

G21.5-0.9

- (note) 1. This nearby source list is incomplete.
 All the above sources are originally from the "src2.fits" file which is distributed with standard chandra processing.
 Only sources with significant count rate and which are clear to visual inspection are included.
- The size given above is the size of the region used in detecting that source.
 - For each source, background was subtracted from annular region around the source.

1 Summary

- Distance: 5 kpc (Safi-Harb et al., 2001)
- Position of Central Source (J2000): (18 33 34.0, -10 34 15.3)
- X-ray size: 4.7'x4.6'
- Description:

1.1 Summary of Chandra Observations

Sequence	Obs ID	Instrument	Exposure _{uf} (ks)	Exposure _f (ks)	Date Observed	Aimpoint (J2000) (α , δ)
	580383	1433	ACIS-23678	15.0	14.8	1999-11-15 (18 33 33.5, -10 34 06.7)

Exposure_{uf} → Exposure time of un-filtered event file
 Exposure_f → Exposure time of filtered event file

- The whole remnant is covered by chip ACIS-S3(CCD_ID=7)

1.2 Chandra Counts and Fluxes

Region	Energy Range (keV)	Signal (counts)	Rate (counts s ⁻¹)	F _w ^{obs} (ergs cm ⁻² s ⁻¹)	F _x (ergs cm ⁻² s ⁻¹)	L _x (ergs s ⁻¹)
Total	0.3 - 10.0	5.133e+04	3.467e+00	6.65e-11	1.49e-10	4.45e+35
(1433)	0.3 - 2.1	1.658e+04	1.119e+00	4.92e-12	7.60e-11	2.26e+35
	2.1 - 10.	3.496e+04	2.361e+00	6.17e-11	7.36e-11	2.19e+35

- NH = 2.28 (10²² cm⁻²)
- Assumed distance: 5 kpc (Safi-Harb et al., 2001)

- nH was derived with power-law model

1.3 Nearby Sources

Obs ID	Position (J2000)	Size	Net Count	Count rate	Note
1433	(18 33 21.2, -10 30 10.0)	< 7.9"	27.3	1.82e-03	
	(18 33 27.7, -10 35 23.9)	< 1.1"	24.0	1.60e-03	
	(18 33 28.4, -10 24 07.1)	< 18.7"	394.0	2.63e-02	
	(18 33 31.8, -10 40 29.0)	< 5.2"	31.8	2.12e-03	
	(18 33 42.3, -10 37 24.9)	< 3.9"	14.7	9.82e-04	

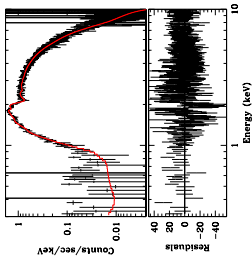
2 Fit Detail

- See spectrum page for used regions.

2.1 Total:

- power-law model fit

```
source=(xswabs * powlaw(d)
reduced  $\chi^2 = 0.796026$ 
nh = 2.2847 1022/cm2
```

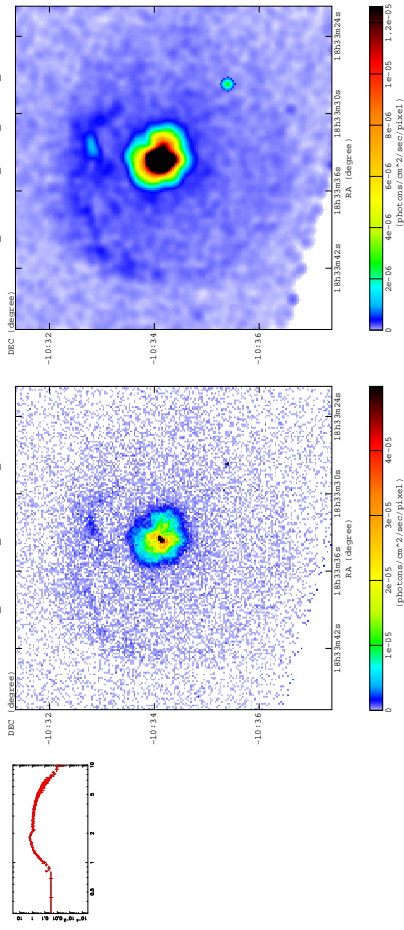


3 Chandra Images : Band Images

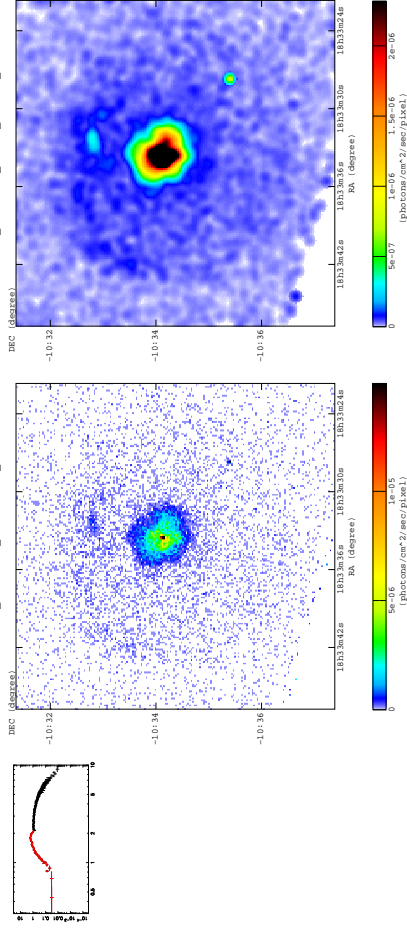
- Left : raw image, binned by 1x1 pixel
- Right : gaussian smoothed version of above ($\sigma = 2$ pixel)

3.1 Wide Band Images

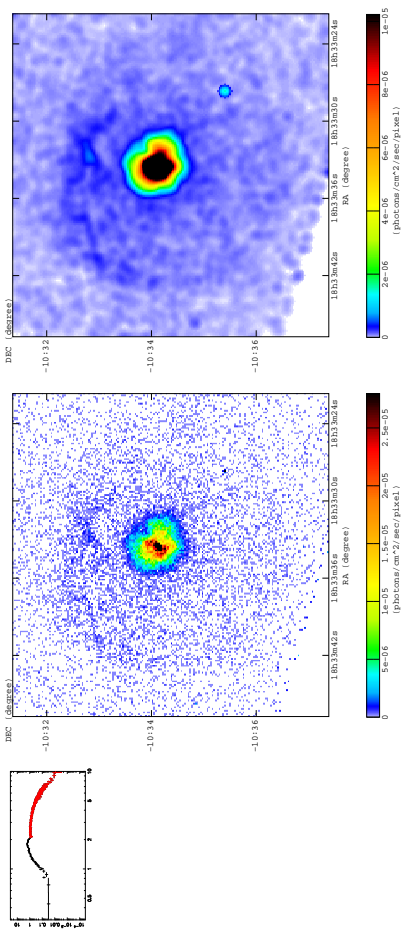
Total : 300-10000 eV



Soft Band : 300-2100 eV

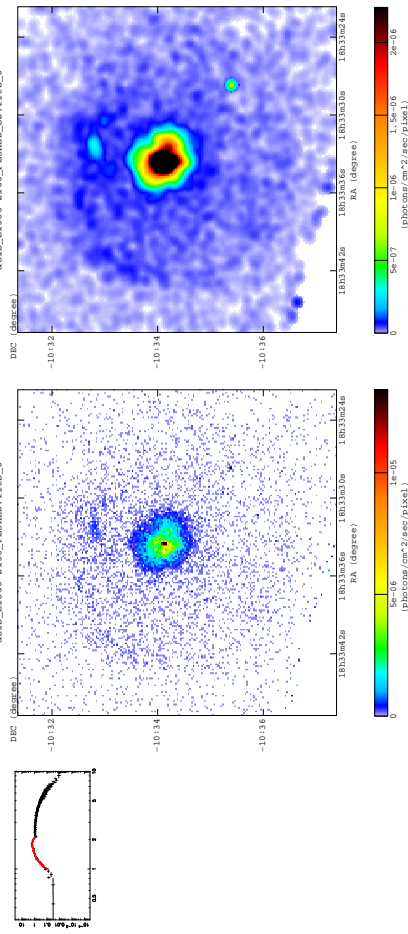


Hard Band : 2100-10000 eV

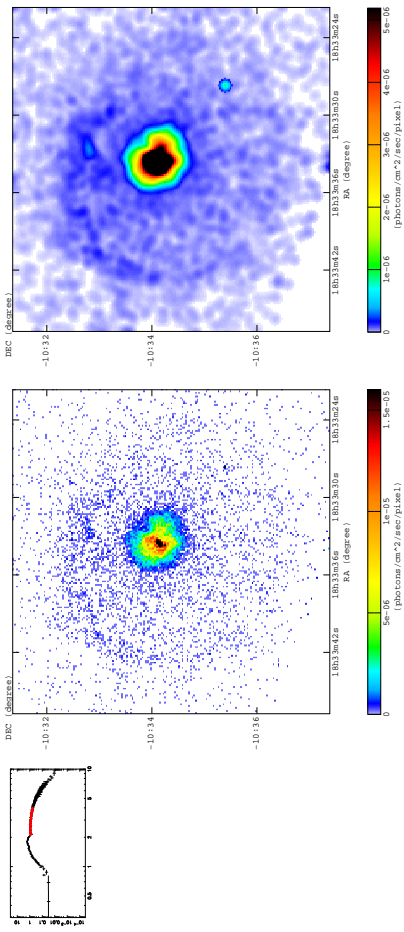


3.2 Band images used in true color image.

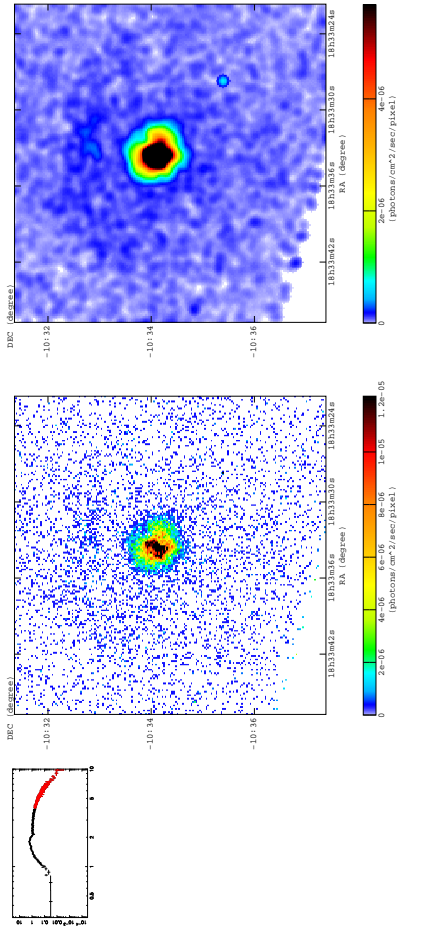
Red : 1000-2100 eV



Green : 2100-4000 eV



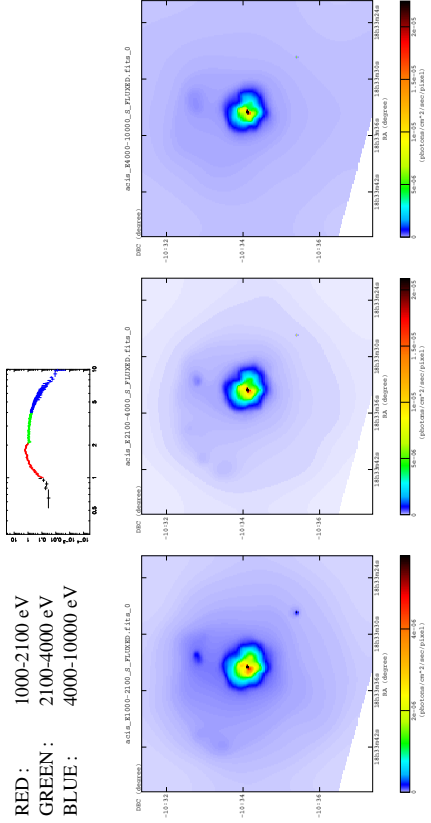
Blue : 4000-10000 eV



4 Chandra Images : True Color

- Individual images are adaptively smoothed.
- Warning : the adaptive smoothing process sometimes produces artifacts.
- convolution method : fft
- kernel type : gauss
- significance (min , max) : (3 , 5)

RED : 1000-2100 eV
 GREEN : 2100-4000 eV
 BLUE : 4000-10000 eV



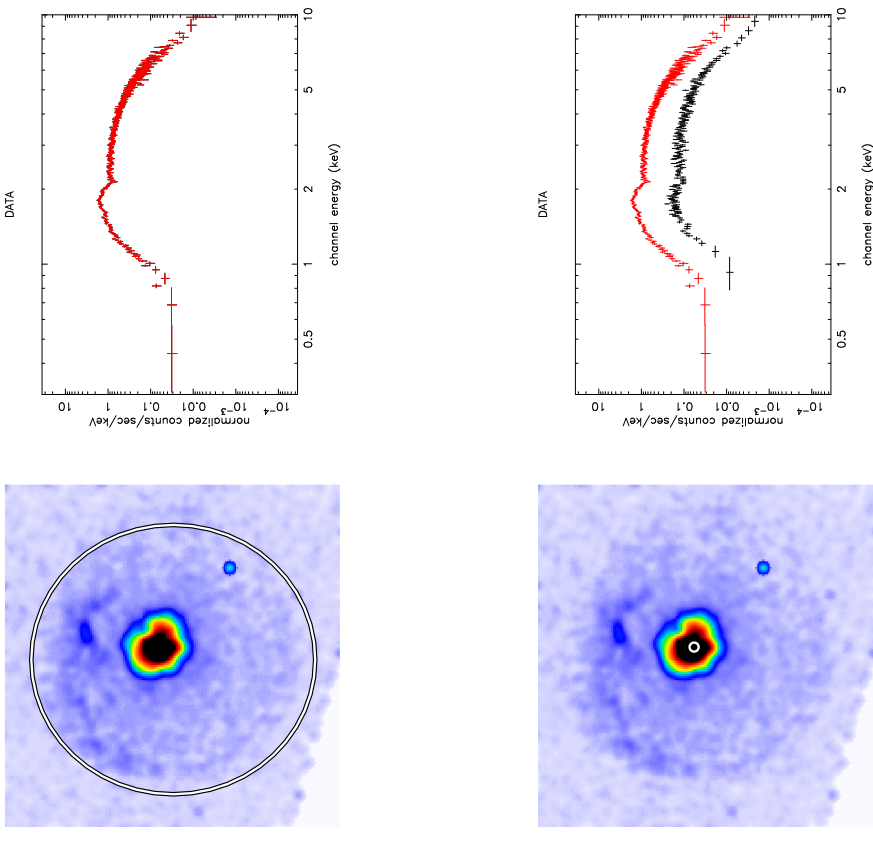
5 Chandra Spectrum

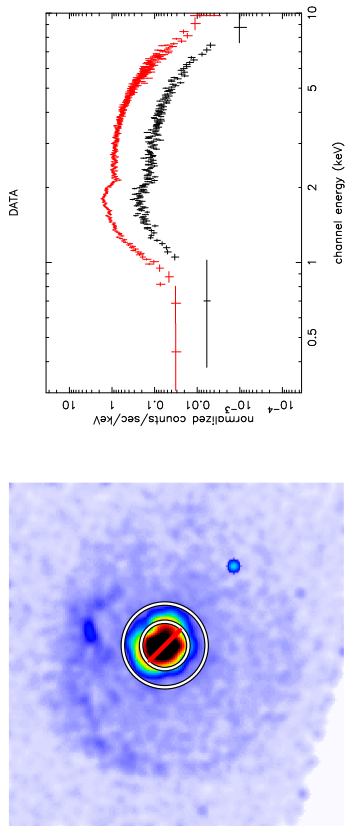
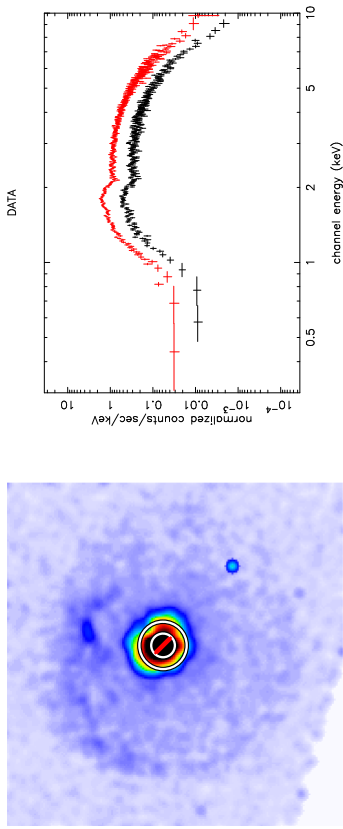
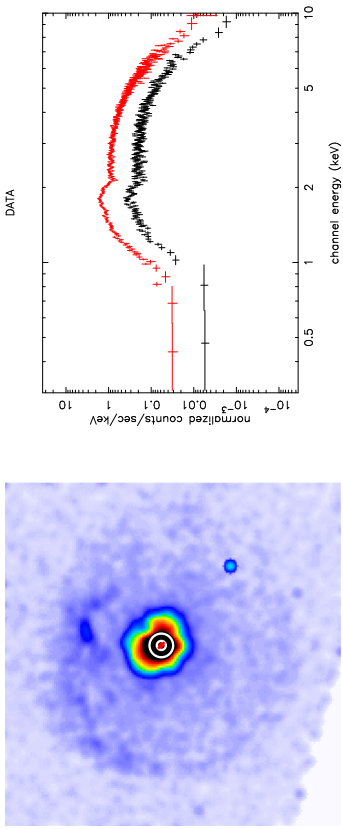
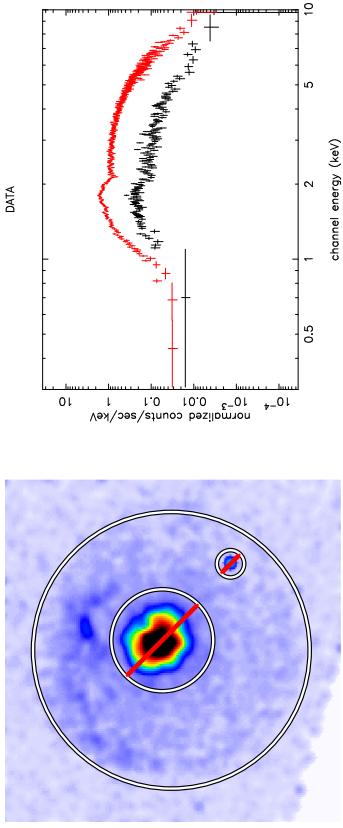
- Images show Regions used to extract spectra
- Regions with red strikes are excluded

5.1 ObsID 1433

- Background was subtracted from the region around the SNR.

Total

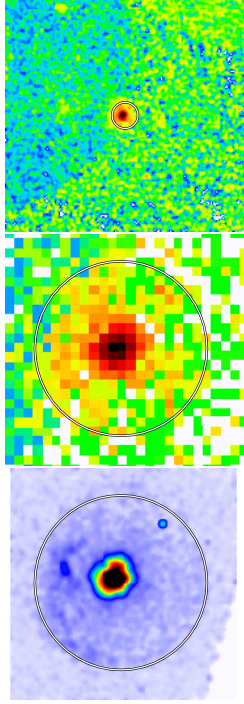




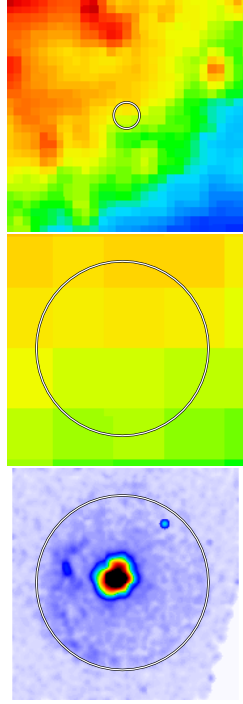
6 Images from Survey Missions

- Left : Chandra Image (0.3-10. keV)
- Center : Images from *SkyView* with the same scale
- right : Images from *SkyView* with a reduced scale

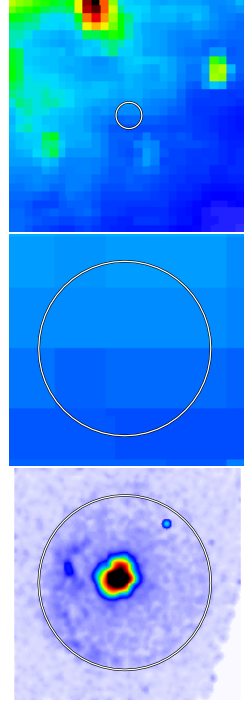
ROSAT PSPC (1.0 deg): X-ray (0.1-2.4 keV)



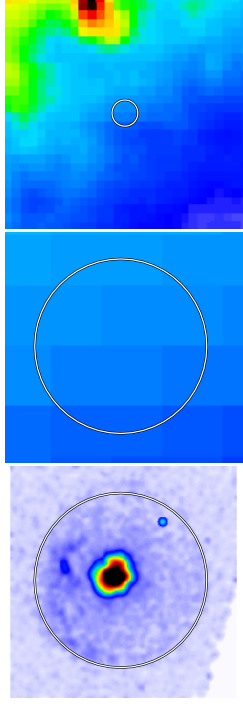
IRAS 12 micron: Infrared (12 micron)



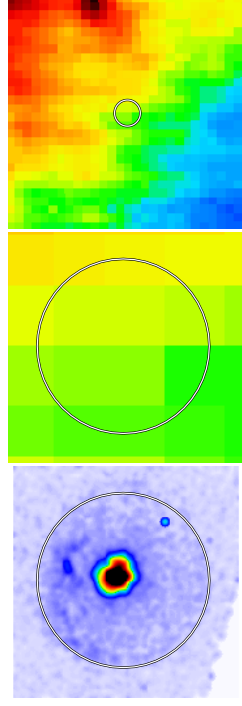
IRAS 25 micron: Infrared (25 micron)



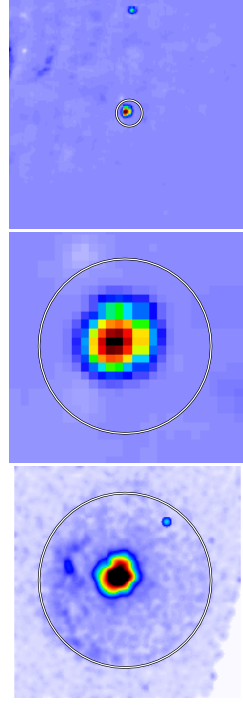
IRAS 60 micron: Infrared (60 micron)



IRAS 100 micron: Infrared (100 micron)



NRAO VLA Sky Survey (NVSS): Radio (1.4 GHz Continuum)



Digitized Sky Survey: Optical (J or E band images with a few exceptions)

