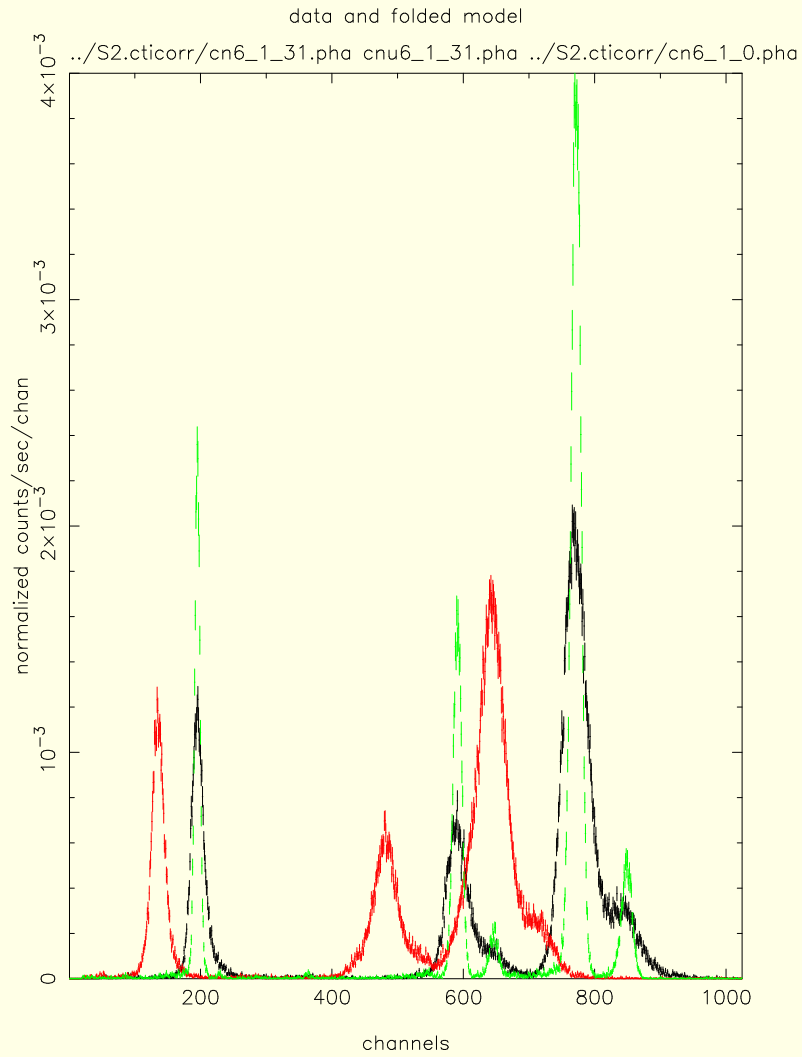


Approximate correction for parallel CTI in GRADED mode data

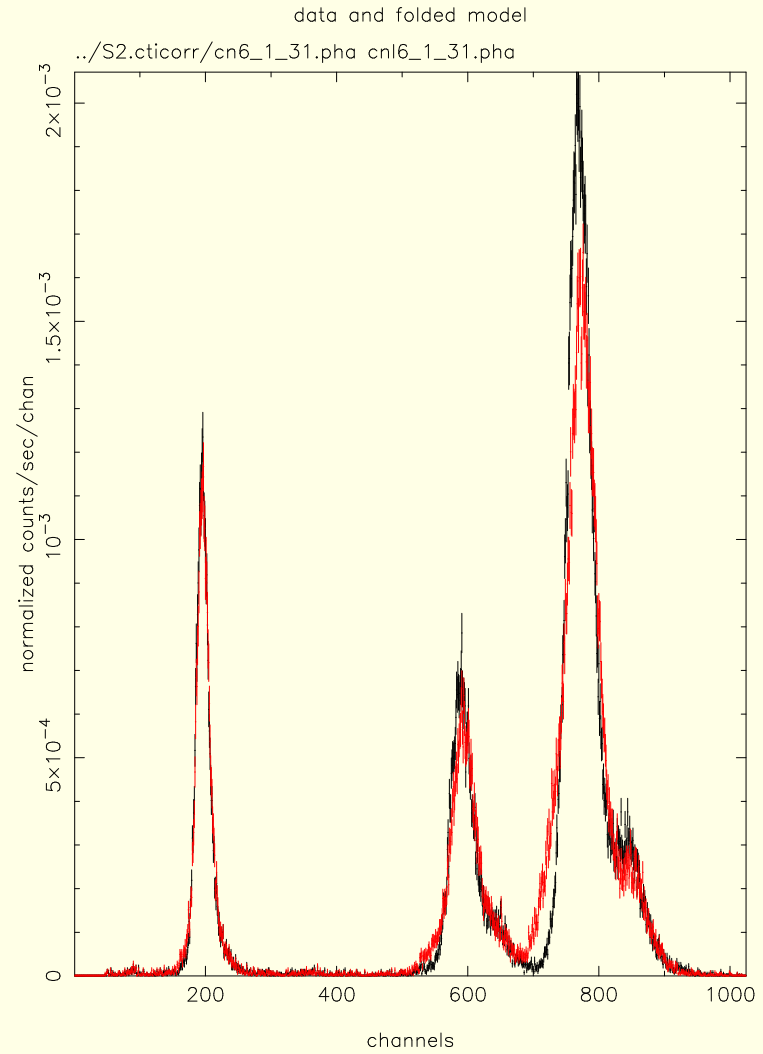
A.Vikhlinin

- *Main application:* grating observations in graded mode

Very approximate correction



alexey 18-Mar-2007 23:29



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$$V = V_0 \text{PHA}^\alpha$$

$$\text{PHA}^{\text{true}} = \text{PHA}^{\text{obs}} + V n_{ij}$$

Essentials of the full correction algorithm

1. *charge split between CCD columns.*

$$V_1 + V_2 = V_0 (\text{PHA}_1^\alpha + \text{PHA}_2^\alpha) \neq V_0 (\text{PHA}_1 + \text{PHA}_2)^\alpha,$$

(total loss depends on the split even if there are no column-to-column variations in the trap density.)

2. *sacrificial charge.*

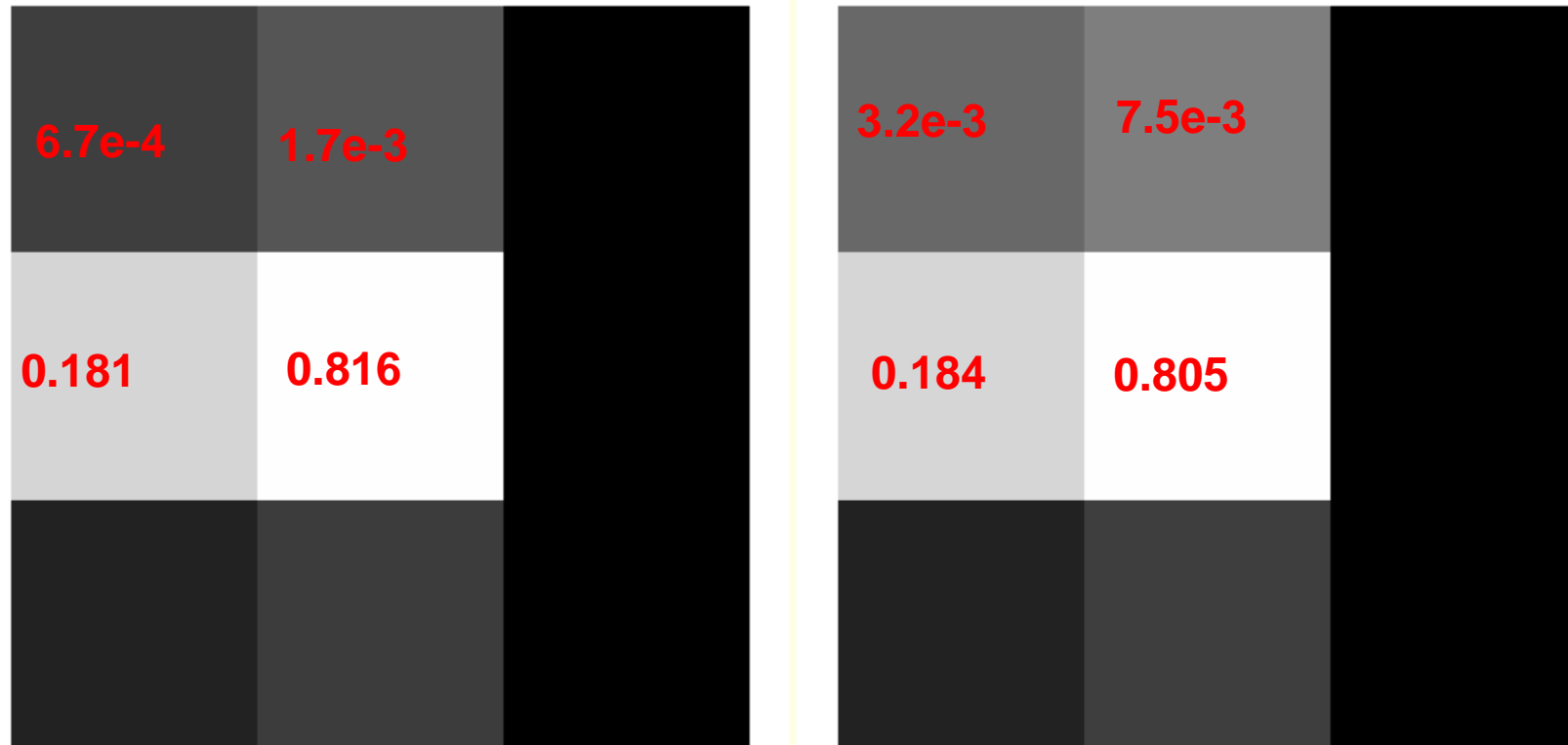
3. *charge redeposition.*

approximate correction:

full algorithm for *average* 3×3 images for each fltgrade

Average 3 × 3 images

fltgrade = 8 for Mn-Ka

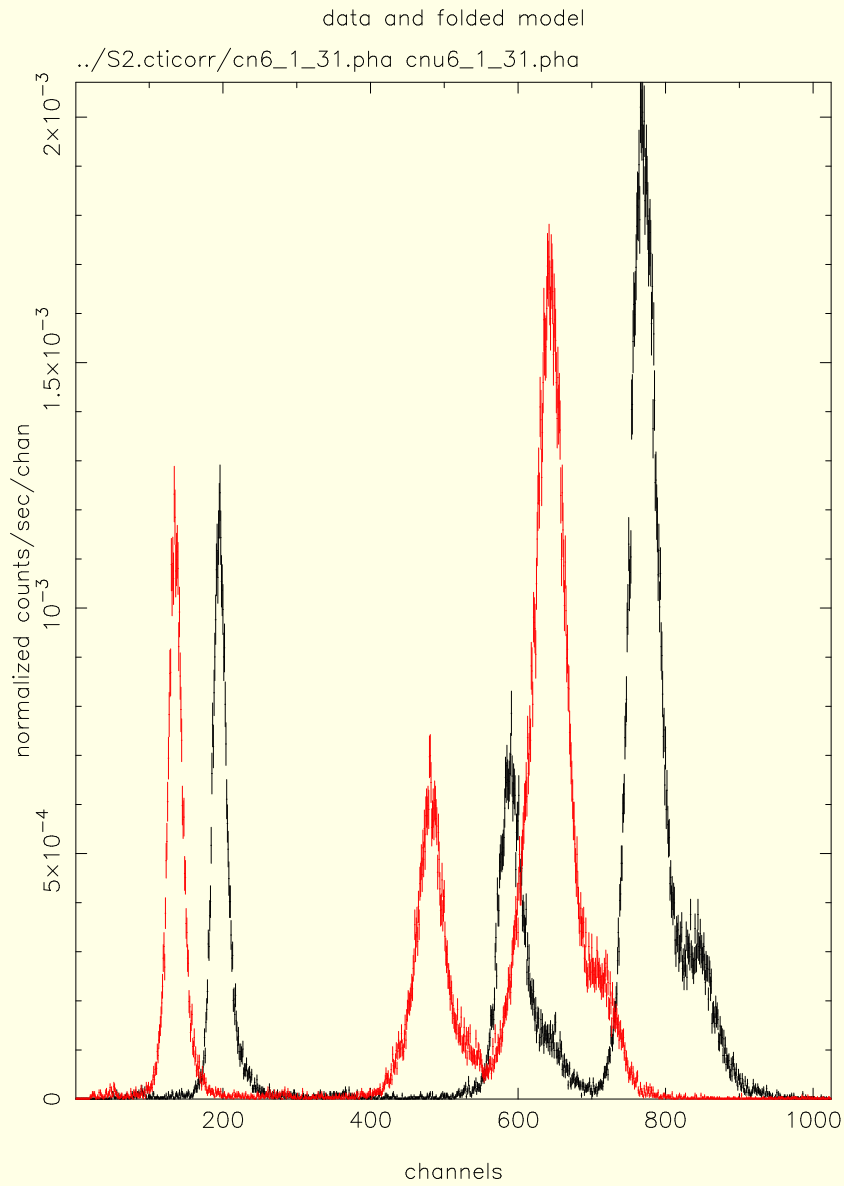


For $E \neq \text{Mn-Ka}$, assume same shape but

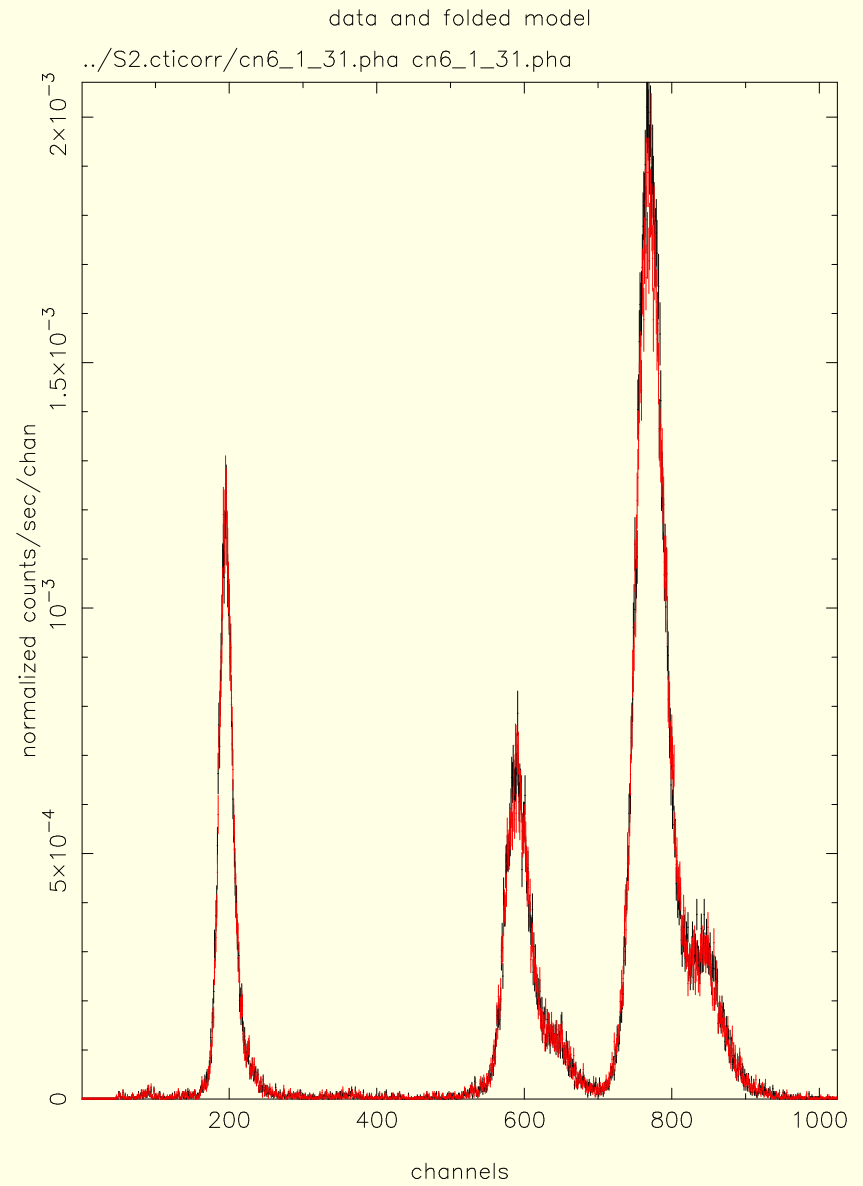
$$1 - F_{\text{central}}(E) = F_0 E^{-\beta}$$

with β individually derived for each grade set

Results



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