Cyg X-3 Cross-Calibration with XMM-Newton and Swift

HETG and CC-mode

The HETG fits in HEG and MEG

Comparison to XMM-pn
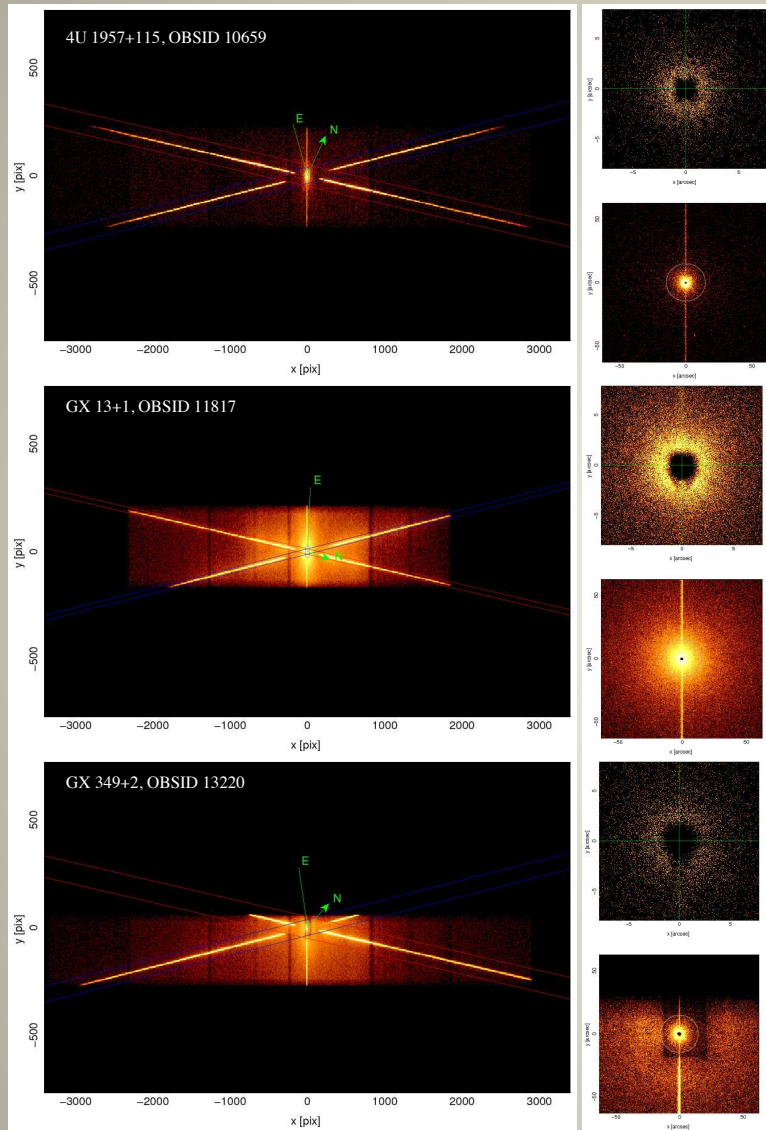
HETG in CC-mode:

Fig. 1.— Three calibration sources observed in TE mode at different fluxes and configurations (see Table 1). The top shows the full dispersed image of obsid 10659 at a low flux. The
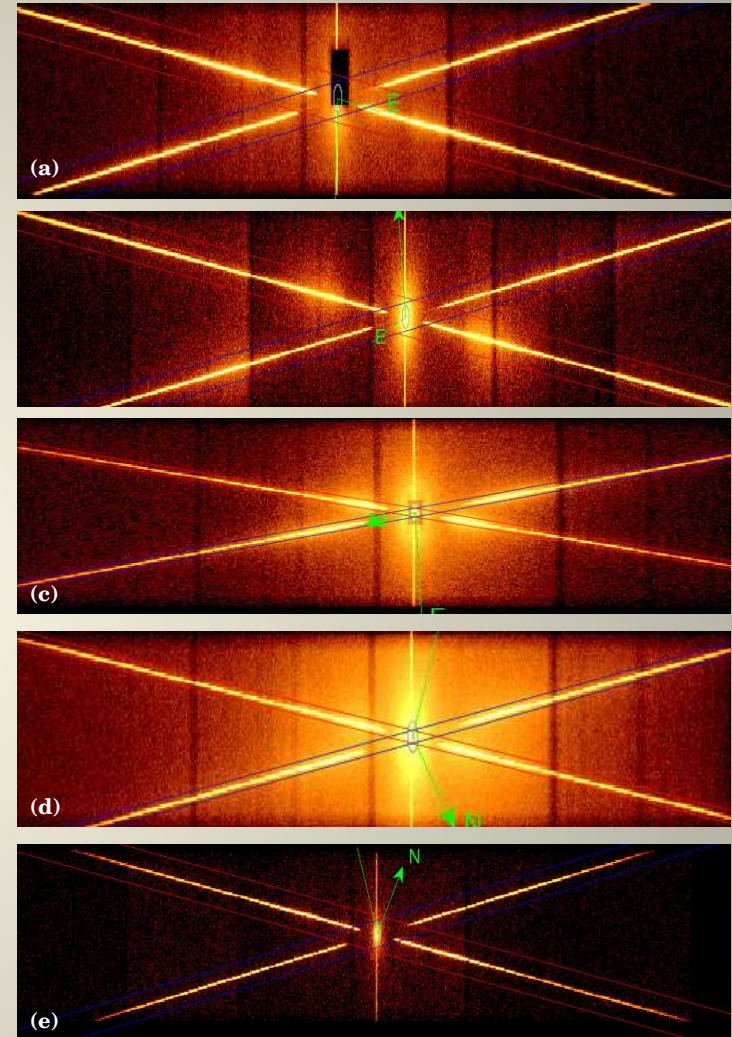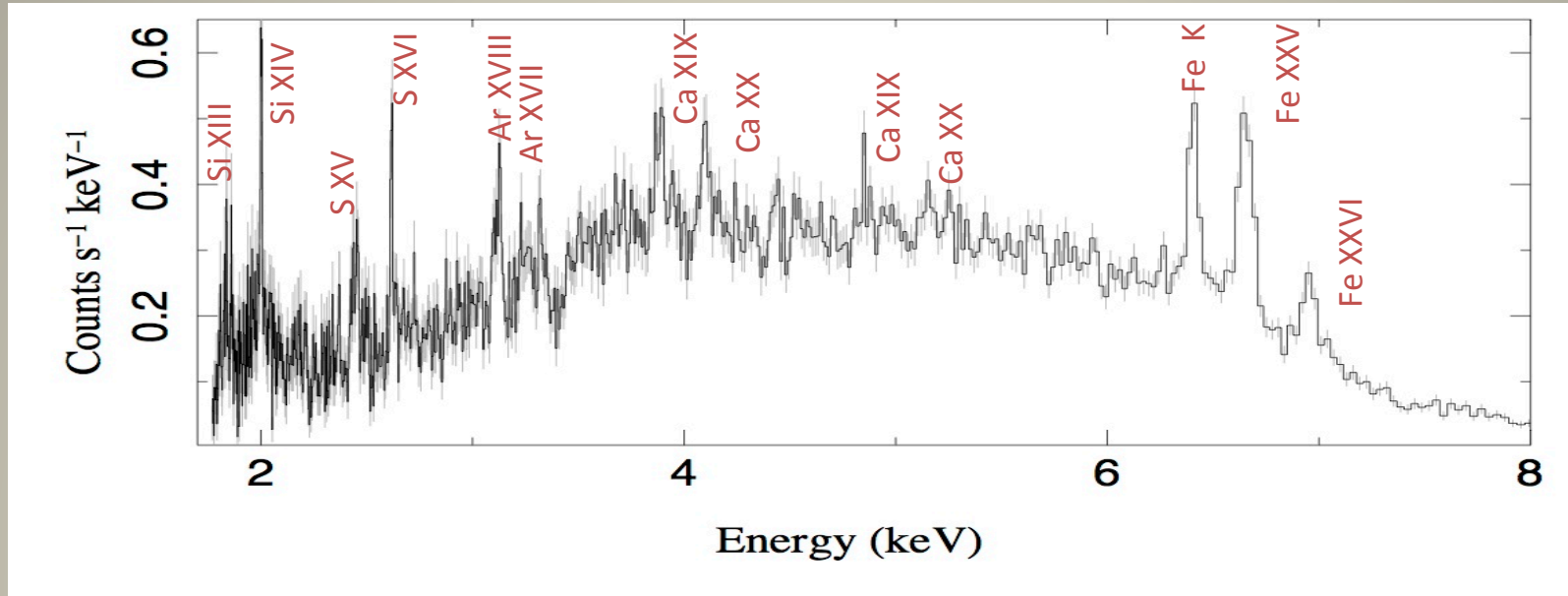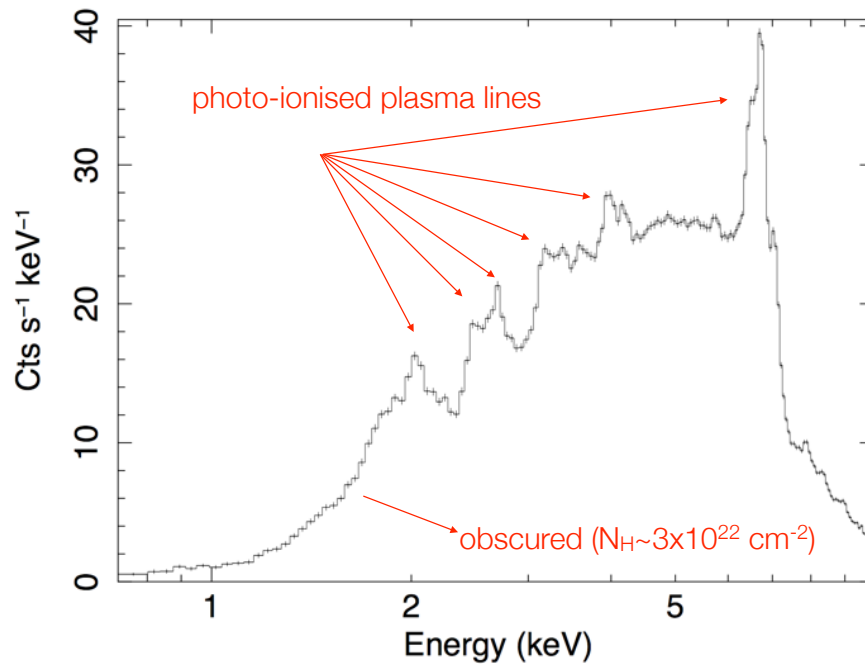

Fig. 6.— Five cases of X-ray scattering halos and its dispersion observed with HETG in TE mode. The colored regions indicate the extraction regions for MEG (red) and HEG (blue) spectra. The green arrow marks the orientation towards north in the system. The central oval is the zero order extraction region. **(a)** The HETG extraction regions and arrays of Cyg X-2 i ($\sim$ 450 mCrab) is moderately absorbed with about 3×10^{21} cm^{-2} column density
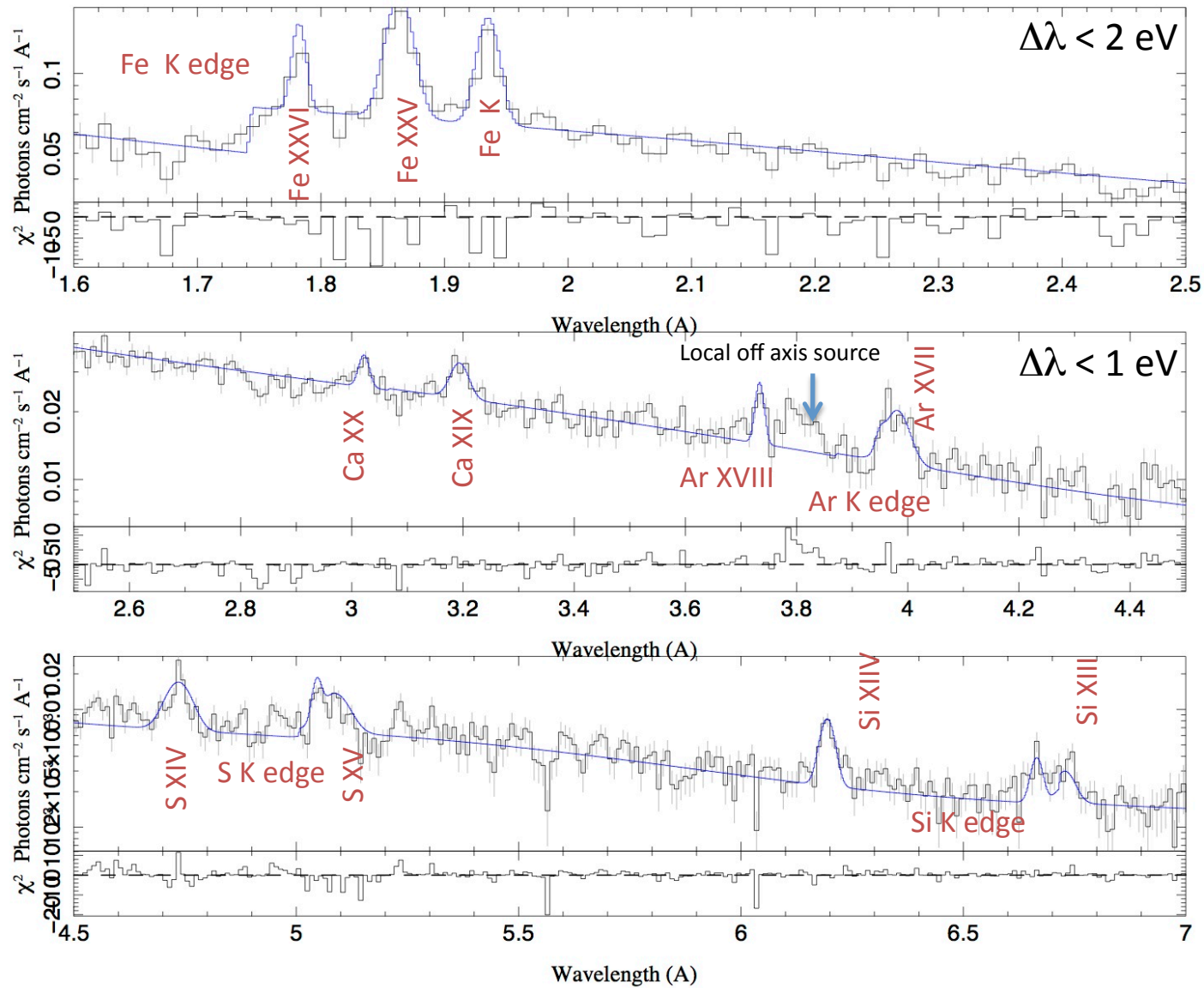
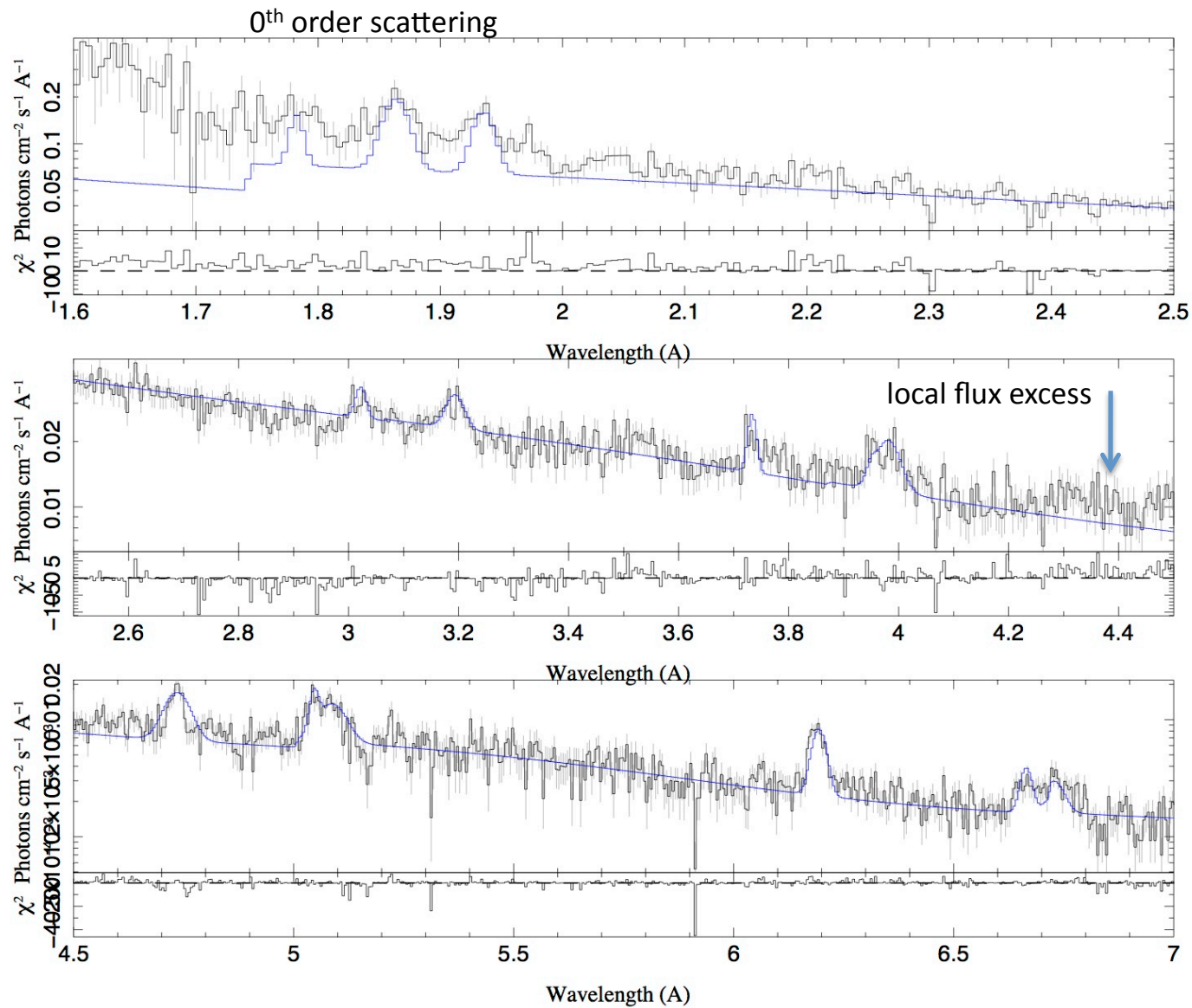# Cyg X-3 in HETG CC-mode: HEG vs. XMM spectrum

GTI times:

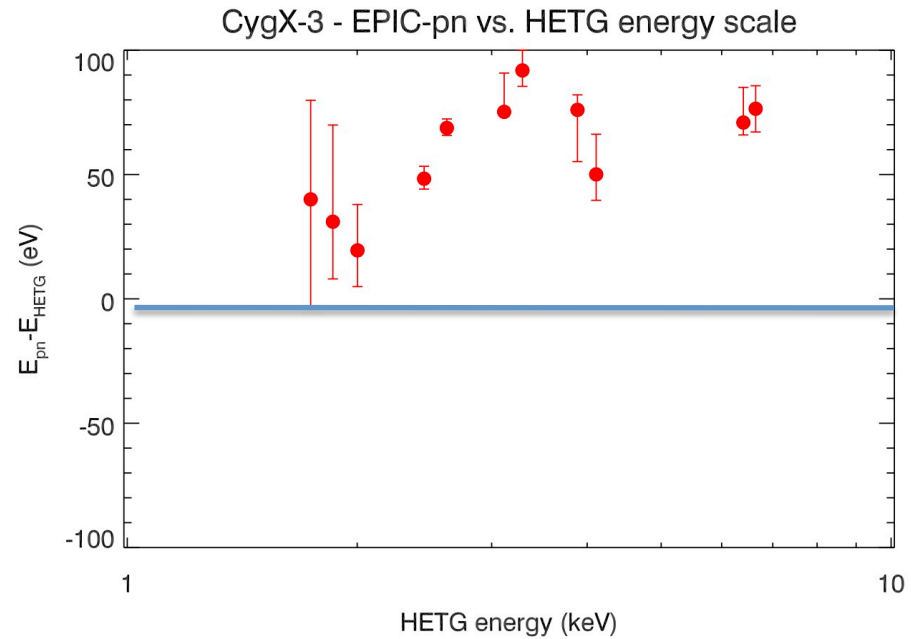|	
Chandra	29.6 ks
Chandra/XMM	19.4 ks
Chandra/Swift	5.9 ks

Cyg X-3 in HETG CC-mode: HEG spectrum

Cyg X-3 in HETG CC-mode: MEG spectrum
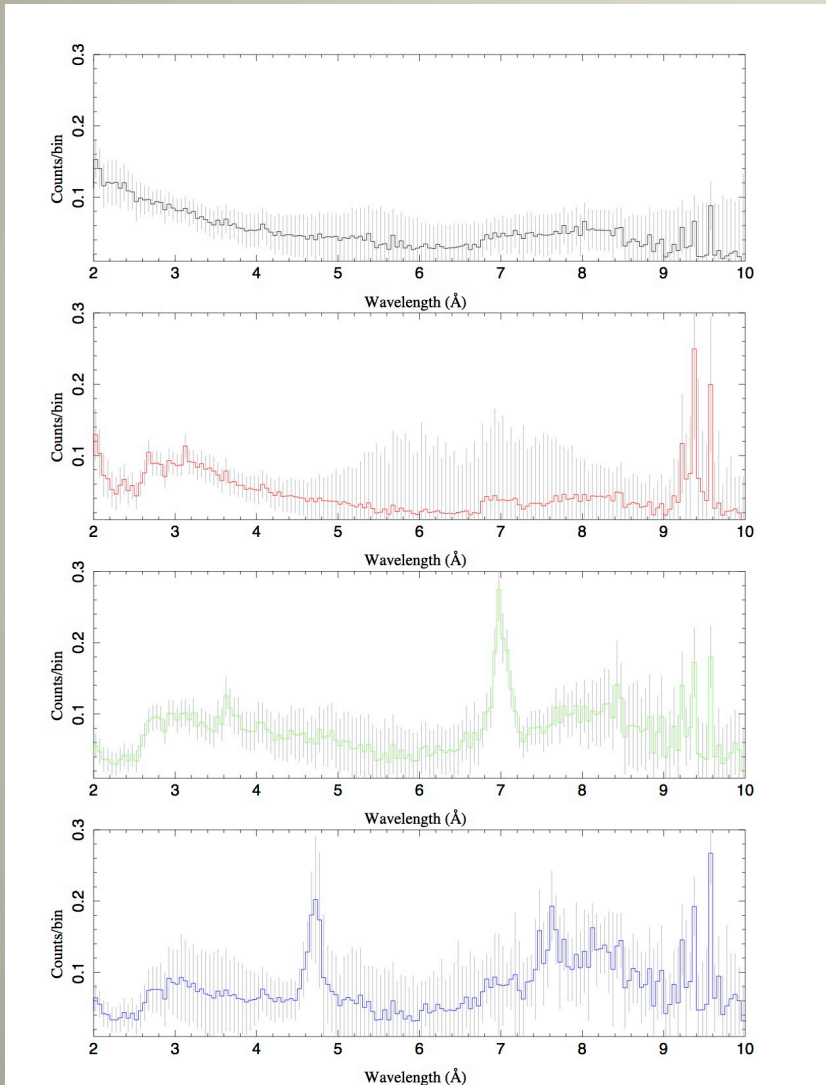

0th order scattering

local flux excess

Cyg X-3 in HETG CC-mode: HEG vs. XMM spectrum

HETG CC-mode: G66 flight grade recovery

GX 349+2

GX 13+1