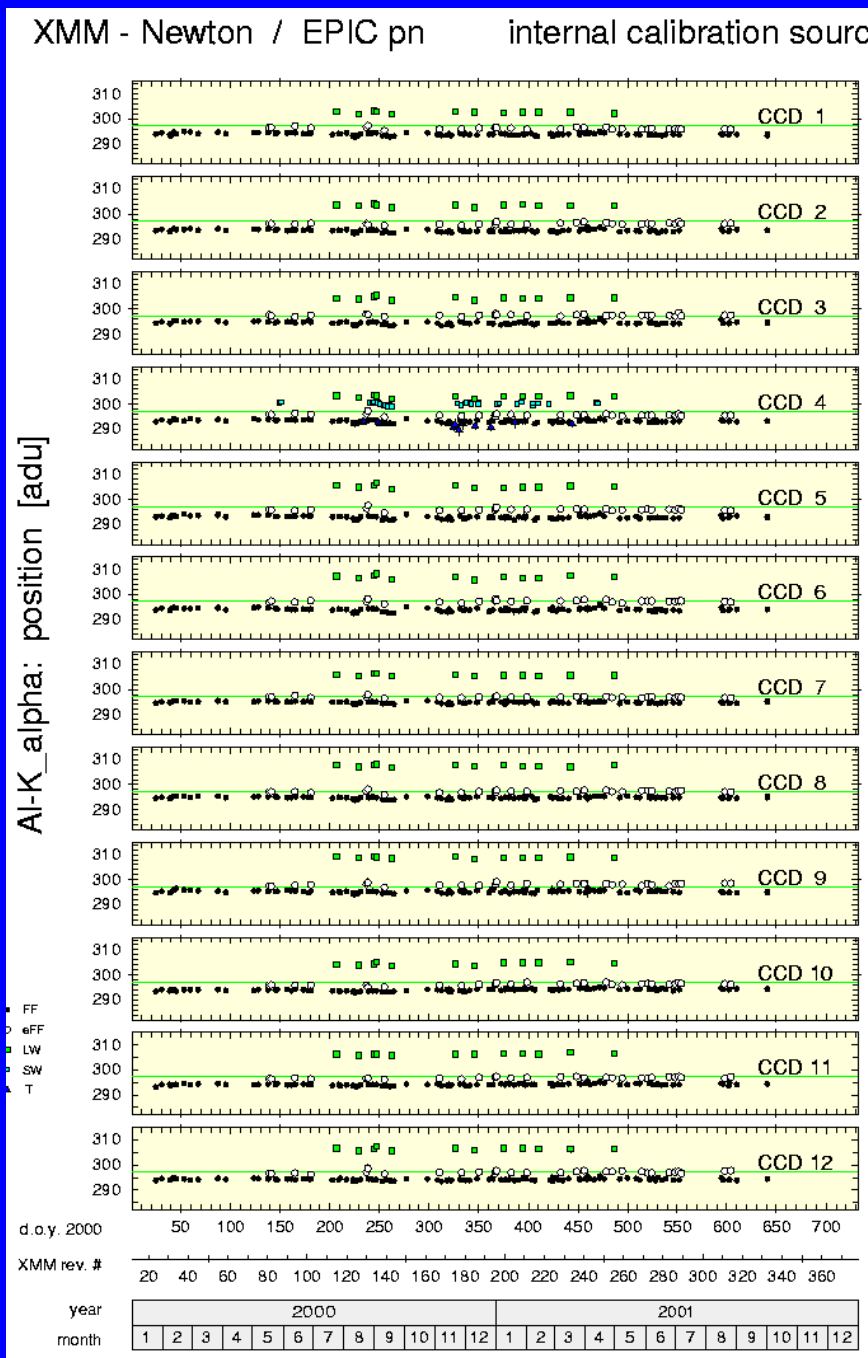
The EPIC-PN response matrix

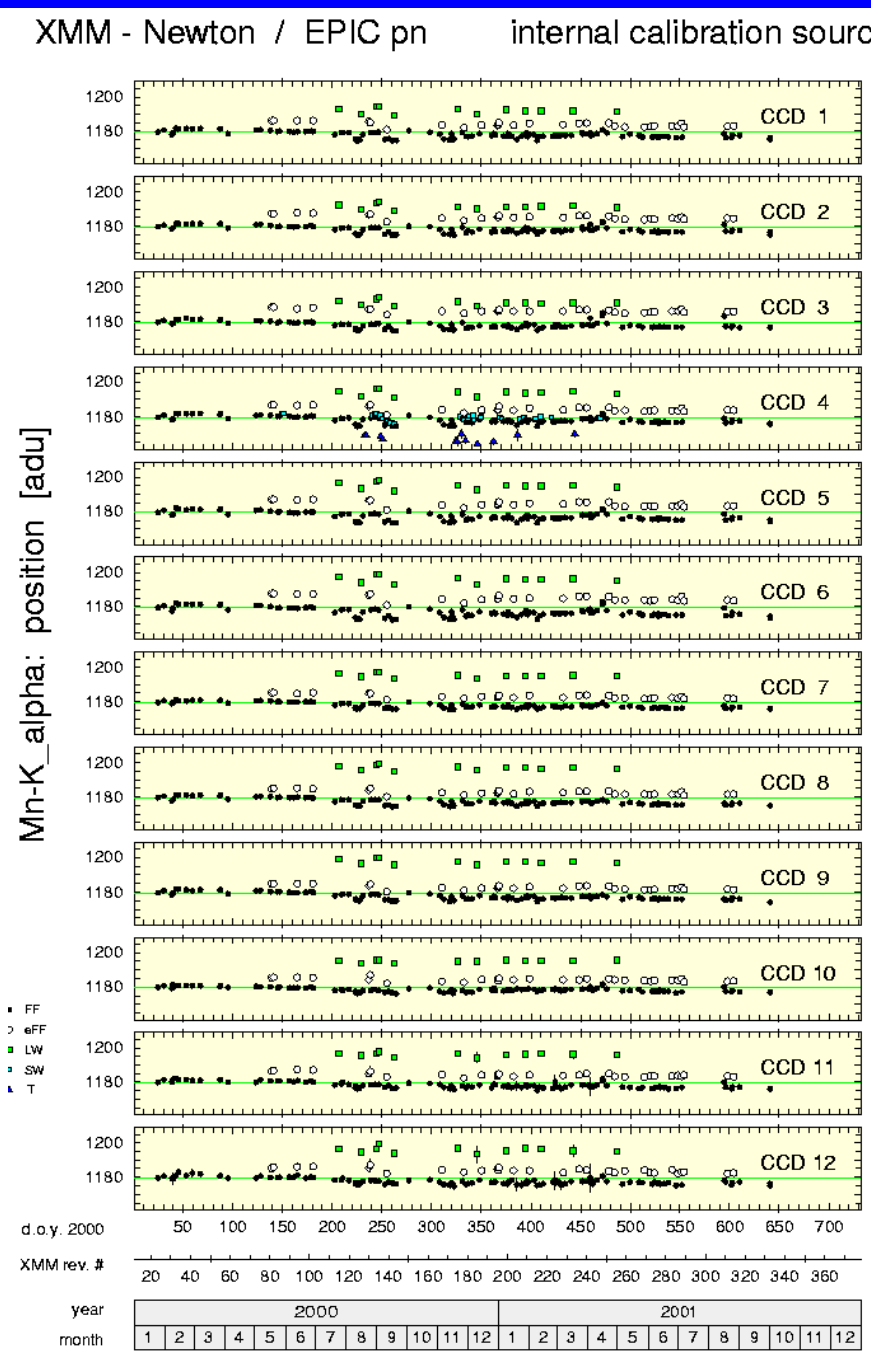
Extended Fullframe mode

-- energy scale
-- pattern statistics

Frank Haberl, MPE Garching

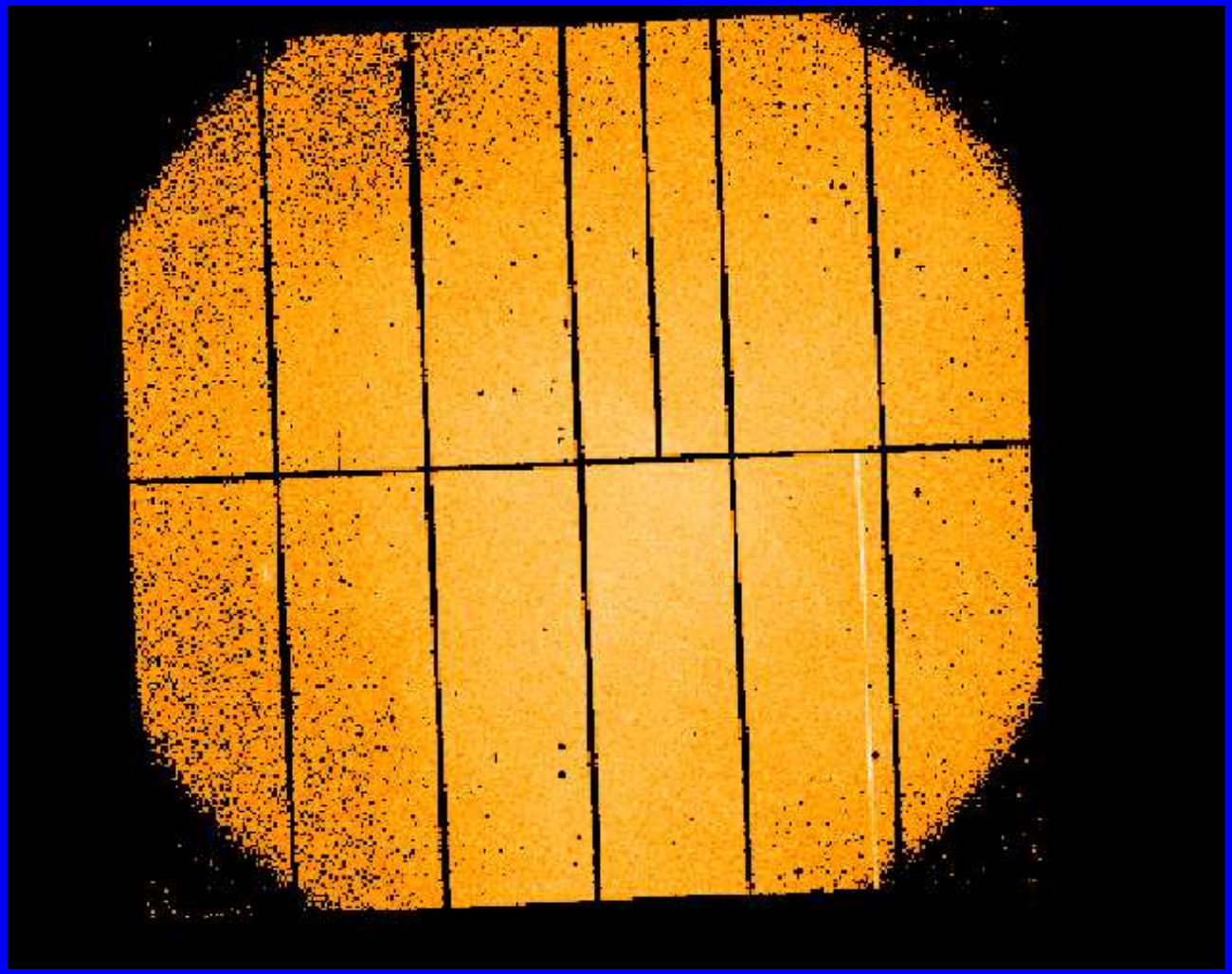
EPIC Cal meeting, Milano, 6.-8. November 2001


XMM - Newton / EPIC pn internal calibration source
Al-K_alpha: position [adu]
CCD 1
CCD 2
CCD 3
CCD 4
CCD 5
CCD 6
CCD 7
CCD 8
CCD 9
CCD 10
CCD 11
CCD 12
FF
eFF
LW
SW
T
d.o.y. 2000
XMM rev. #
year
month
2000
2001


XMM - Newton / EPIC pn internal calibration source
Mn-K_alpha: position [adu]
CCD 1
CCD 2
CCD 3
CCD 4
CCD 5
CCD 6
CCD 7
CCD 8
CCD 9
CCD 10
CCD 11
CCD 12
FF
eFF
LW
SW
T
d.o.y. 2000
XMM rev. #
year
month
2000
2001

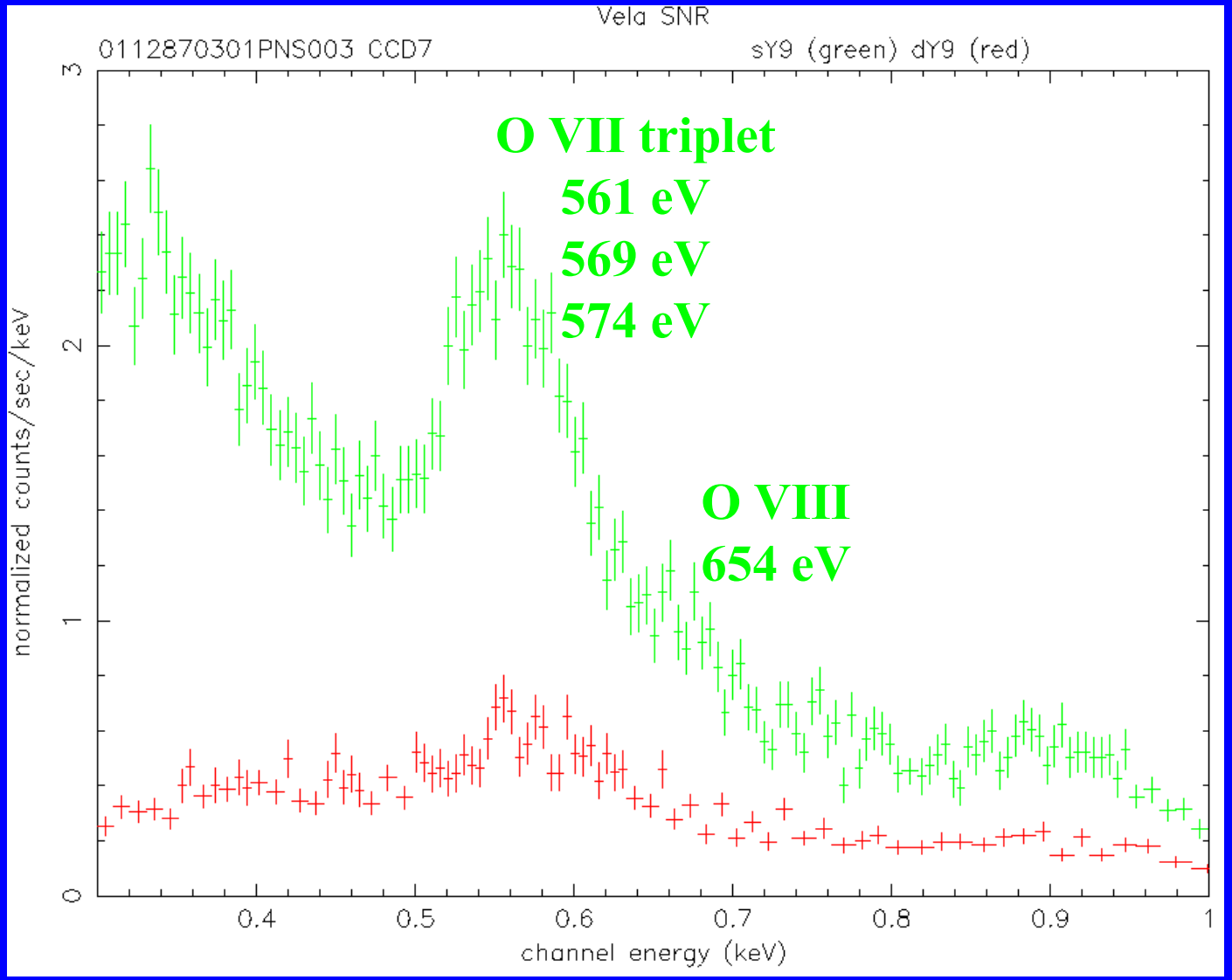
Vela SNR

Extended Fullframe mode - image 0.3-1.0 keV



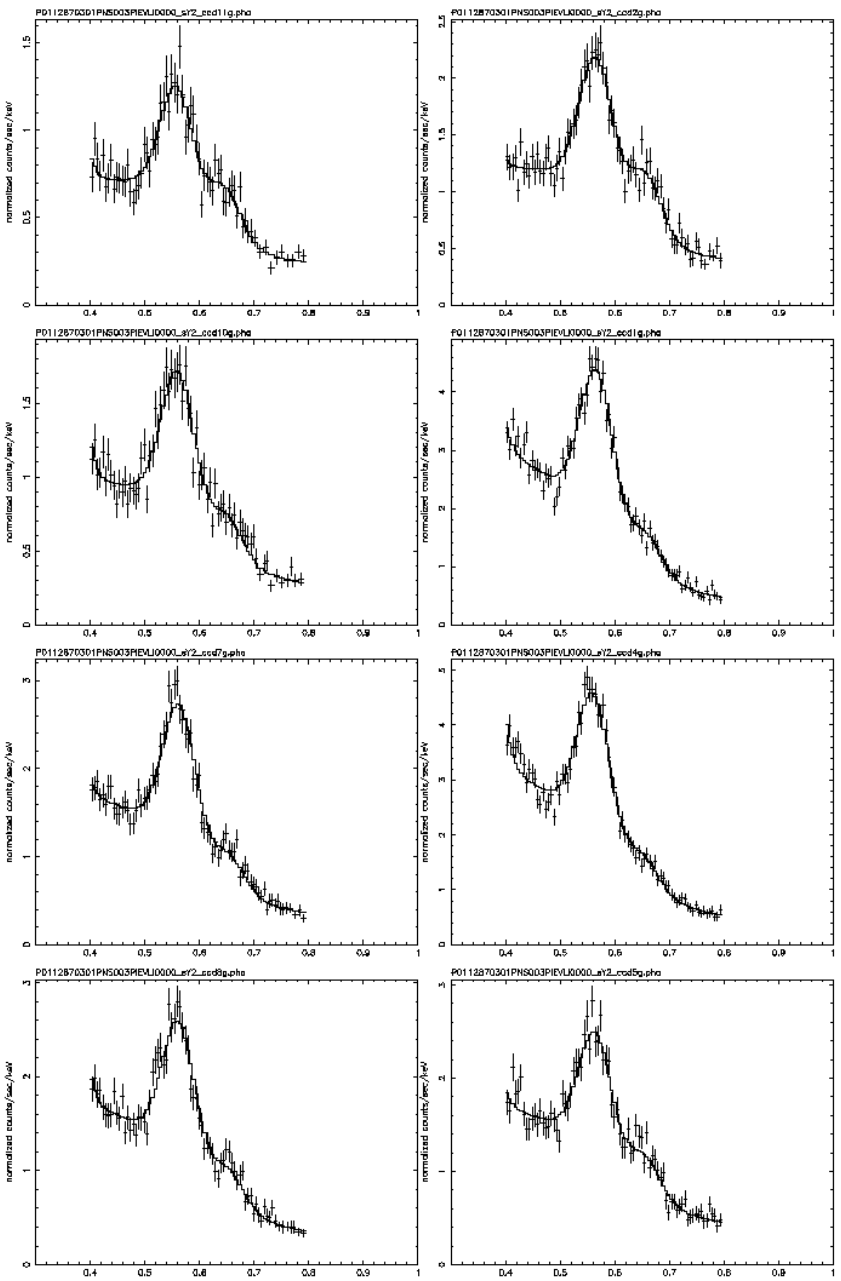
Vela SNR

Extended Fullframe mode - low energy spectrum



Model fit:
Powerlaw
Line1: 330eV fixed
Line2: free
Line3: Line2*1.15

50eV MEKAL:
Expected Line2:
566 eV

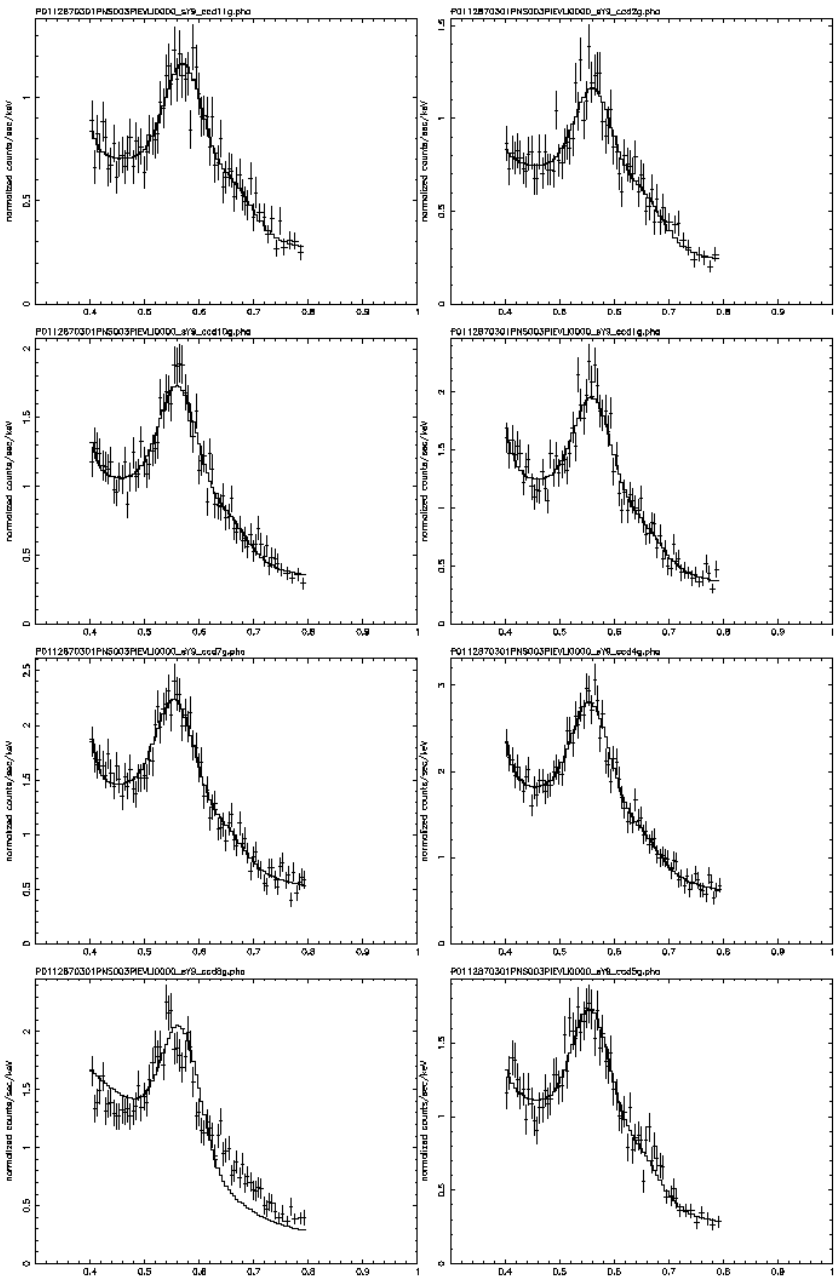


Vela SNR

Extended Fullframe mode low energy spectrum

CCD lines (RAWY) 20-79

inner 8 CCDs
average 565.6 eV

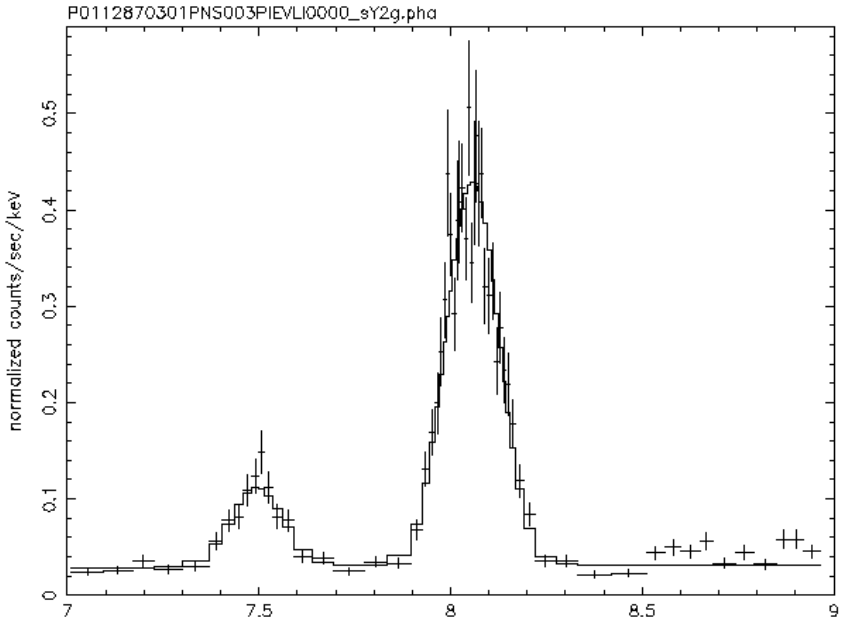


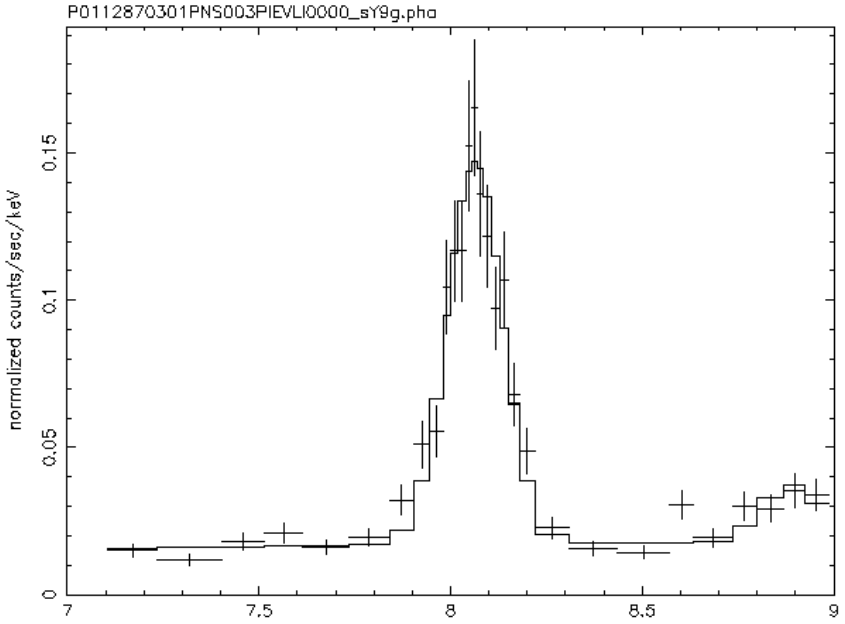
Vela SNR

Extended Fullframe mode low energy spectrum

CCD lines (RAWY) 180-199

inner 8 CCDs
average 565.1 eV





Vela SNR

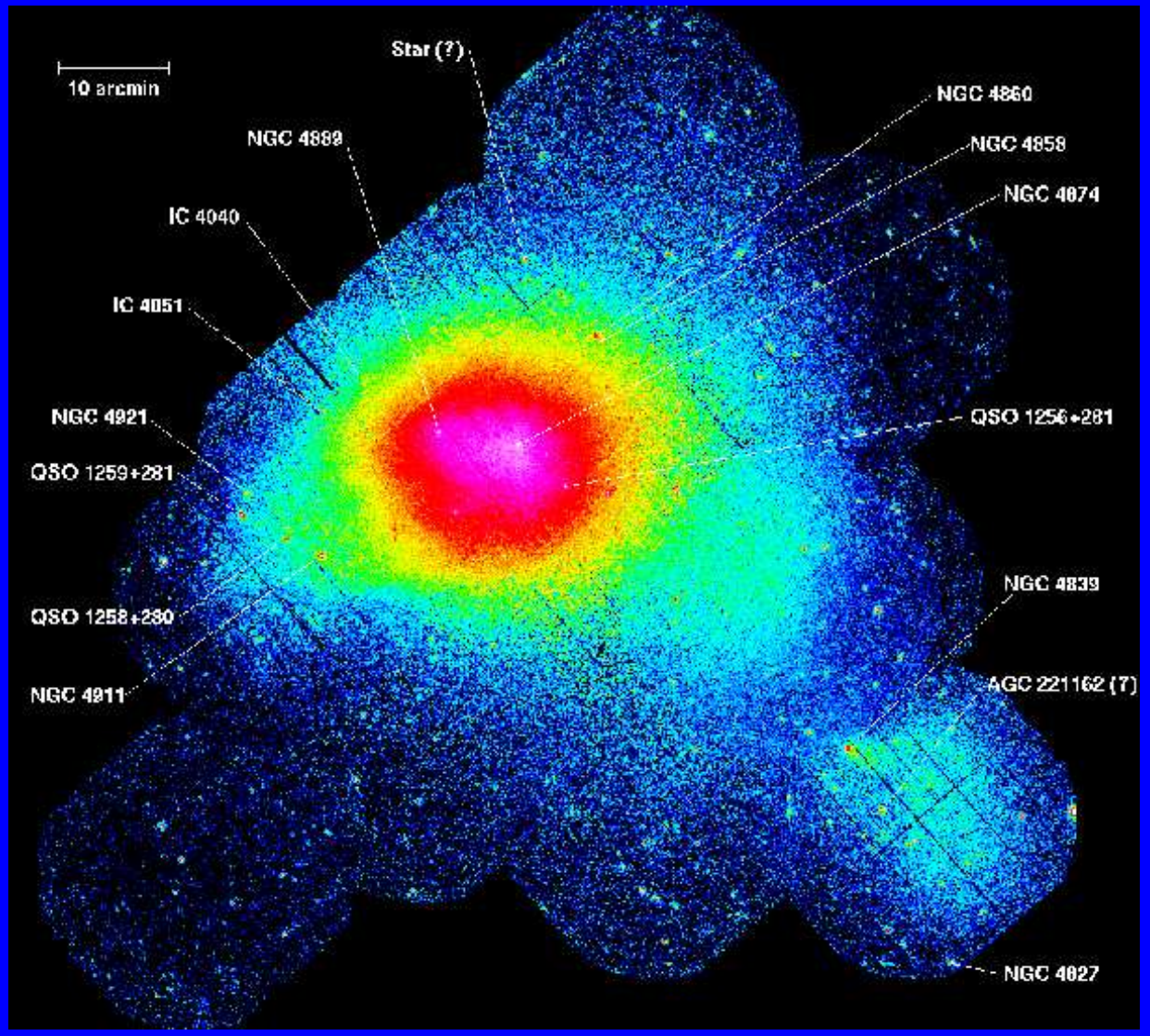
Extended Fullframe mode
internal background line
Cu Kα 8047 eV

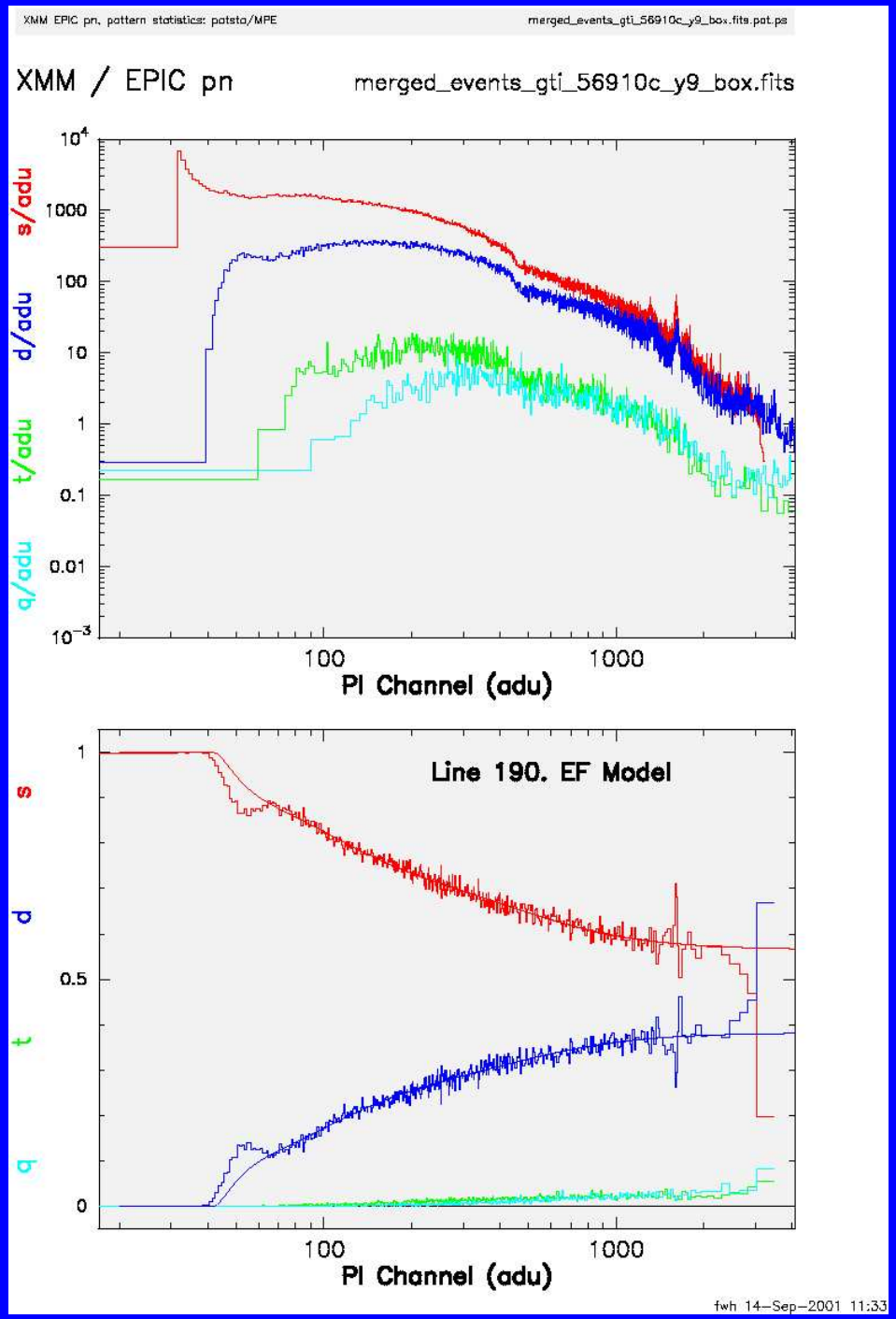
CCD lines 20-79:
8048 +- 5 eV

CCD lines 180-199:
8051 +- 4 eV

Coma Cluster

Extended Fullframe mode

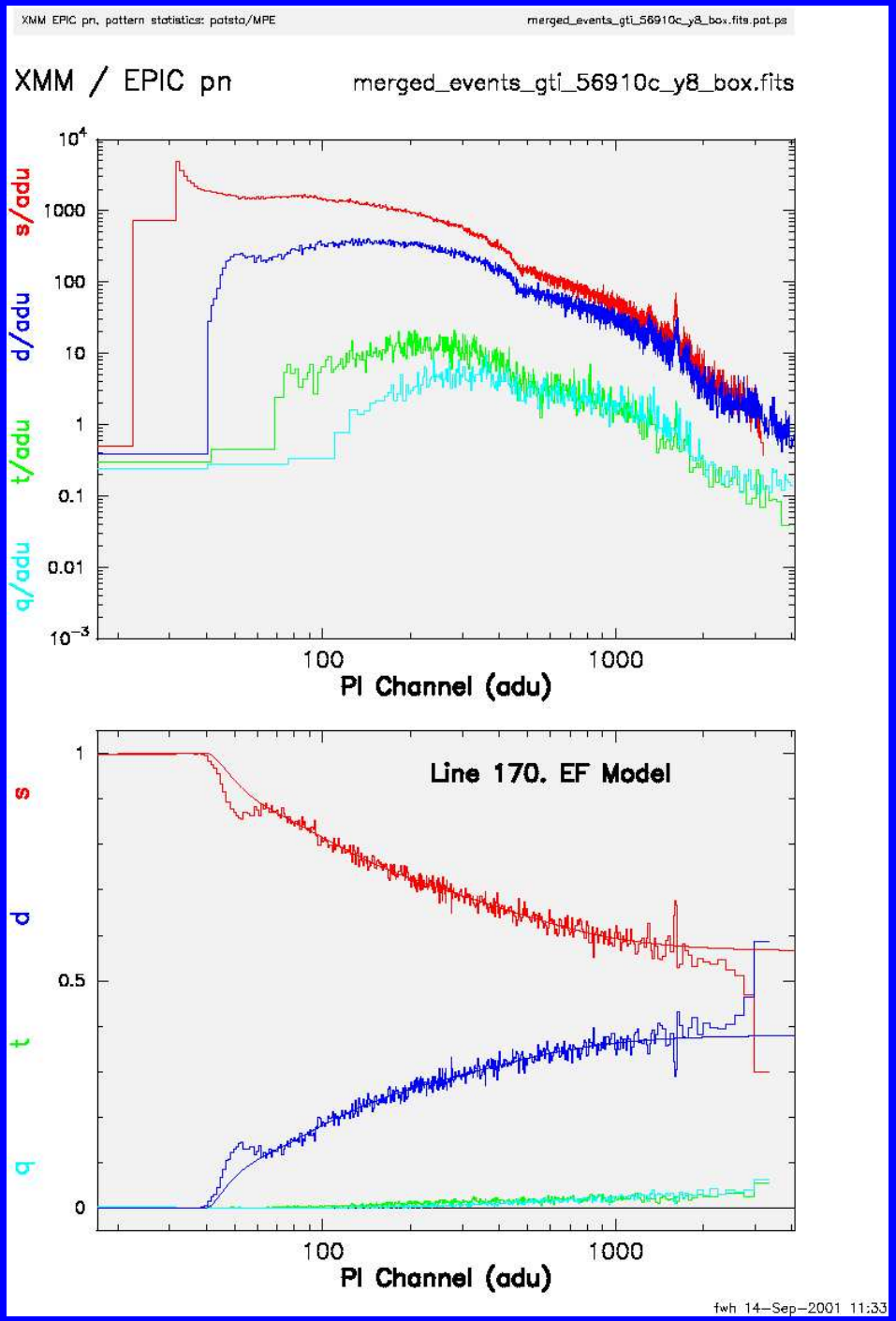




Coma Cluster

Pattern statistics

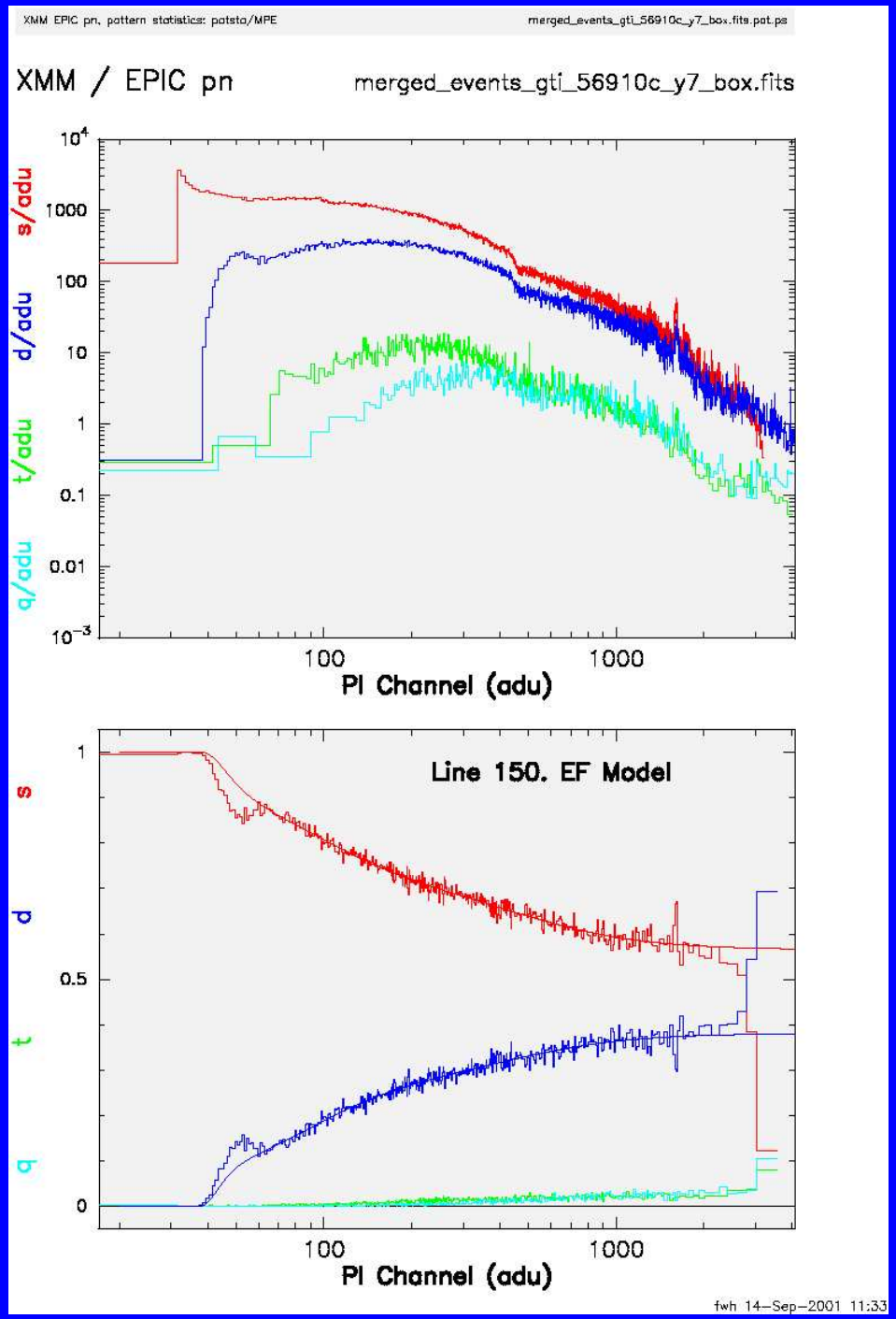
CCD lines 180-199 (Y9)



Coma Cluster

Pattern statistics

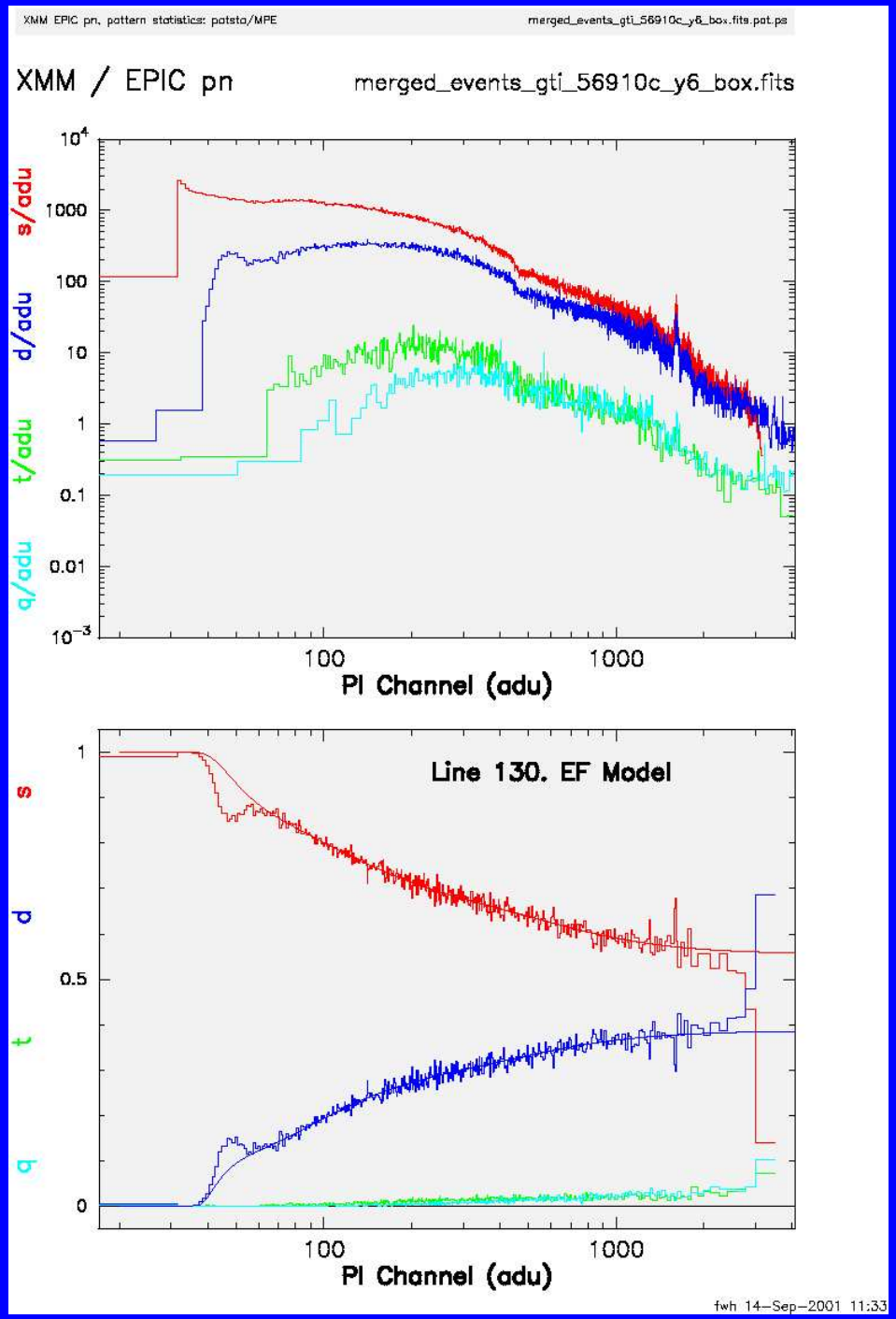
CCD lines 160-179 (Y8)



Coma Cluster

Pattern statistics

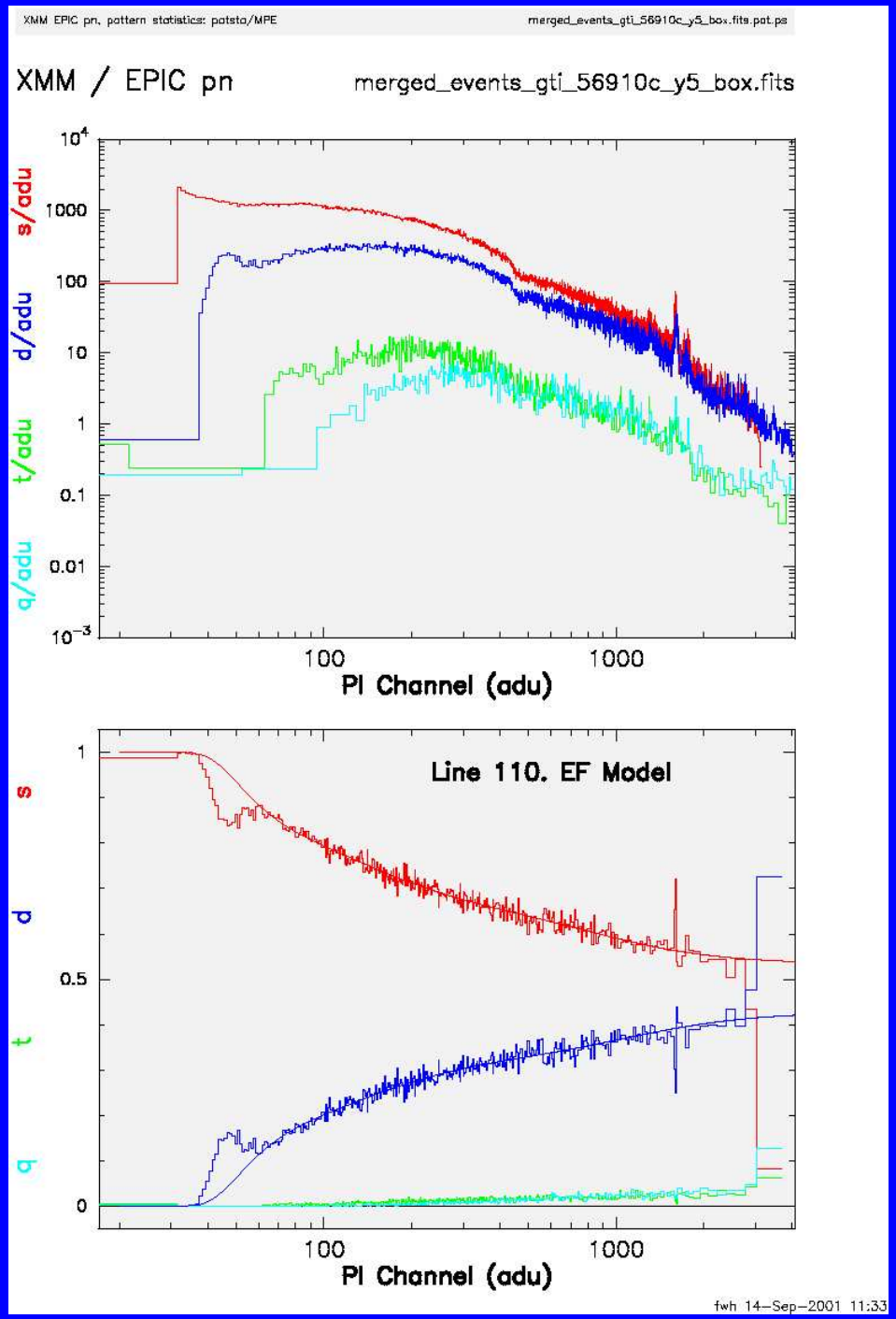
CCD lines 140-159 (Y7)



Coma Cluster

Pattern statistics

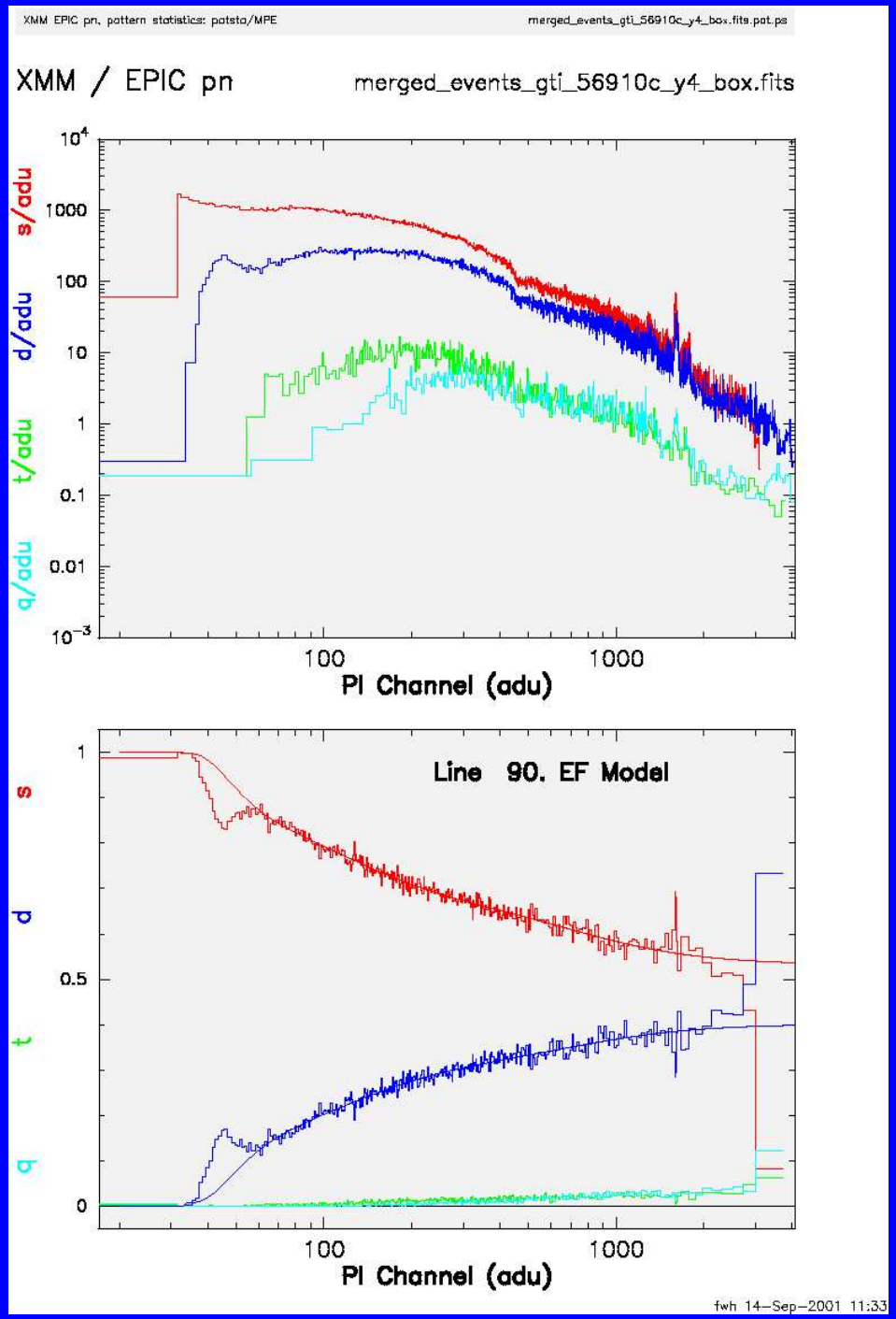
CCD lines 120-139 (Y6)



Coma Cluster

Pattern statistics

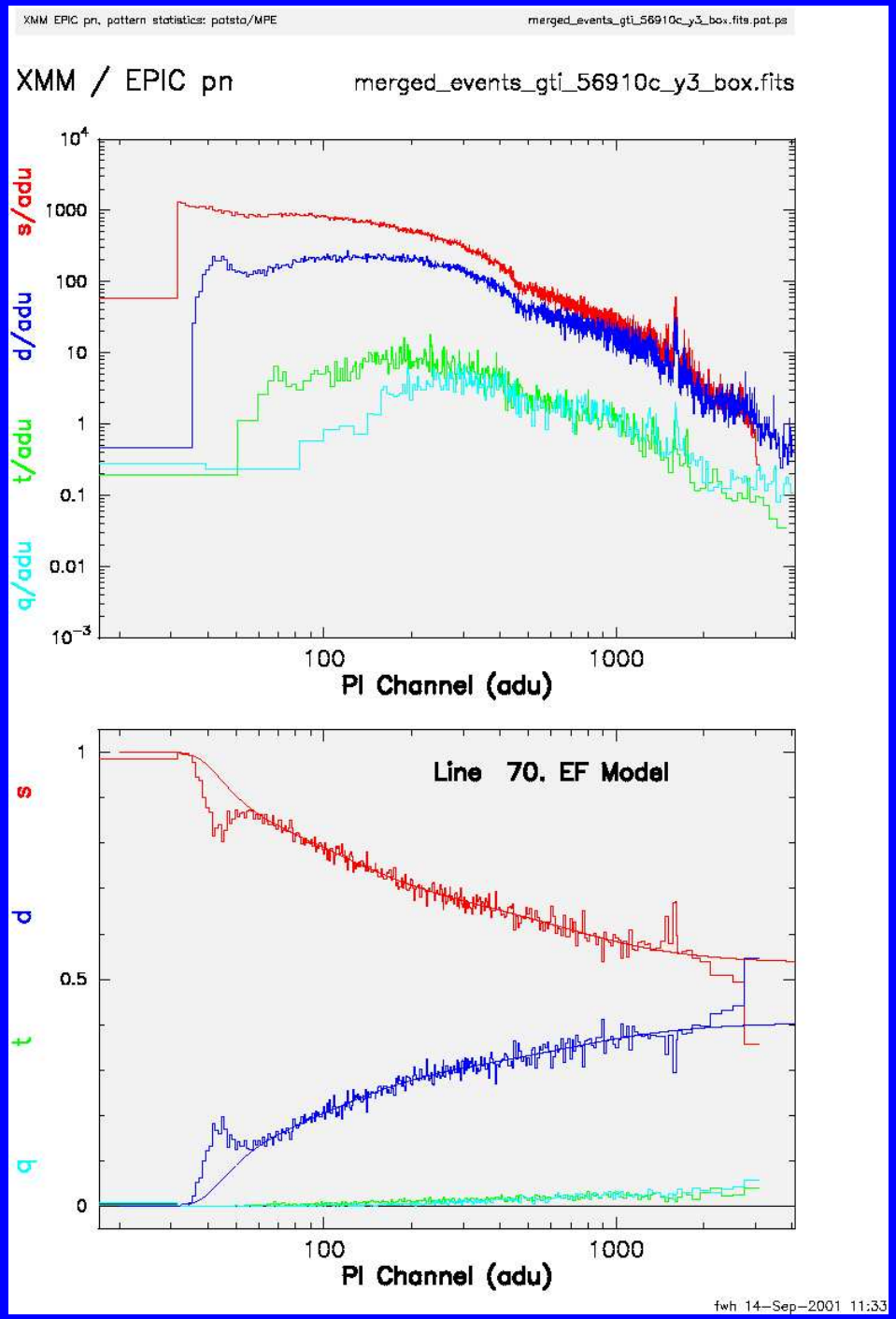
CCD lines 100-119 (Y5)



Coma Cluster

Pattern statistics

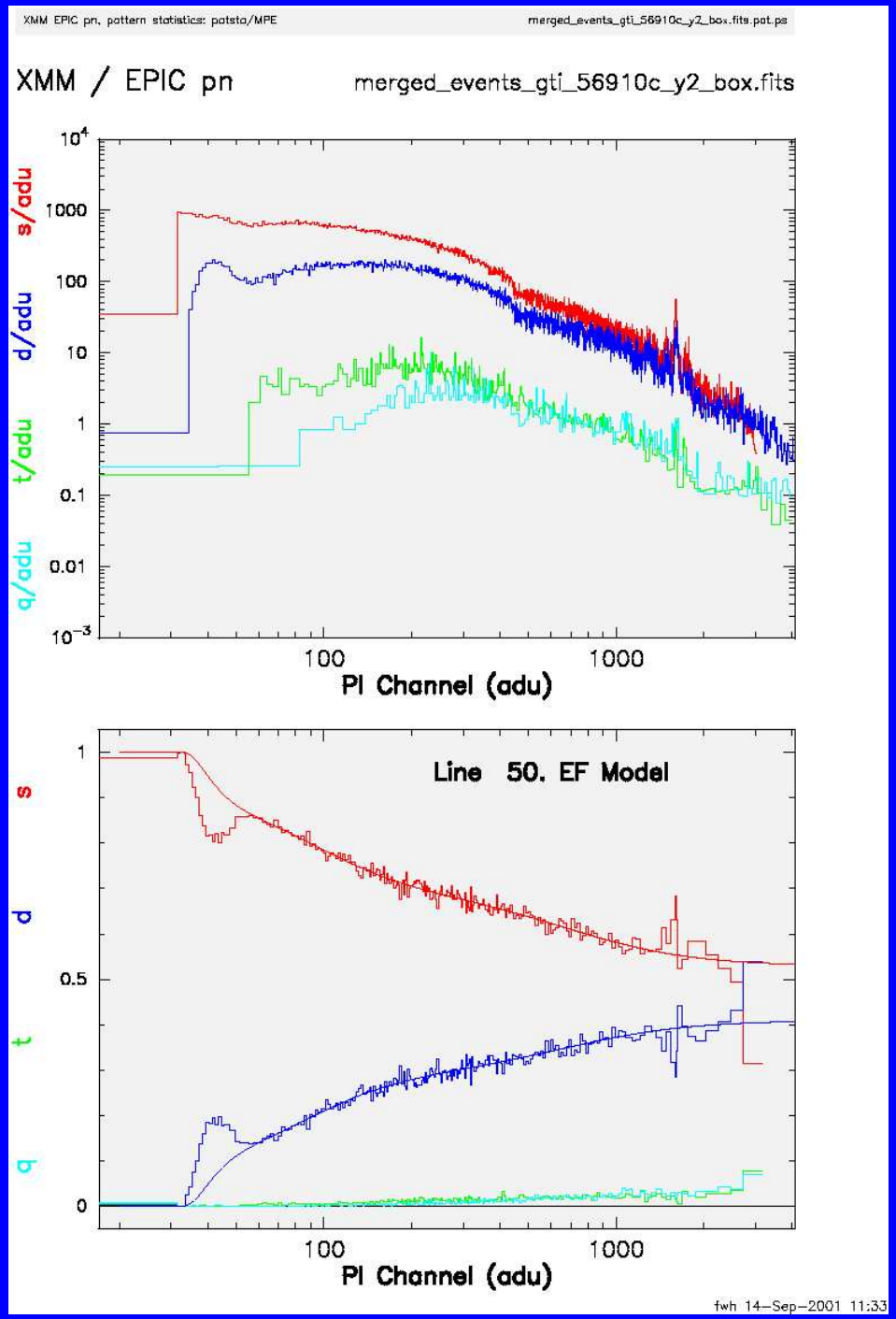
CCD lines 80-99 (Y4)



Coma Cluster

Pattern statistics

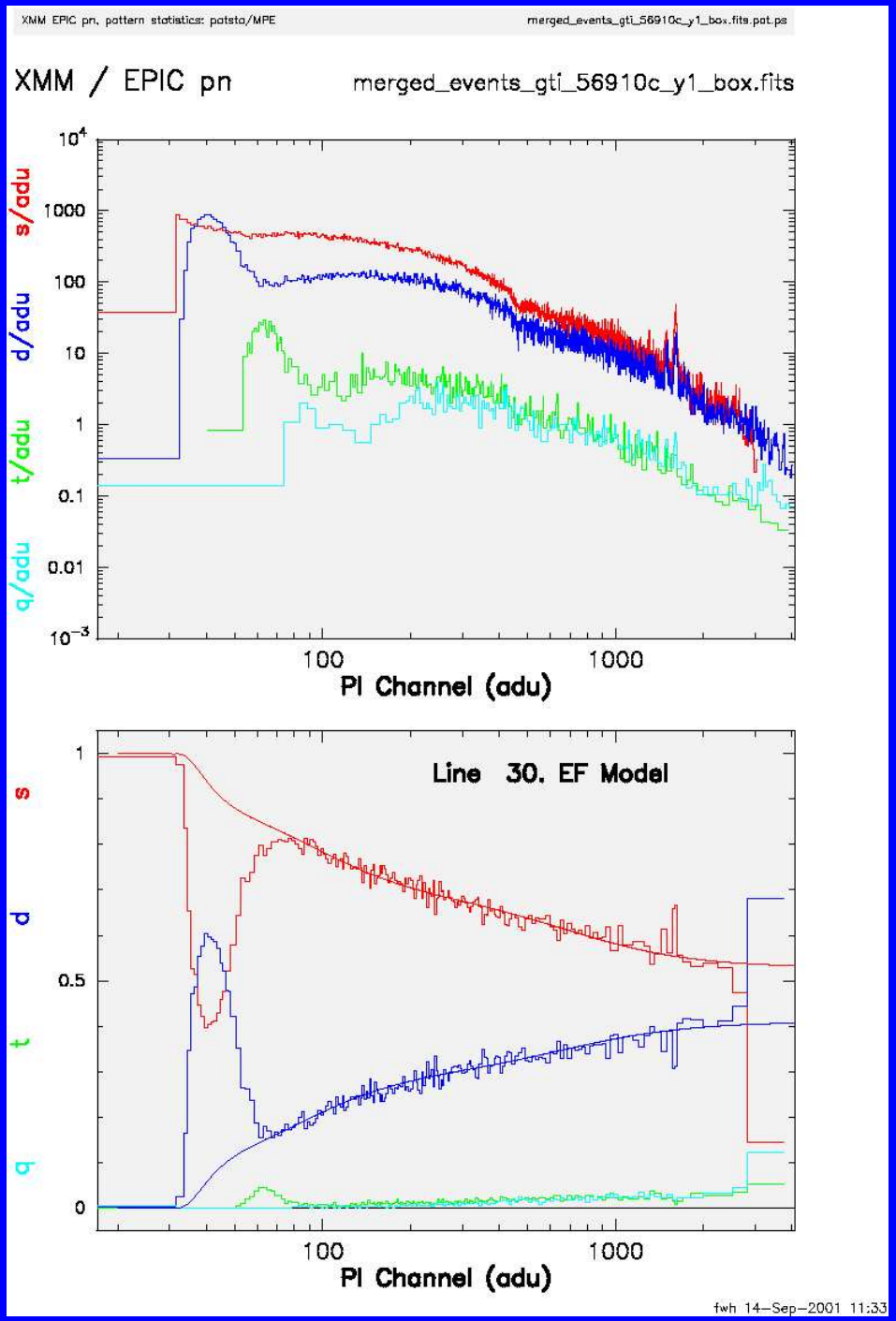
CCD lines 60-79 (Y3)



Coma Cluster

Pattern statistics

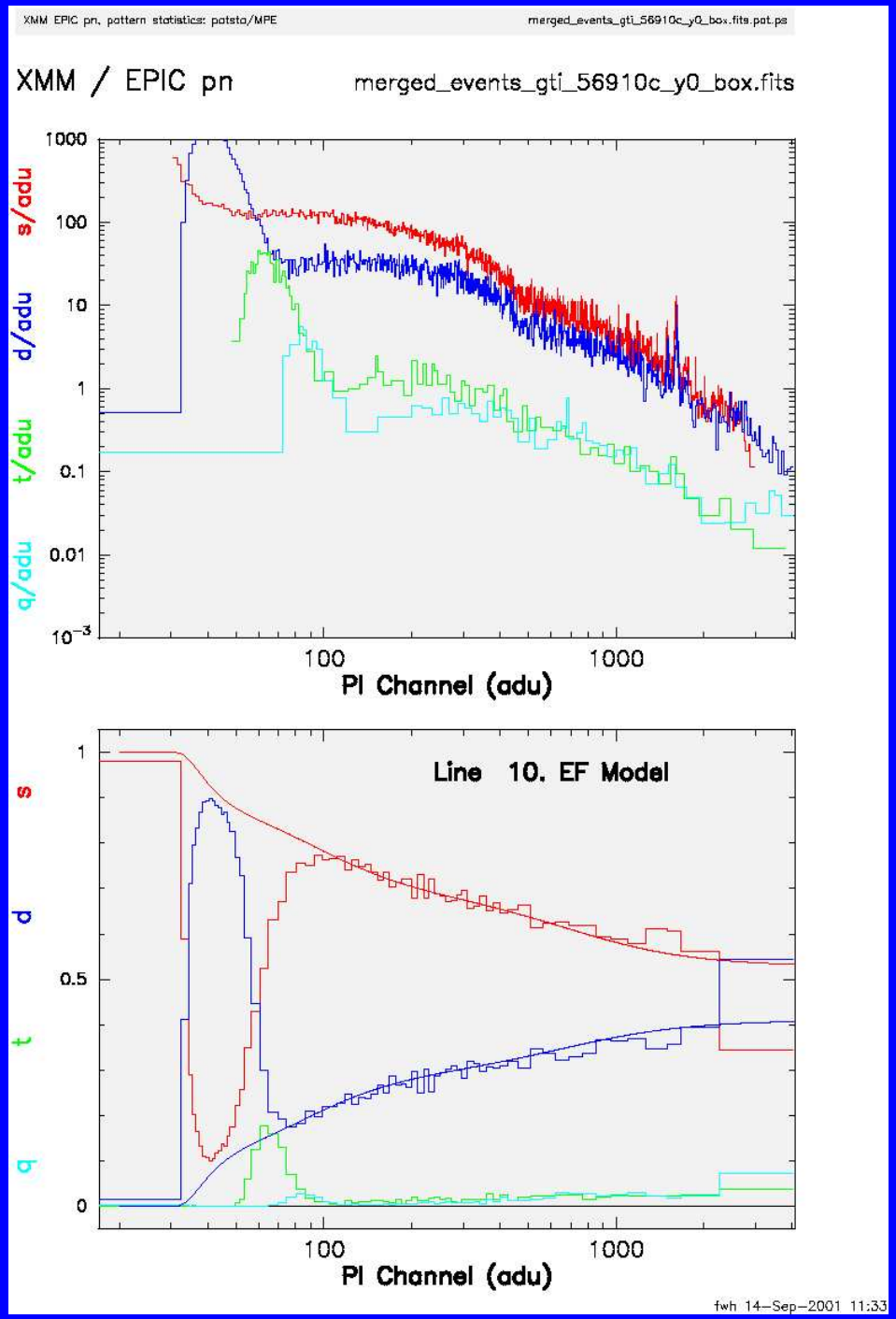
CCD lines 40-59 (Y2)



Coma Cluster

Pattern statistics

CCD lines 20-39 (Y1)

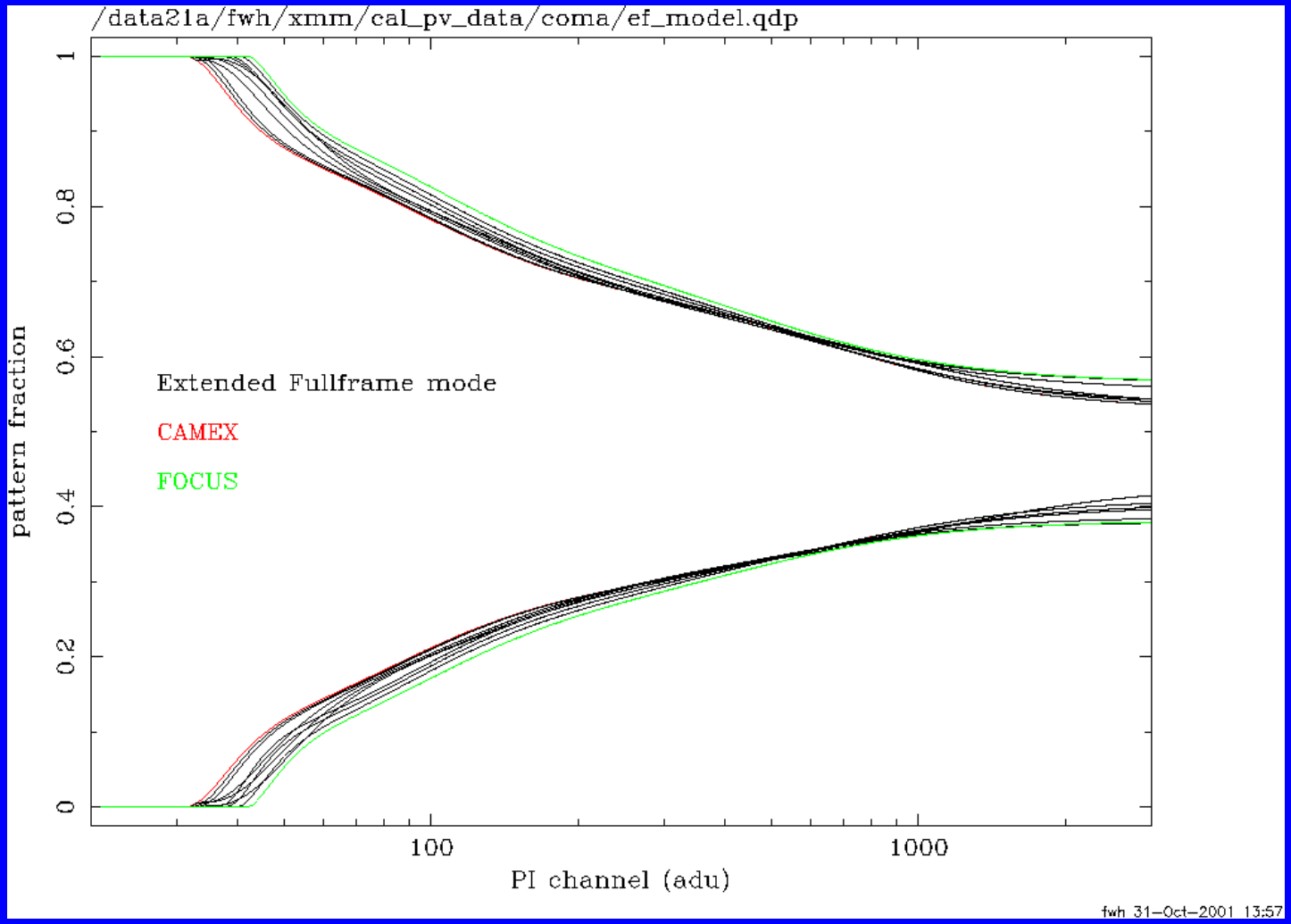


Coma Cluster

Pattern statistics

CCD lines 0-19 (Y0)

Extended Fullframe mode
Pattern statistics



Extended Fullframe mode
To do

- Vela SNR, redo fits including 3 lines for O VII triplet
- Analyse spectra with other lines (Abell 496)