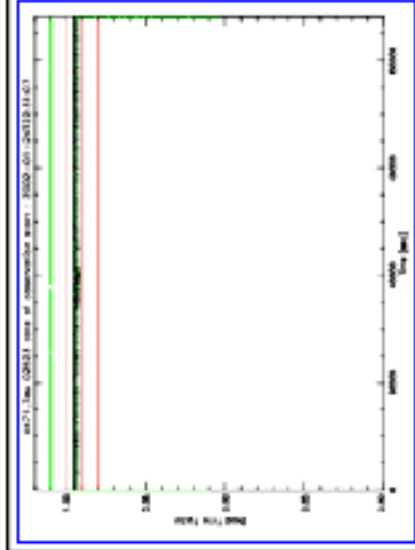
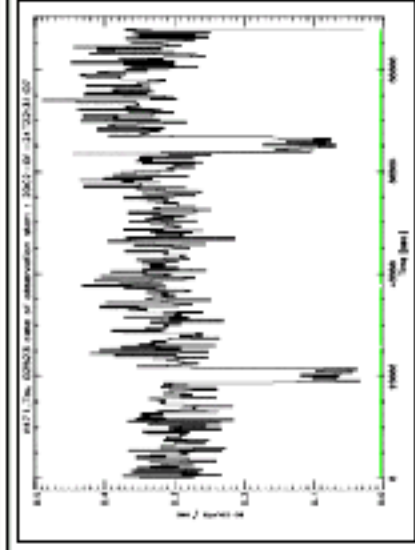
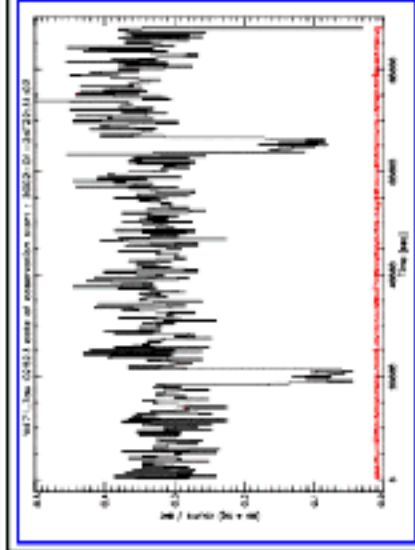
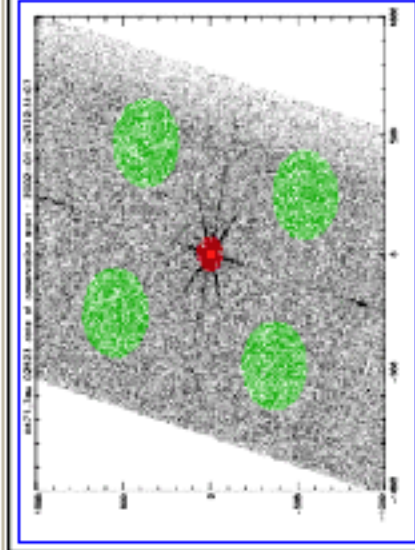
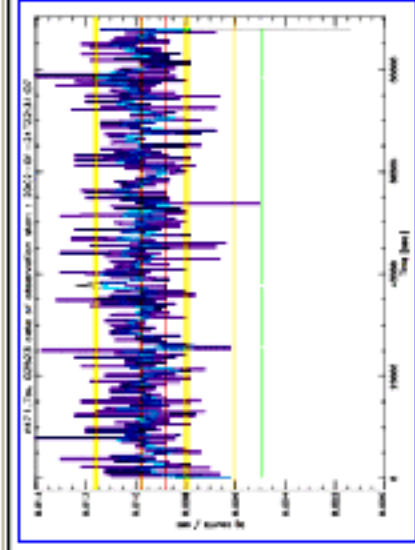
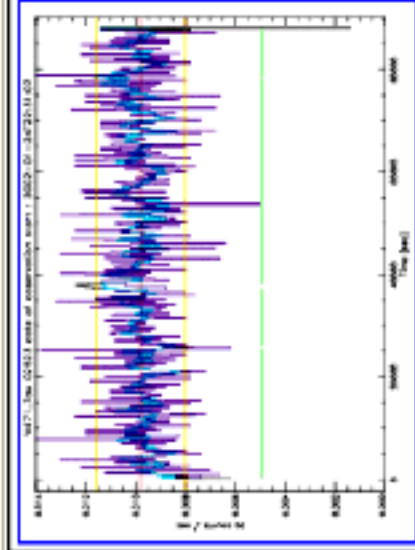
[spectrum3](#)

Sequence Number	Target	ObsID	Exposure Time	Exposure Date	Type	pic spec 200 wavelength	pic spec 200 energy
200000	Algol	00002	80051.734	2000-03-12	GTO		
200021	PI-1 UMa	00023	30203.932	2000-01-15	GTO		
200022	AD Leo	10121	10121.106	2000-01-22	GTO		
200023	Zeta Pup	00025	24973.357	2000-10-02	GTO		
200026	YY Gem	00028	57933.258	2000-09-29	GTO		
200027	Alpha Cen	10129	80019.446	1999-12-24	GTO		
200028	111504 65	101311	25126.082	2000-09-27	GTO		
200033	MGC 1360	00608	94257.209	2000-09-25	GO		

Detailed lightcurve page

[back](#) [coral: hrc02523_001N002M001_cora.html](#) [spectrum: hrc02523_001N002M001_aspec.html](#) [spectrum3: hrc02523_001N002M001_spec3.html](#)

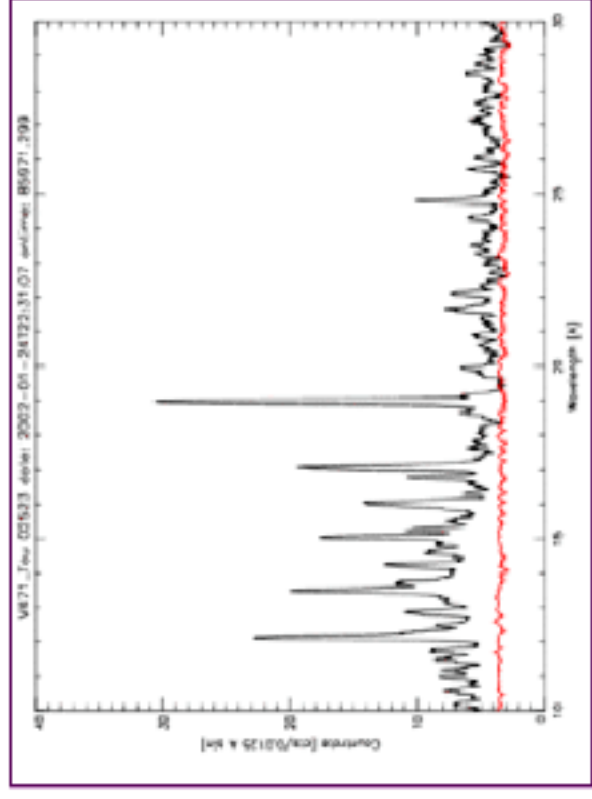
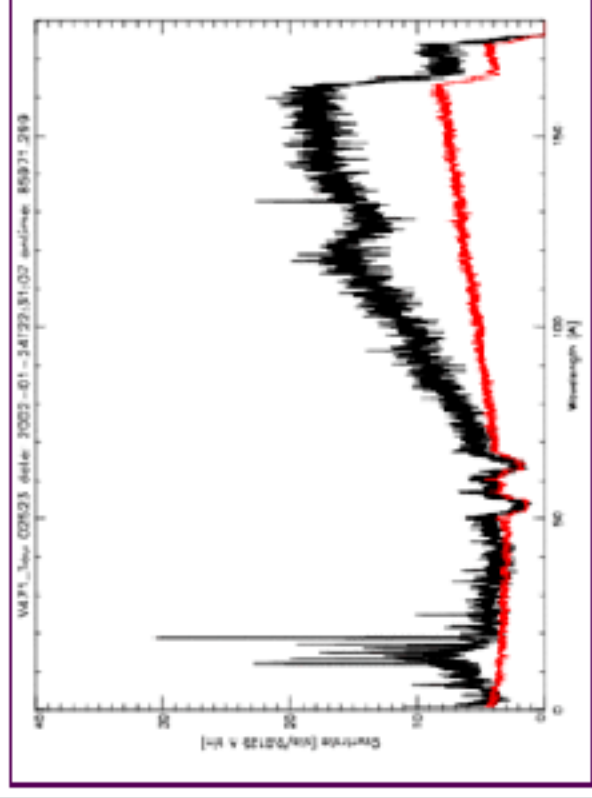
Sequence Number	Target	ObsID	Exposure Time	Type	bg main	bg sigma	sb main	sb sigma	so main	so sigma	n sigma bg	n sigma bg / main hg in %	good bg time in %	good time intervals	number of passes
200131	V471 Tau	02523	87994.459	GO	0.009792	0.000592	0.315523	0.071384	0.305749	0.073224	3.0	18.14	97.51	6	4



Detailed CORA spectra page

[back](#) [lightcurve: hrcf02523_001N002M001.html](#) [spectrum: hrcf02523_001N002M001_xspec.html](#) [spectrum3: hrcf02523_001N002M001_xspec3.html](#)

Sequence Number	Target	ObsID	Exposure Time	Exposure Date	Type	Download cora-tar-file (3 ASCII dat-files)
200131	V471_Tau	02523	87994.459	2002-01-24	GO	02523_V471_Tau_cora.tar



[gif](#) [spec](#) [cora](#) [bg](#) [t](#) [ov](#) [200131](#) [ps](#)
[spec](#) [cora](#) [bg](#) [t](#) [ov](#) [200131](#)

[gif](#) [spec](#) [cora](#) [bg](#) [t](#) [dt](#) [200131](#) [ps](#) [spec](#) [cora](#) [bg](#) [t](#) [dt](#)
[200131](#)

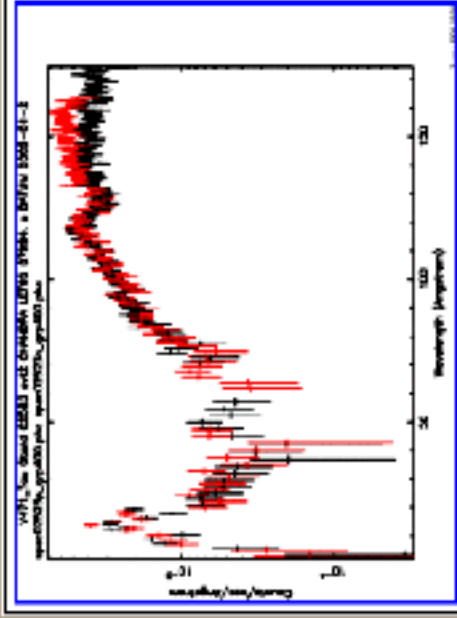
Detailed XSPEC spectra page

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hrcf02523-001N002M001_spec3.furl

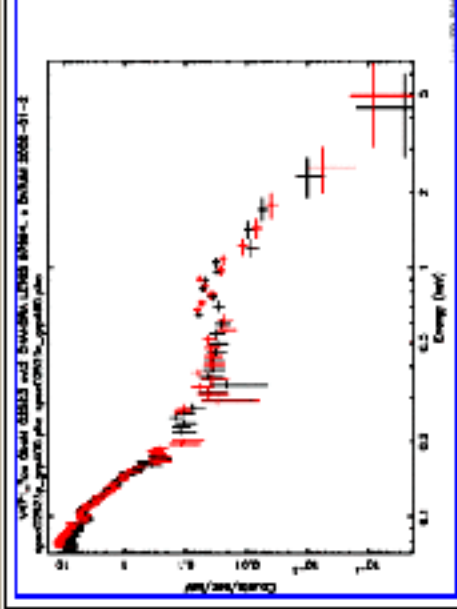
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specnum3:

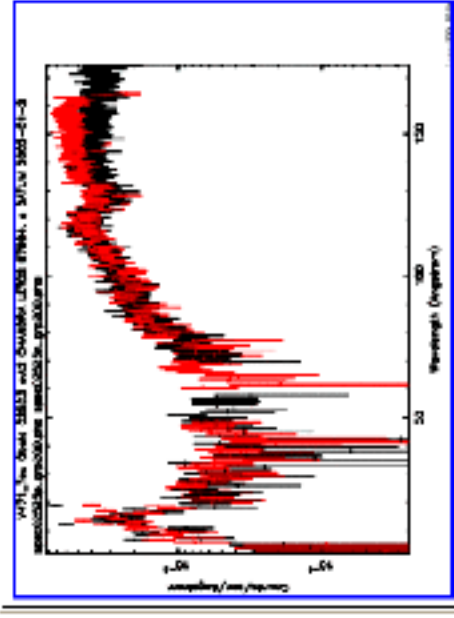
Sequence Number	Target	ObsID	Exposure Time	Exposure Date	Type	Download tar-file (pha & CAL DATA files)
200131	V471 Tau	02523	87994.459	2002-01-24	GO	02523_V471_Tau_xspec.tar



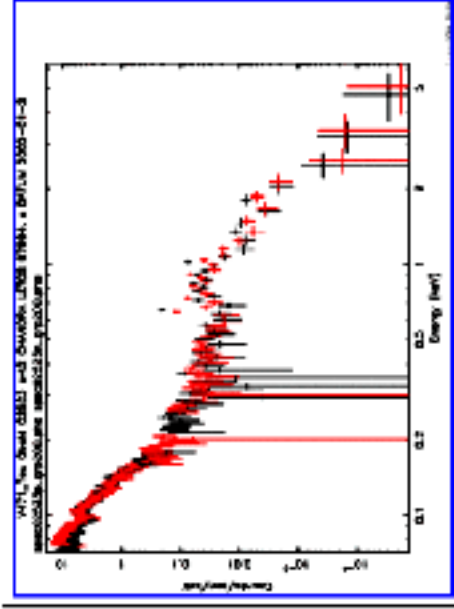
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[gif_spec200wv_200131... ps_spec200wv_200131...](#)



[gif_spec200c_200131... ps_spec200c_200131...](#)

