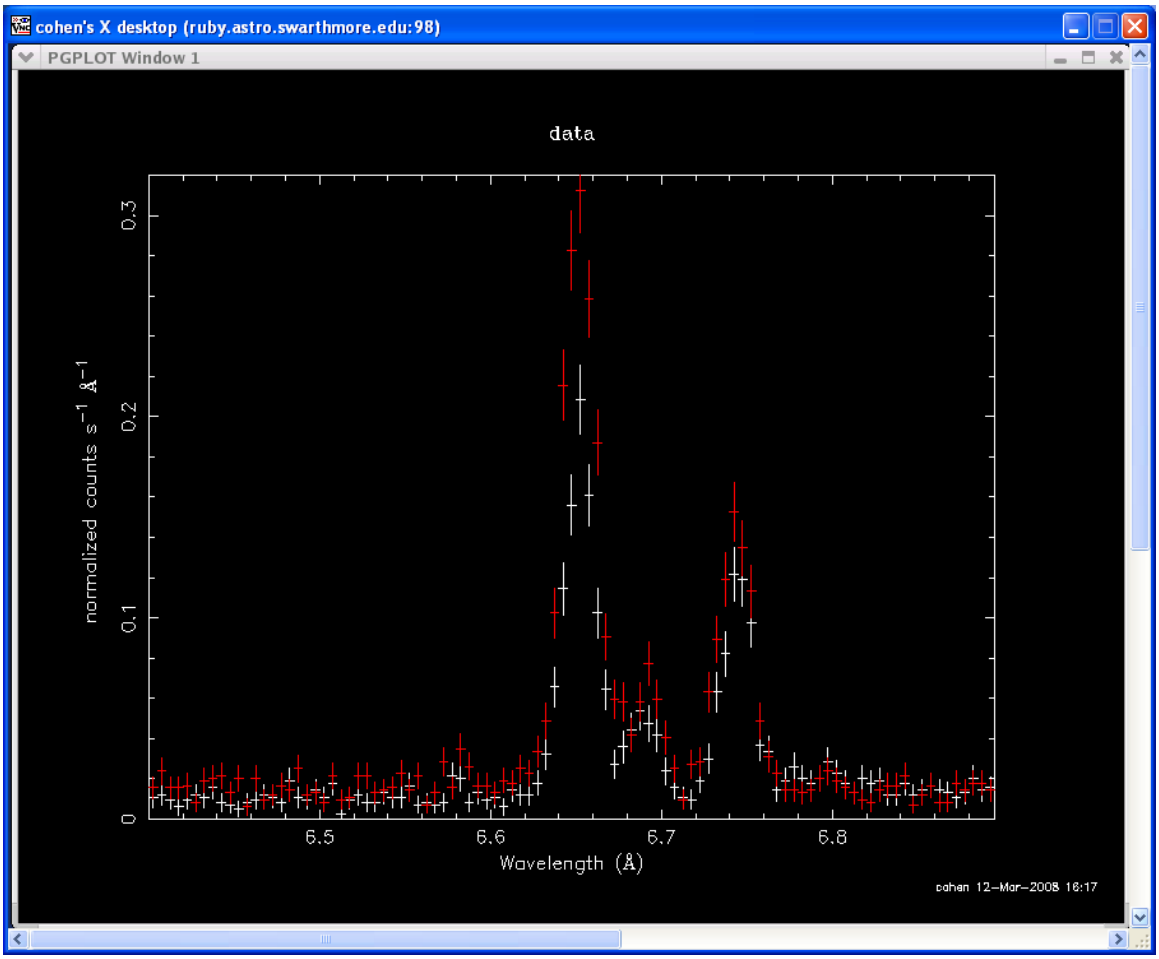
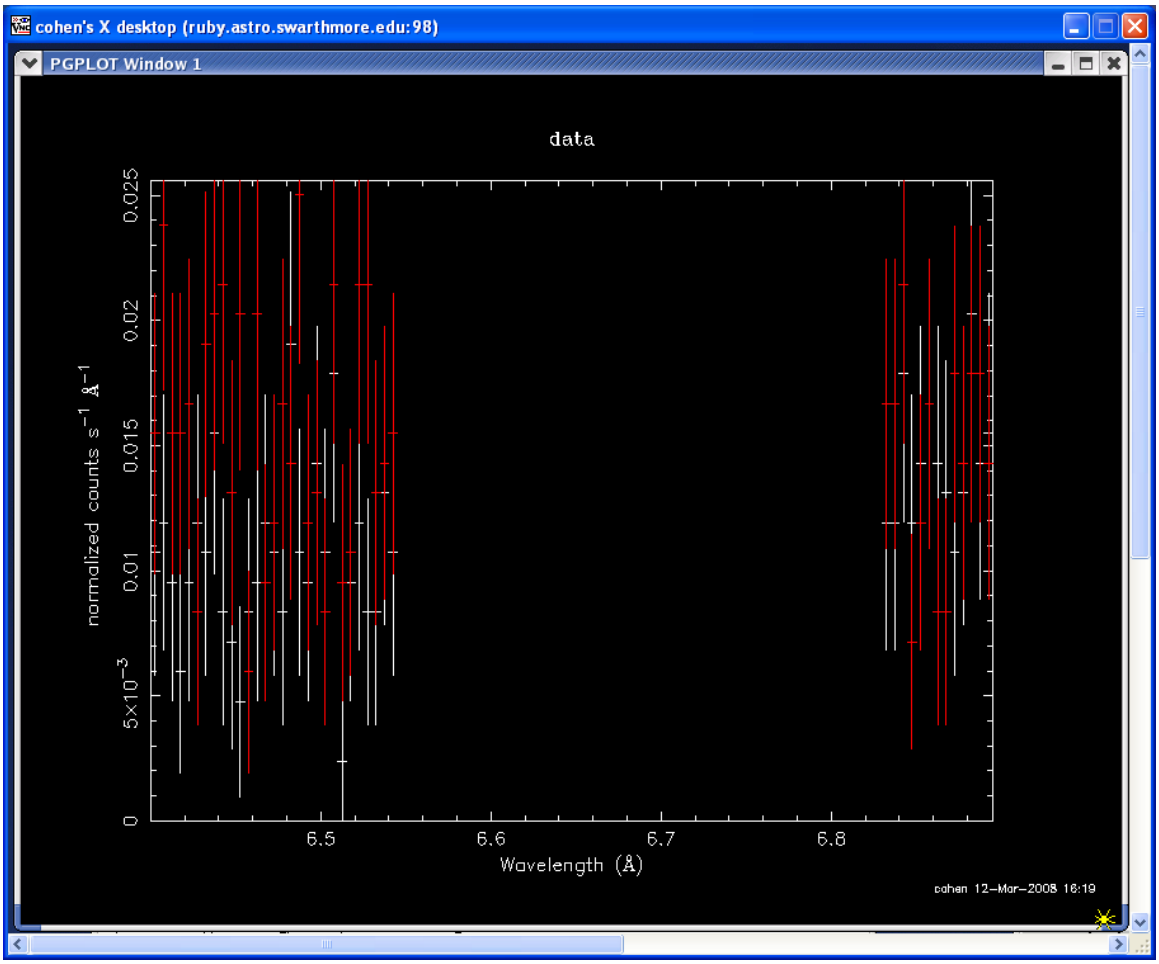
12March2008
D. Cohen

Analysis of fake Cen1 data from M. Gagne

Trial on Cen1A “hi-f”
Looking at Si XIII near 6.6 A



Fitting the continuum:



==========

Model powerlaw<1> Source No.: 1 Active/On

Model	Component	Parameter	Unit	Value		
par	comp					
1	1	powerlaw	PhoIndex	2.00000		frozen
2	1	powerlaw	norm	2.68168E-03	+/-	1.37286E-04

C-statistic = 89.87 using 84 PHA bins and 83 degrees of freedom.

Warning: Cstat statistic is only valid for Poisson data.

XSPEC12>goodness 1000 nosim
64.30% of realizations are < best fit statistic 89.87

XSPEC12>error 1. 2

Parameter	Confidence Range (1.0000000)		
2	0.002596	0.002770	(-0.000086,0.000088)

XSPEC12>error 2.7 2
Parameter Confidence Range (2.700000)
2 0.002541 0.002827 (-0.000140,0.000146)

Fitting the complex on 6.60 A to 6.80 A

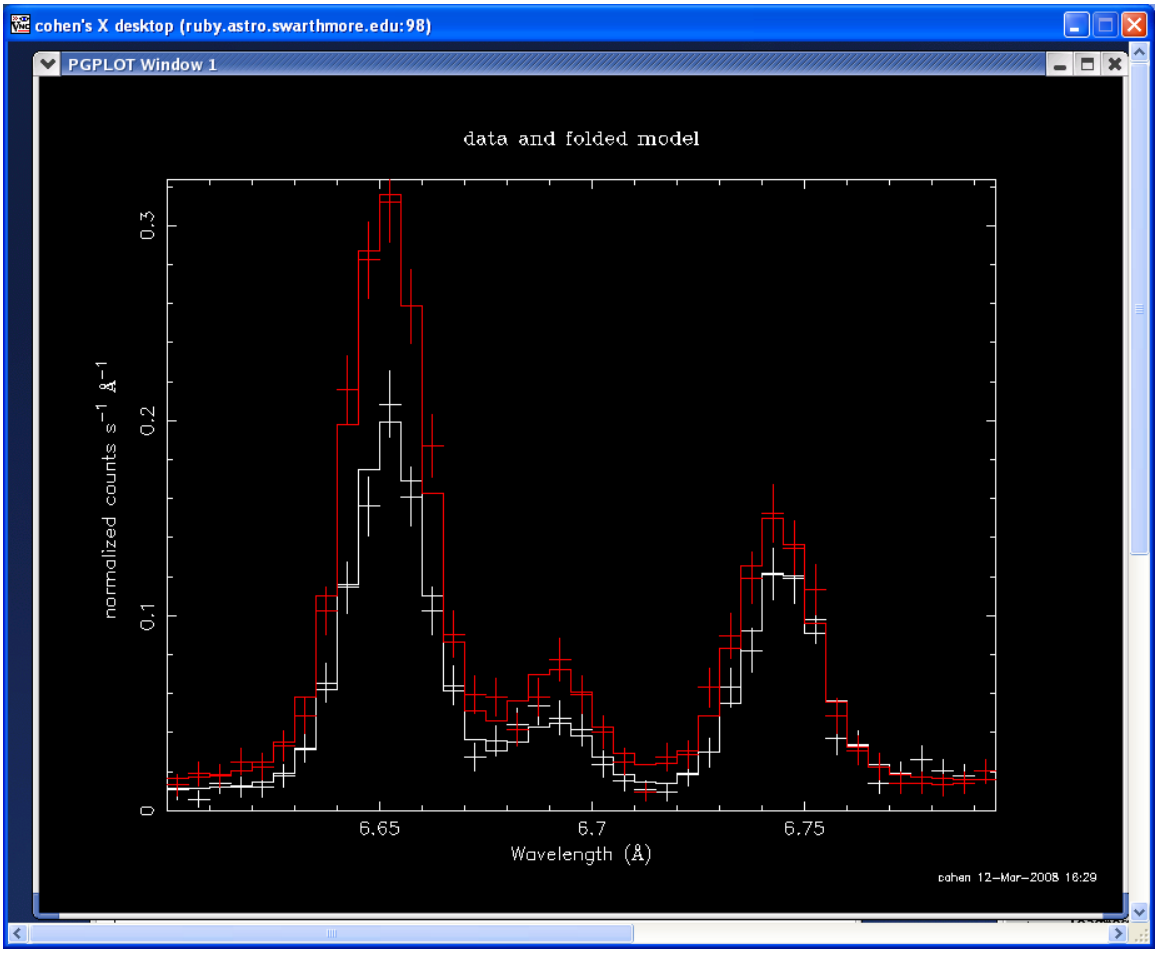
Here's the best-fit model:

```
========================================================================
Model hegauss<1> + powerlaw<2> Source No.: 1   Active/On
Model Model Component  Parameter  Unit     Value
 par  comp
   1    1   hegauss    R              2.38142      +/-  0.183360
   2    1   hegauss    G              0.625749     +/-  2.57300E-02
   3    1   hegauss    sigma_v    "km/s"   238.262      +/-  13.6375
   4    1   hegauss    delta_v    "km/s"   177.767      +/-  8.03231
   5    1   hegauss    Z              14.0000      frozen
   6    1   hegauss    norm           1.69170E-04  +/-  3.21996E-06
   7    2   powerlaw   PhoIndex         2.00000      frozen
   8    2   powerlaw   norm           2.68000E-03  frozen
```

C-statistic = 73.14 using 78 PHA bins and 73 degrees of freedom.

Warning: Cstat statistic is only valid for Poisson data.

XSPEC12>plot
XSPEC12>goodness 1000 nosim
35.00% of realizations are < best fit statistic 73.14



Here are the 68%, 90%, and 95% confidence limits on R=f/i
Note that Porquet's R_o = 2.3 for Si XIII

XSPEC12>error 1. 1
Parameter Confidence Range (1.0000000)
1 2.209897 2.573289 (-0.171533,0.191860)
XSPEC12>error 2.7 1
Parameter Confidence Range (2.700000)
1 2.092913 2.709721 (-0.288516,0.328291)
XSPEC12>error 4. 1
Parameter Confidence Range (4.000000)
1 2.036780 2.789282 (-0.344650,0.407852)