ACIS background

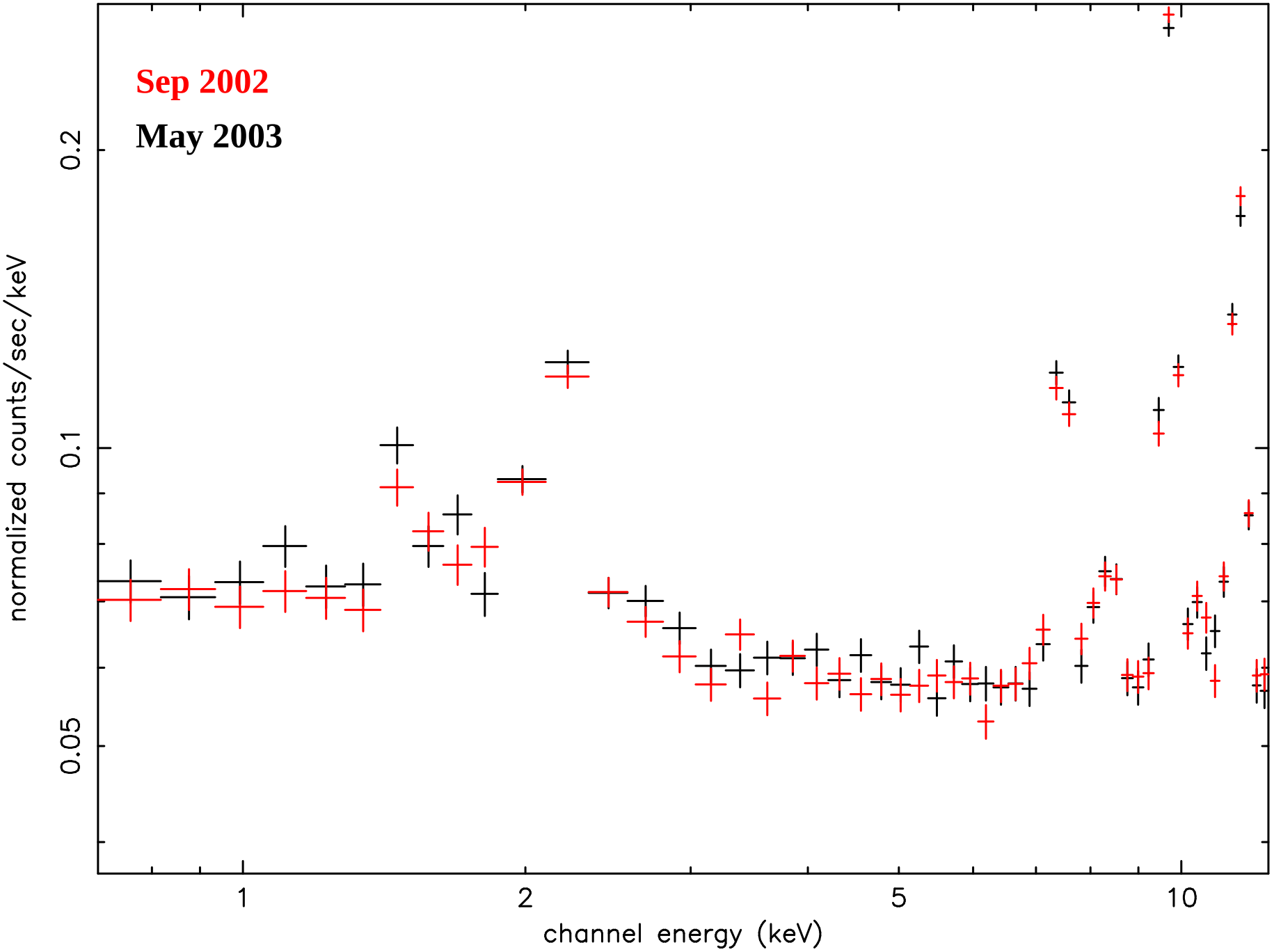
Maxim Markevitch

October 2003

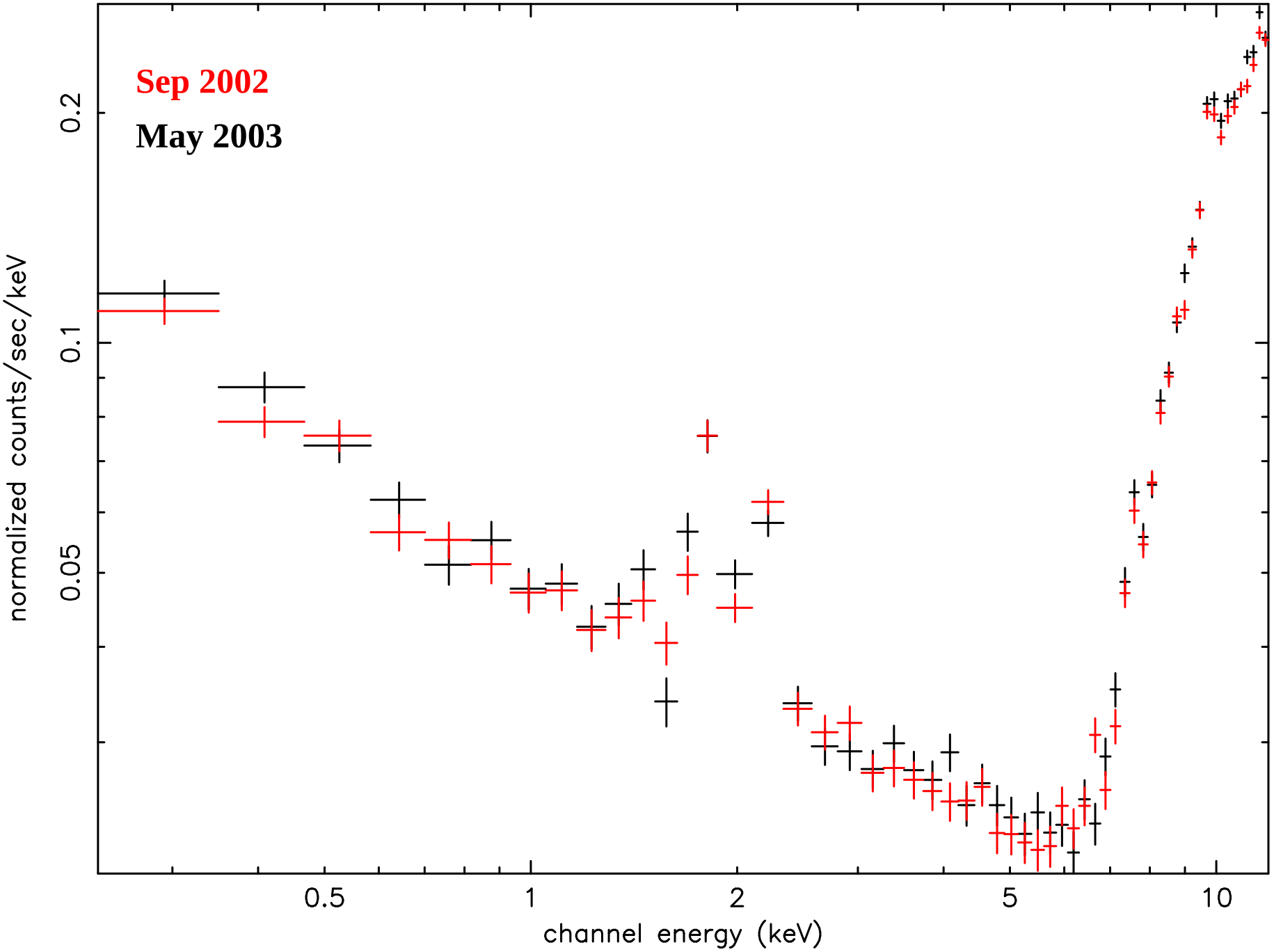
I. Update on quiescent background

- **Have two 50 ks observations with ACIS stowed (no sky)**
- **Another 50 ks piece coming this week**

ACIS-stowed background: FI chips

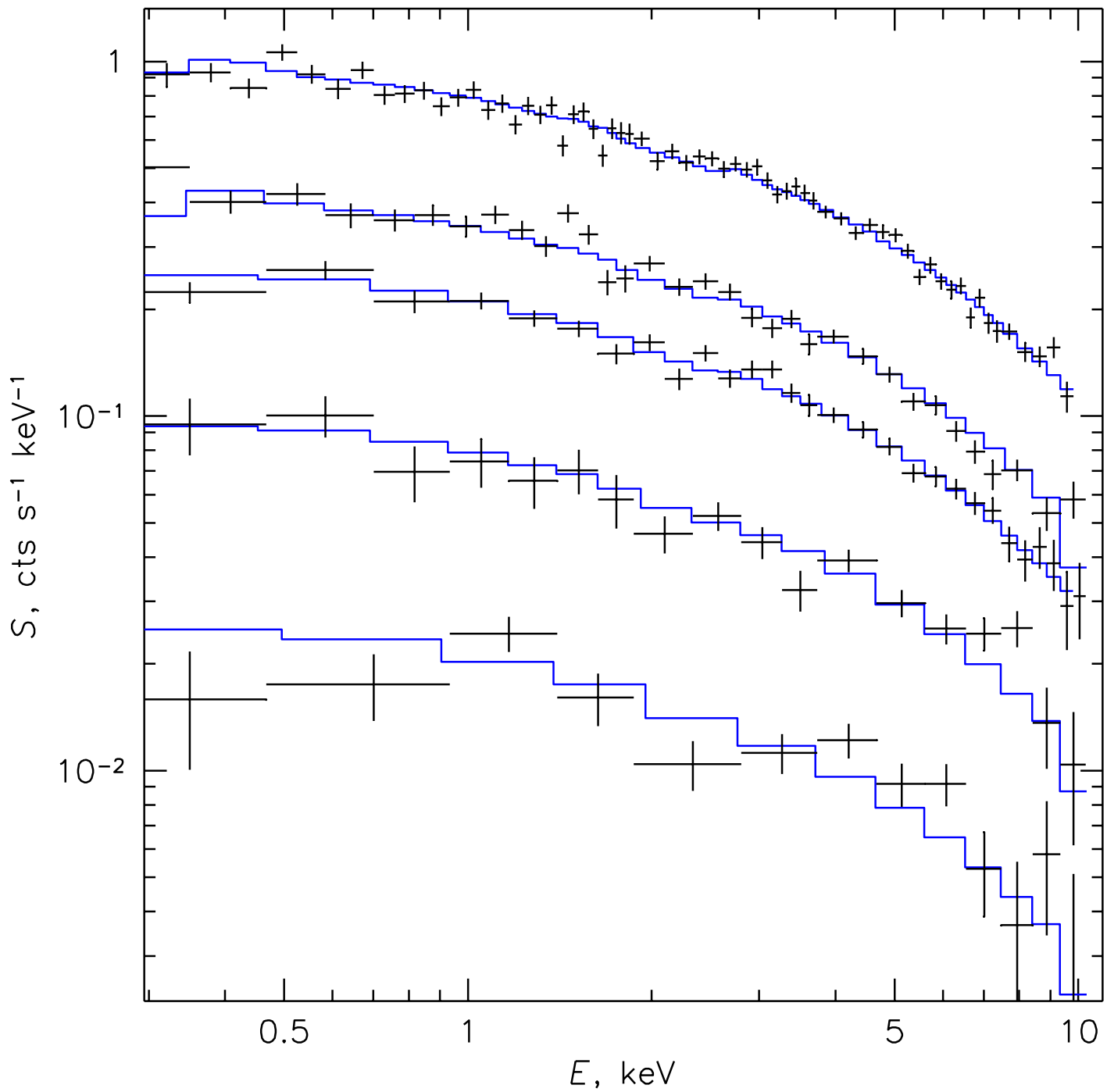


ACIS-stowed background: chip S3

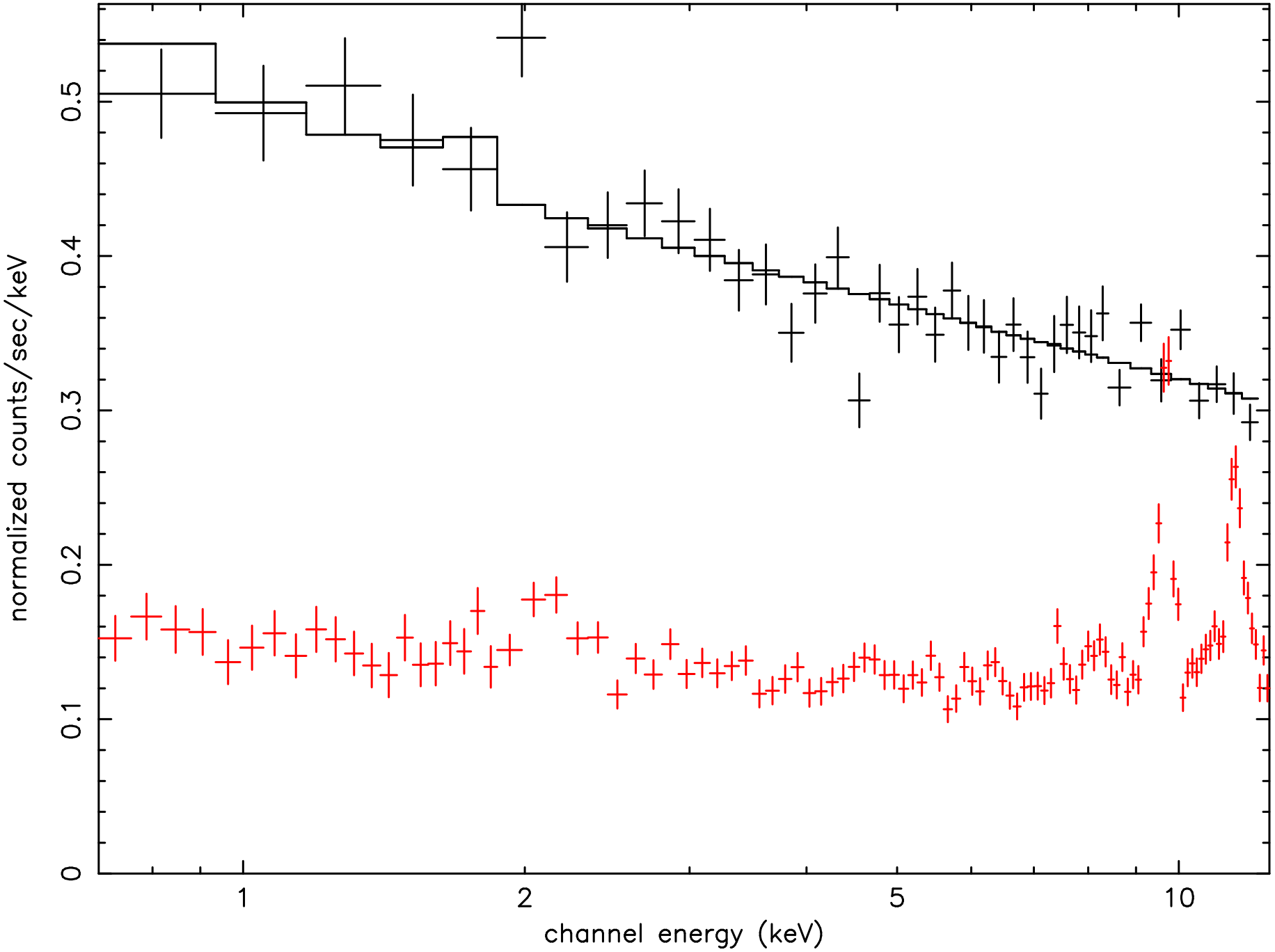


II. Attempts to model flares

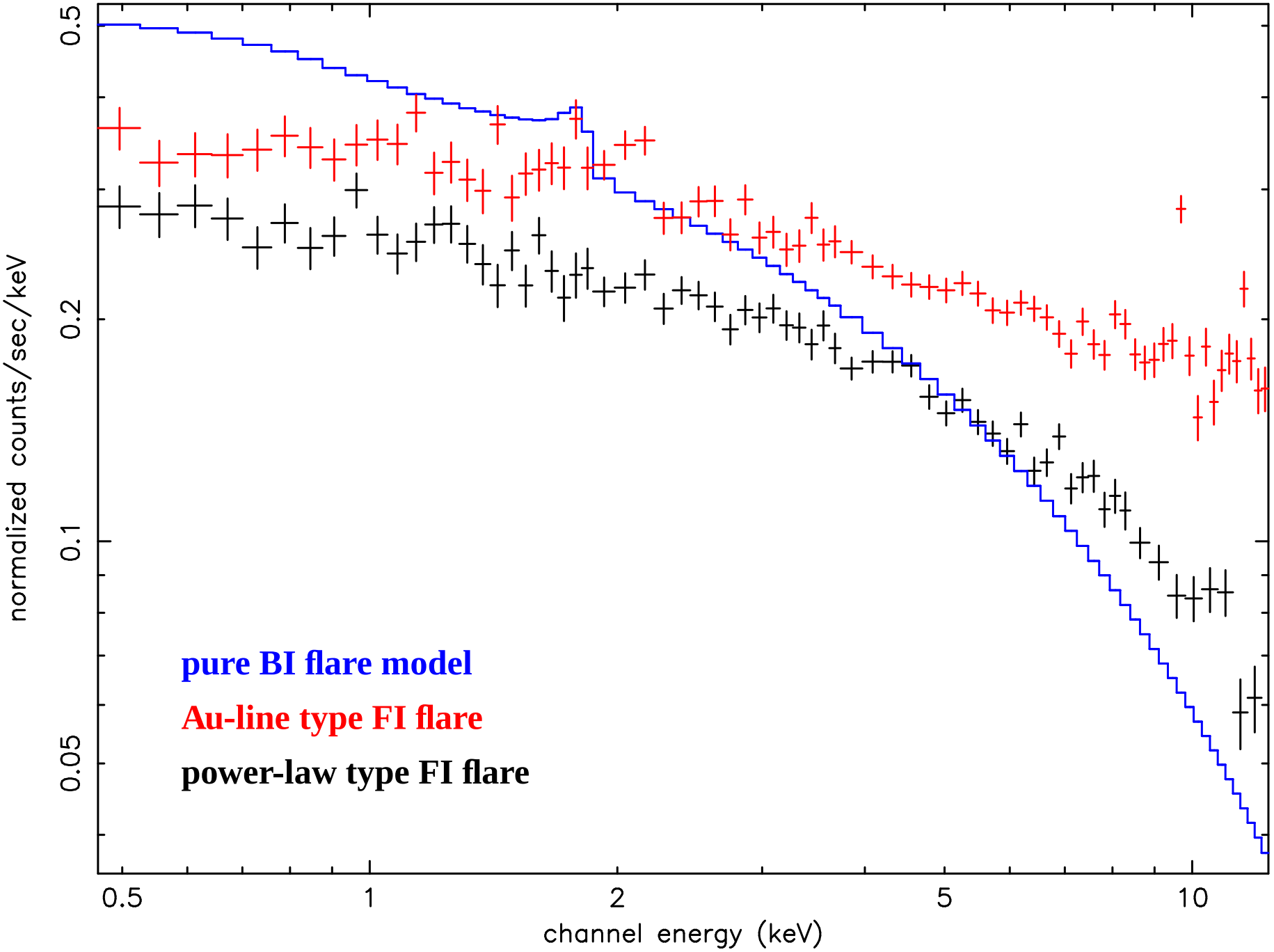
Flare spectra in S3: pure BI type flares



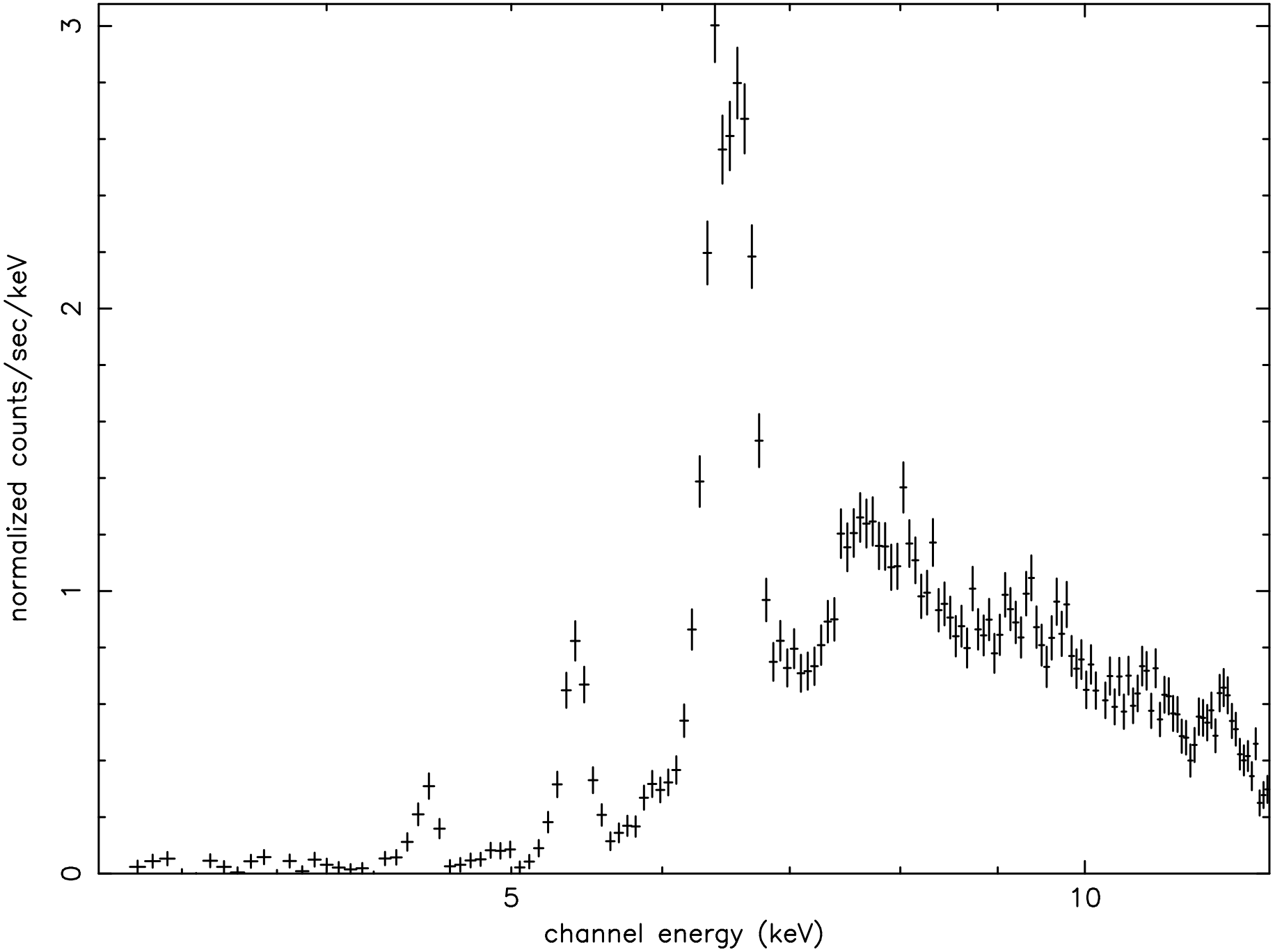
Flare spectra in FI chips: power-law, Au-line types



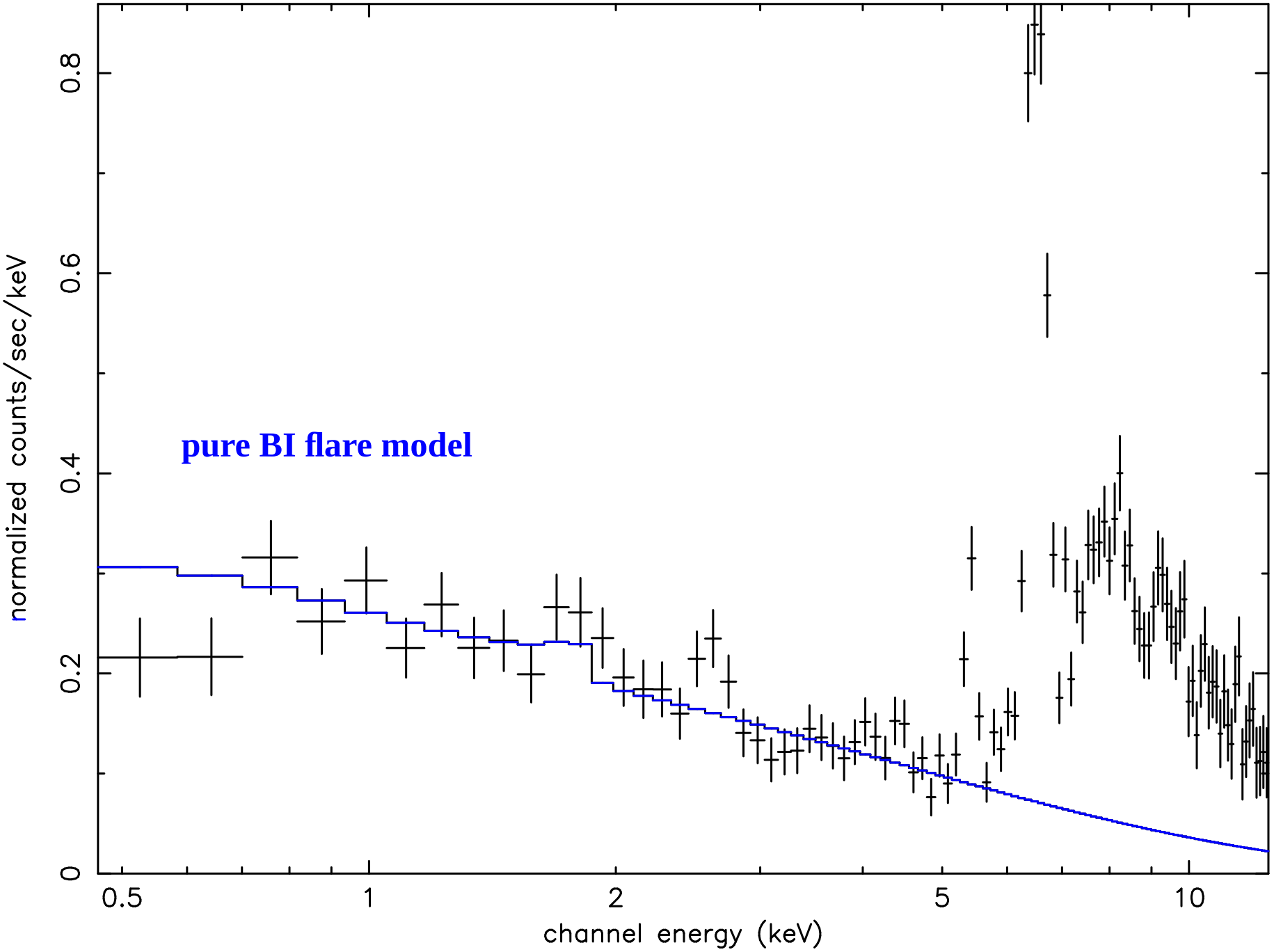
Flare spectra in S3



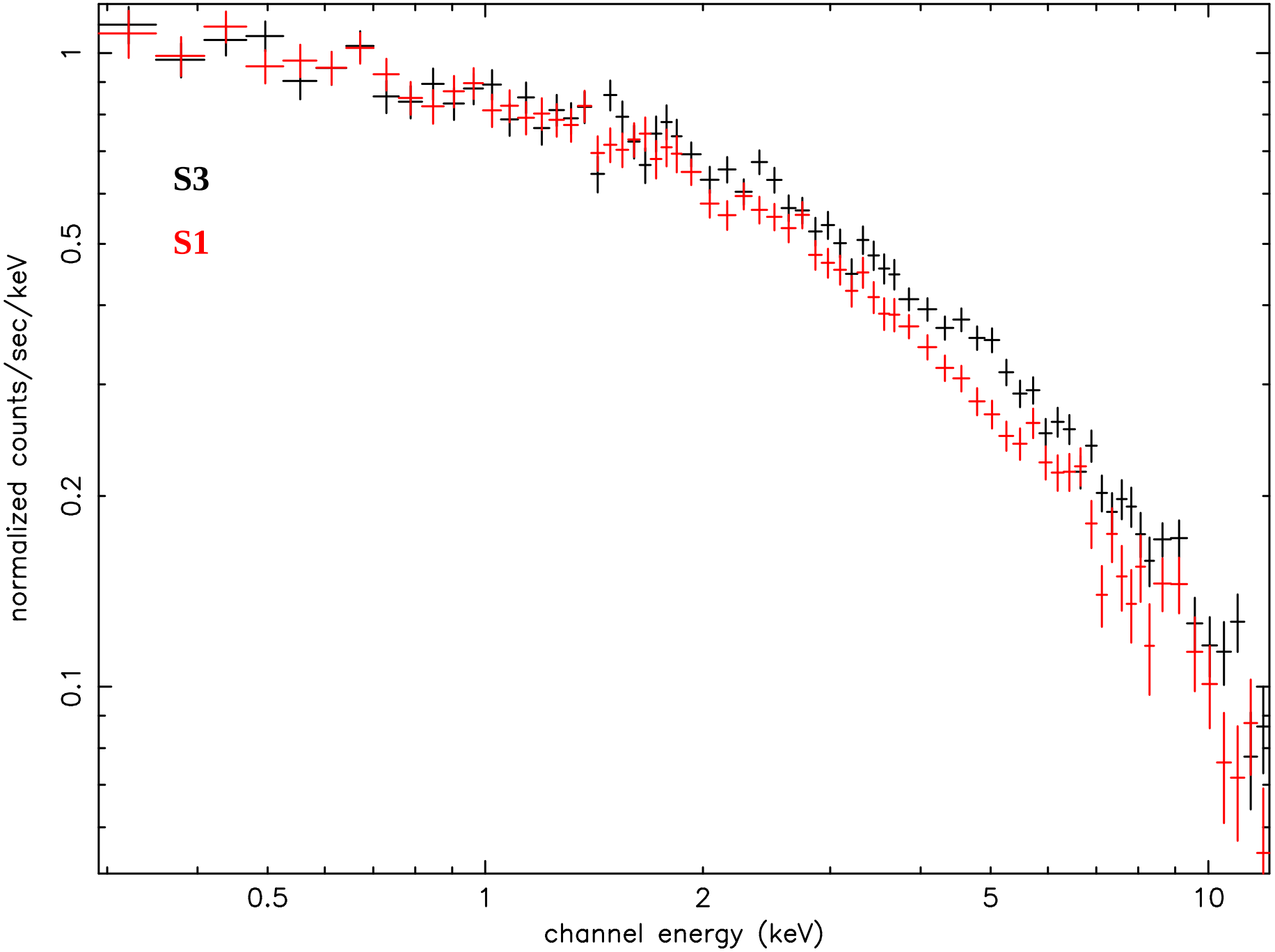
Flare spectra in FI chips: Fe-line type



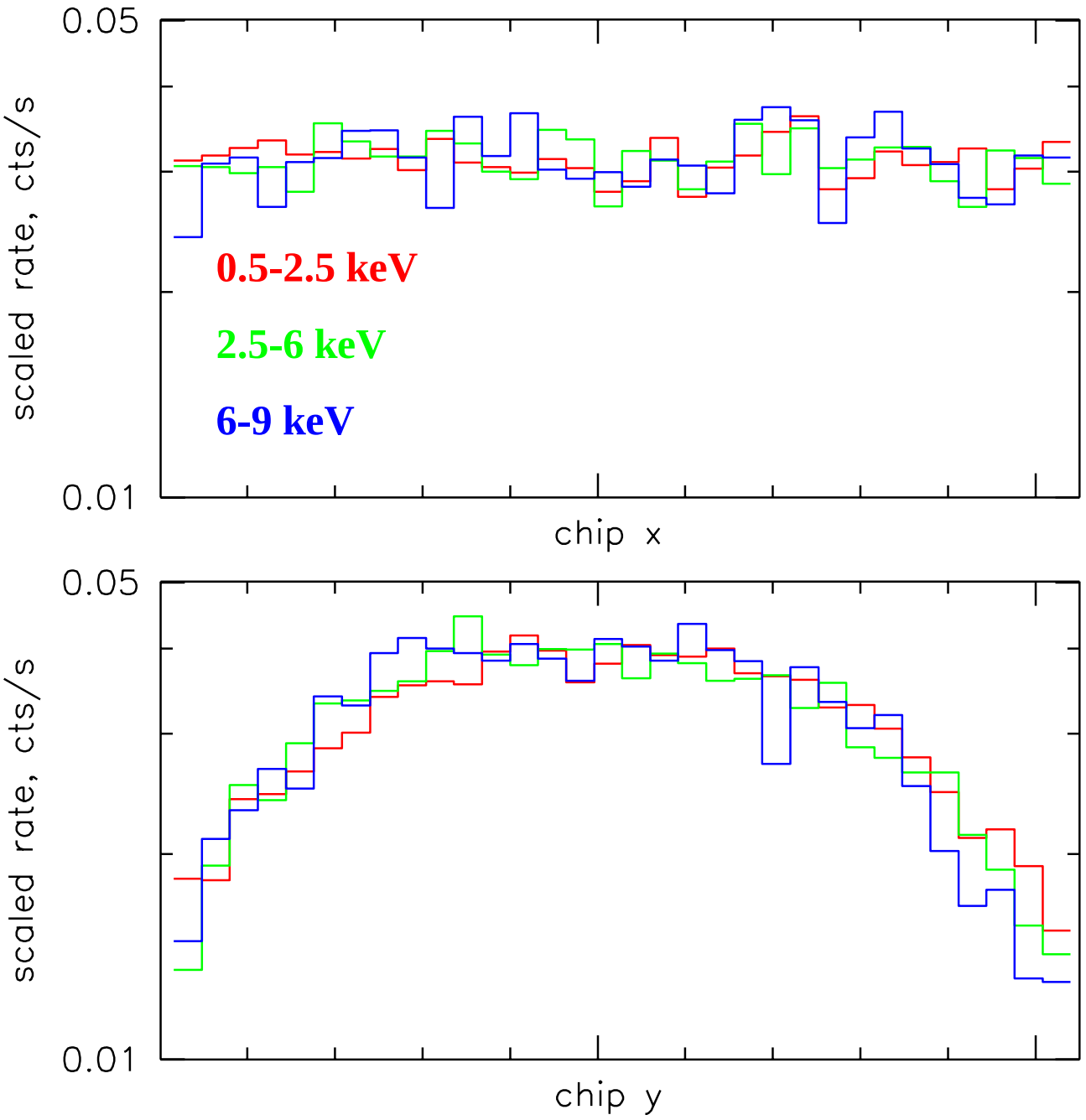
Flare spectra in S3: Fe-line type FI flare



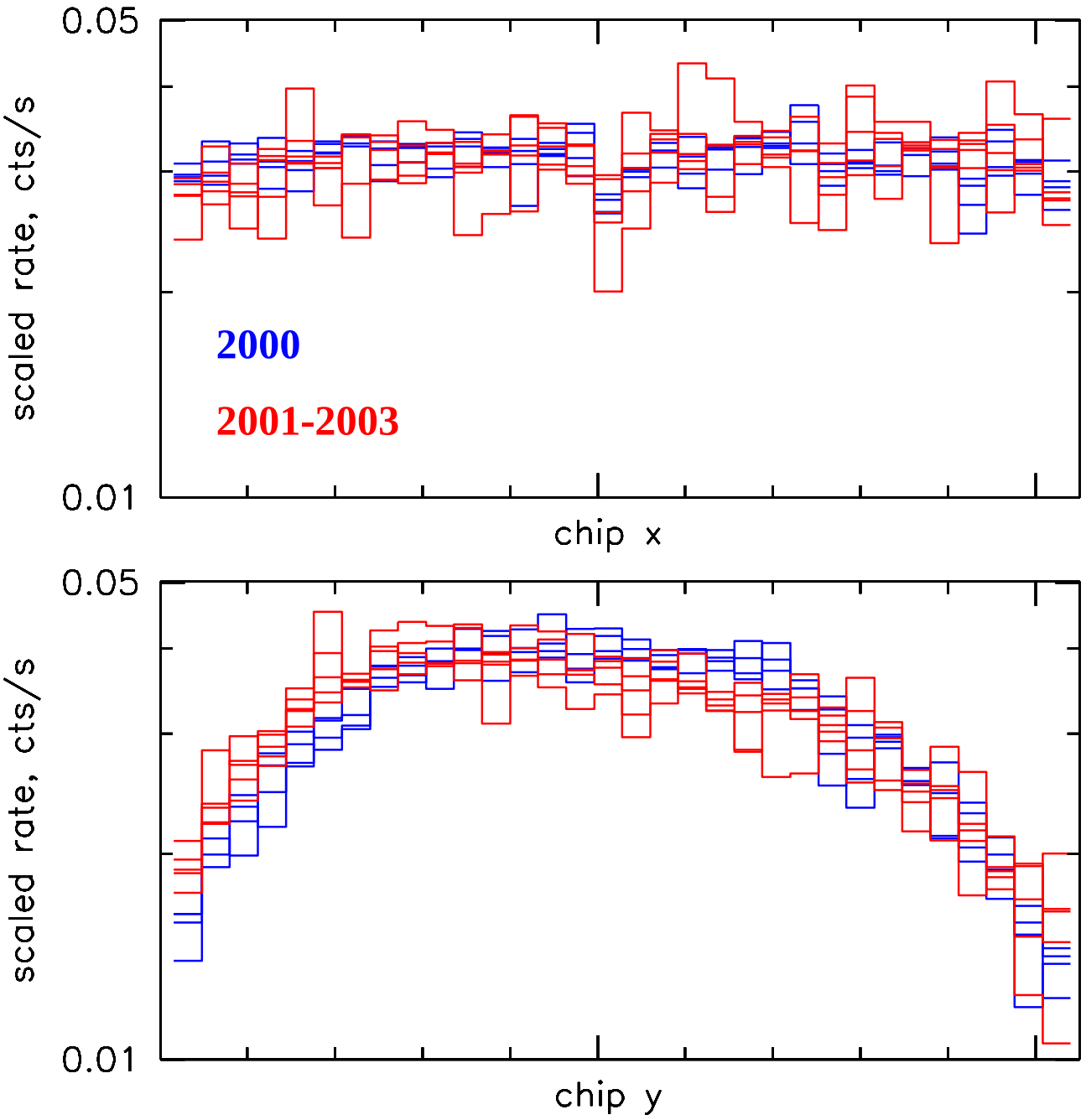
Flare spectra in BI chips: similar within 20%



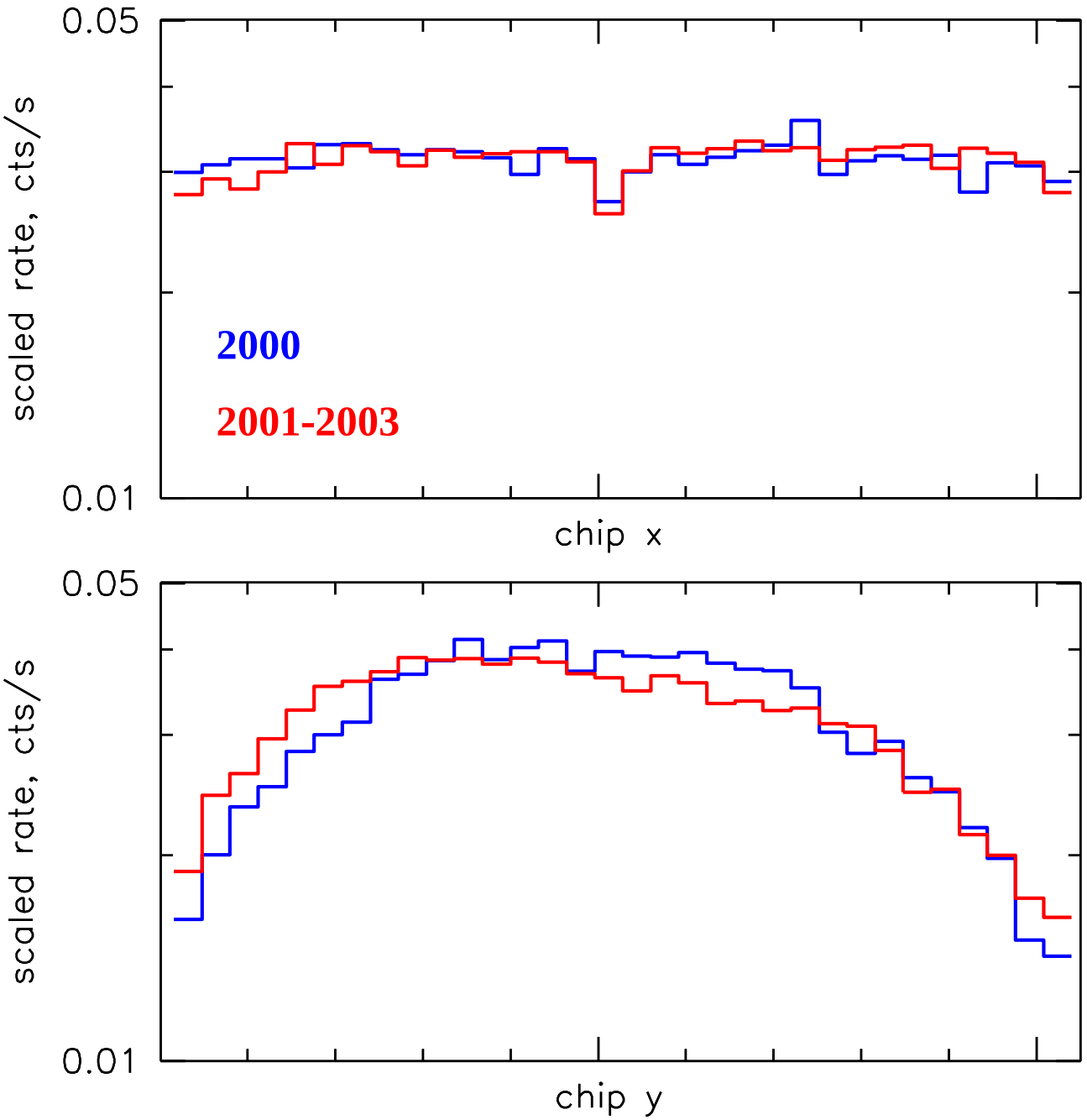
Spatial distribution in S3 vs. energy



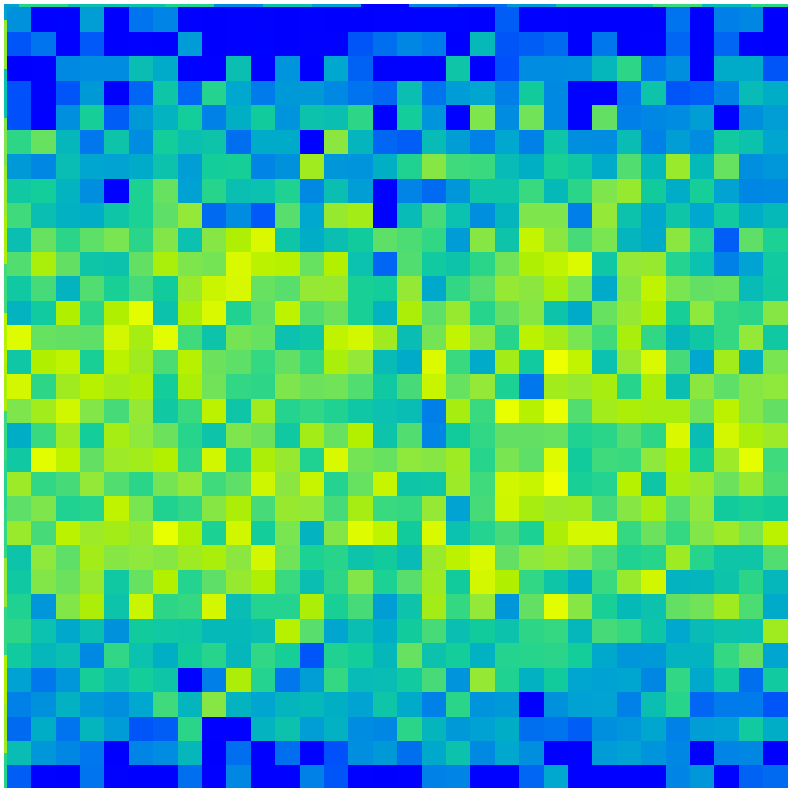
Spatial distribution in S3 vs. time



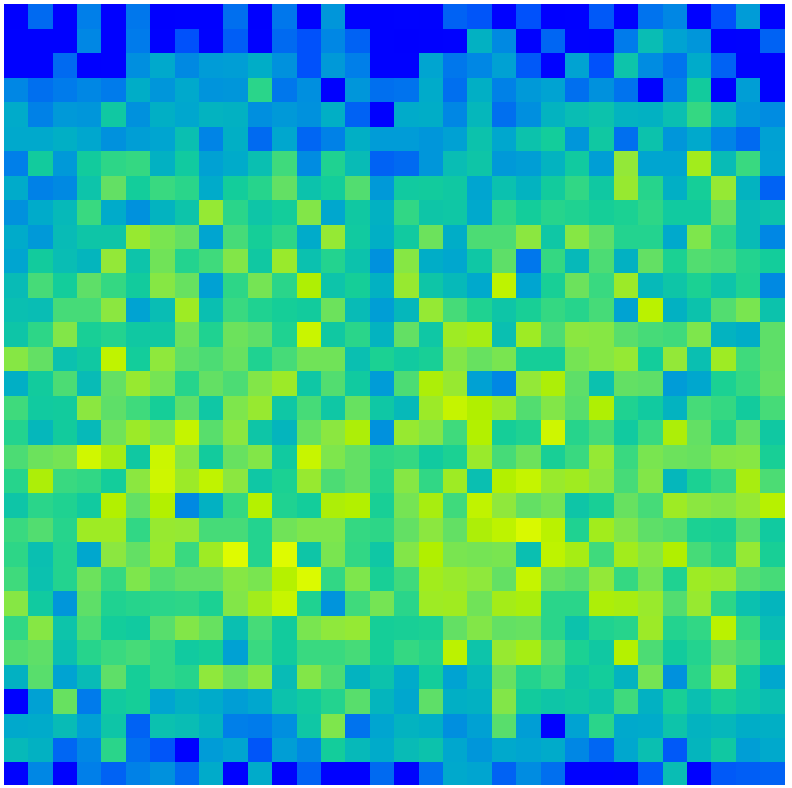
Spatial distribution in S3 vs. time



Spatial distribution in S3 vs. time



2000



2001-2003

- **S1, S3 have the same flare spectra to ±20%**

- **Except for Fe-line type flares, spatial distribution in S3 is energy- and time- independent**

Can use S1 to normalize a template S3 flare image, then subtract from S3

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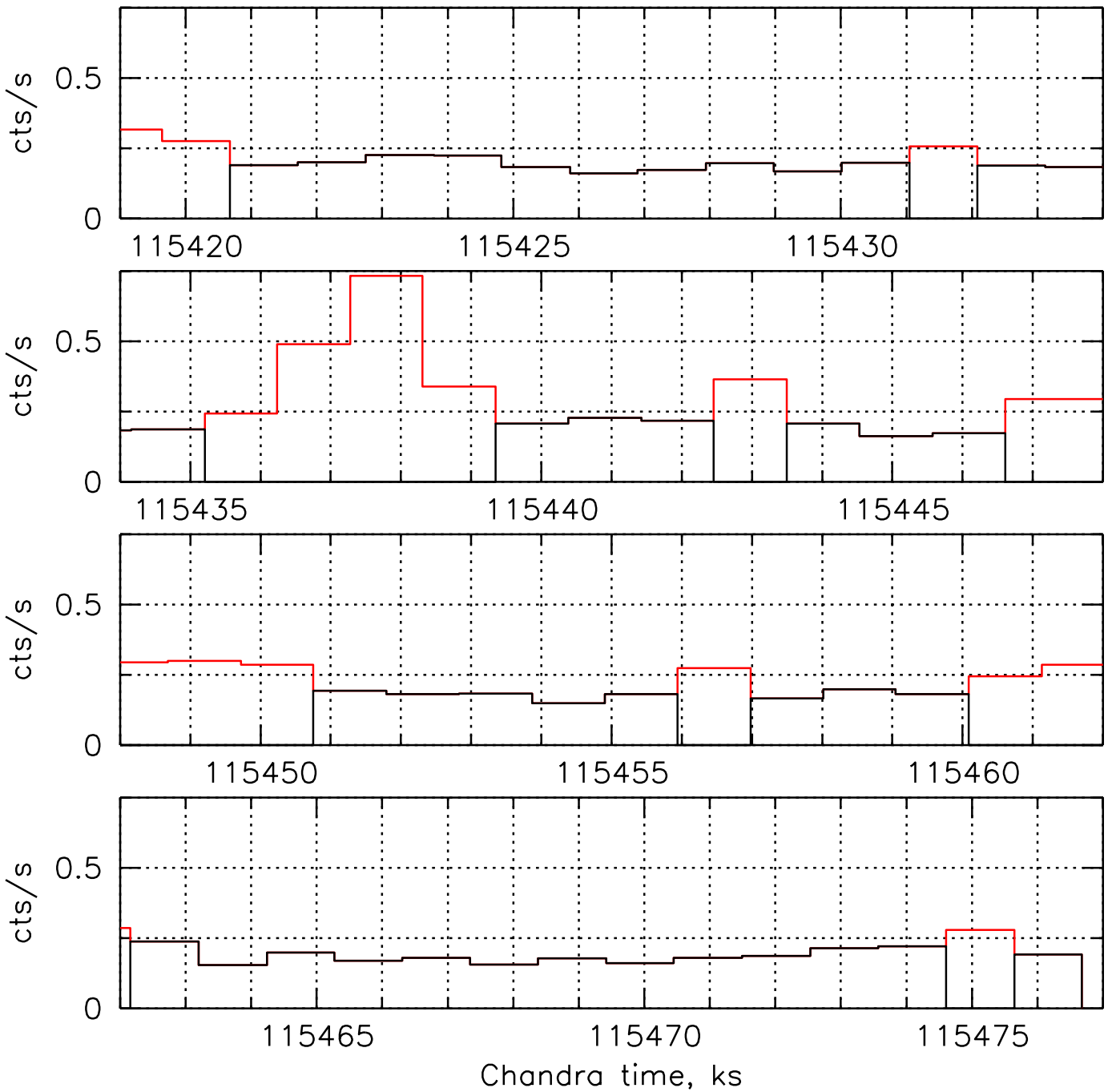
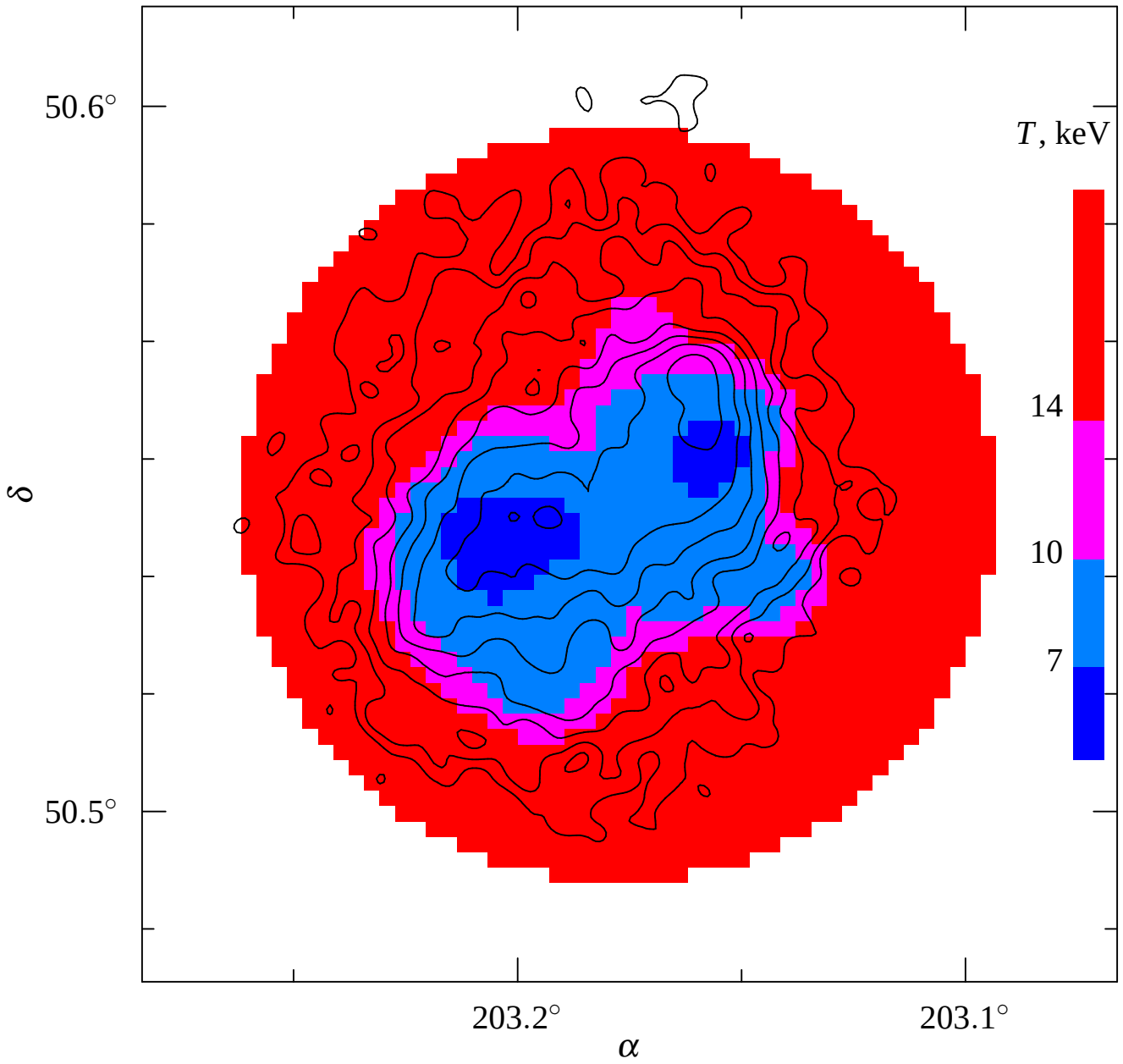
Example: cluster A1758

A1758 light curve (S1, 2.5–6 keV)



A1758 temperature map



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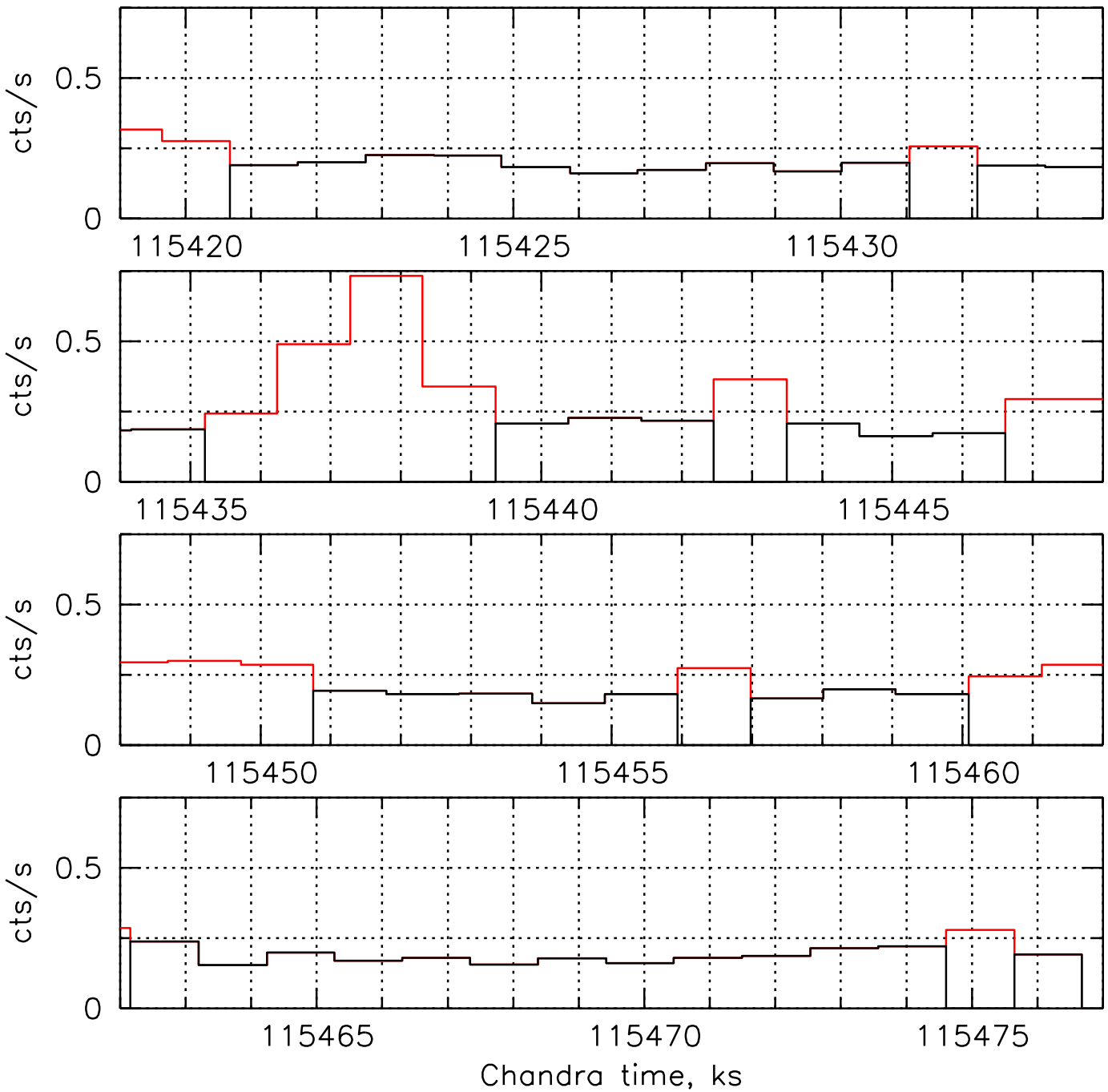

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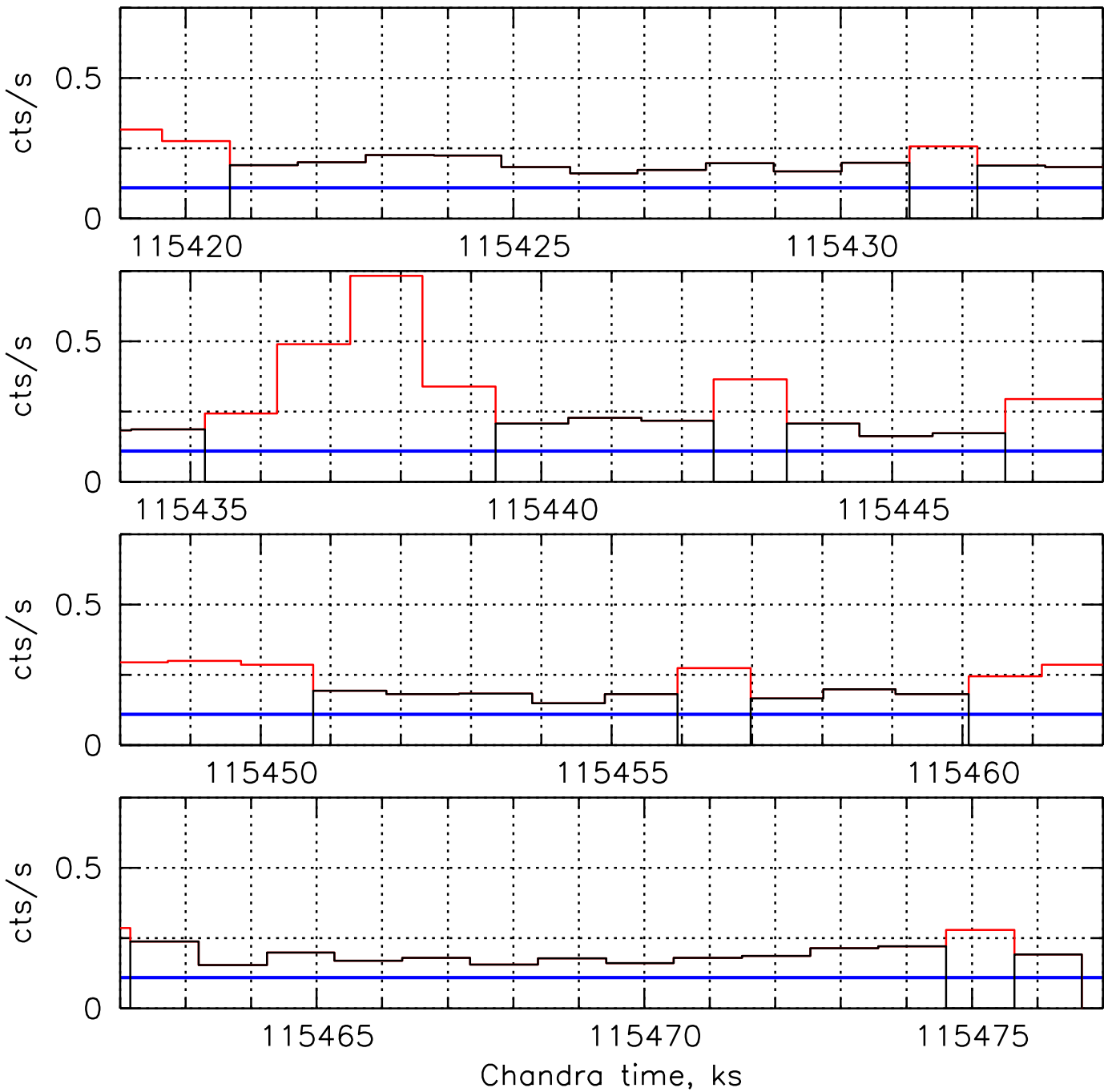

nominal

templ

A1758 temperature map — residual flare corrected