

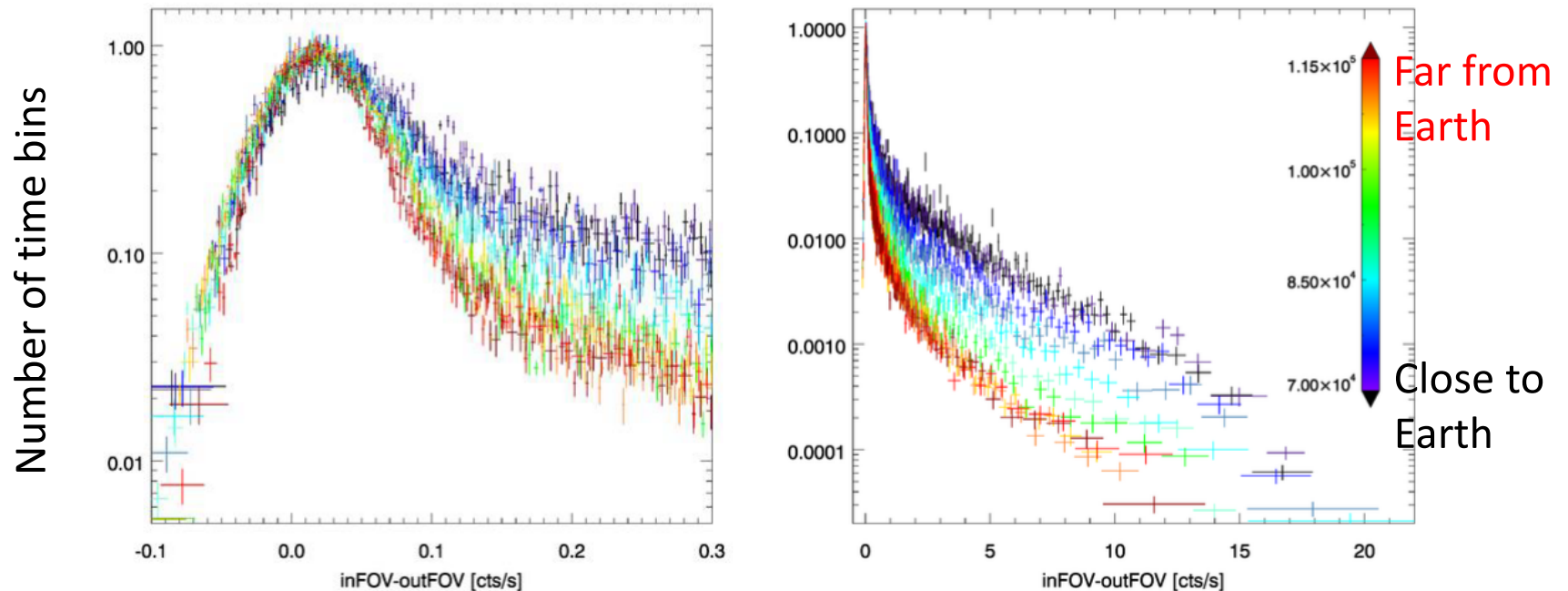
CCD/Background WG

- Started in 2010 at Woods Hole
 - Airing of grievances and discussion
 - Topics too esoteric for larger plenary sessions
- Combined with the backgrounds WG in 2014
- Two full well-attended sessions in 2017!
- Presentations from XMM, Chandra, Hitomi, and Swift

CCD/Background WG

- Molendi, “An in-depth analysis of the EPIC-MOS instrumental background”
 - Part of a much larger effort to better understand the XMM particle background, the particle environment in HEO and L2, and the expected background for Athena
 - (special issue of Experimental Astronomy coming soon!)

IN - OUT vs. distance from Earth



Dependence of the soft proton rate on magnetospheric environment is modest if any. Conversely we find evidence of an anti-correlation of soft proton intensity with distance from the Earth

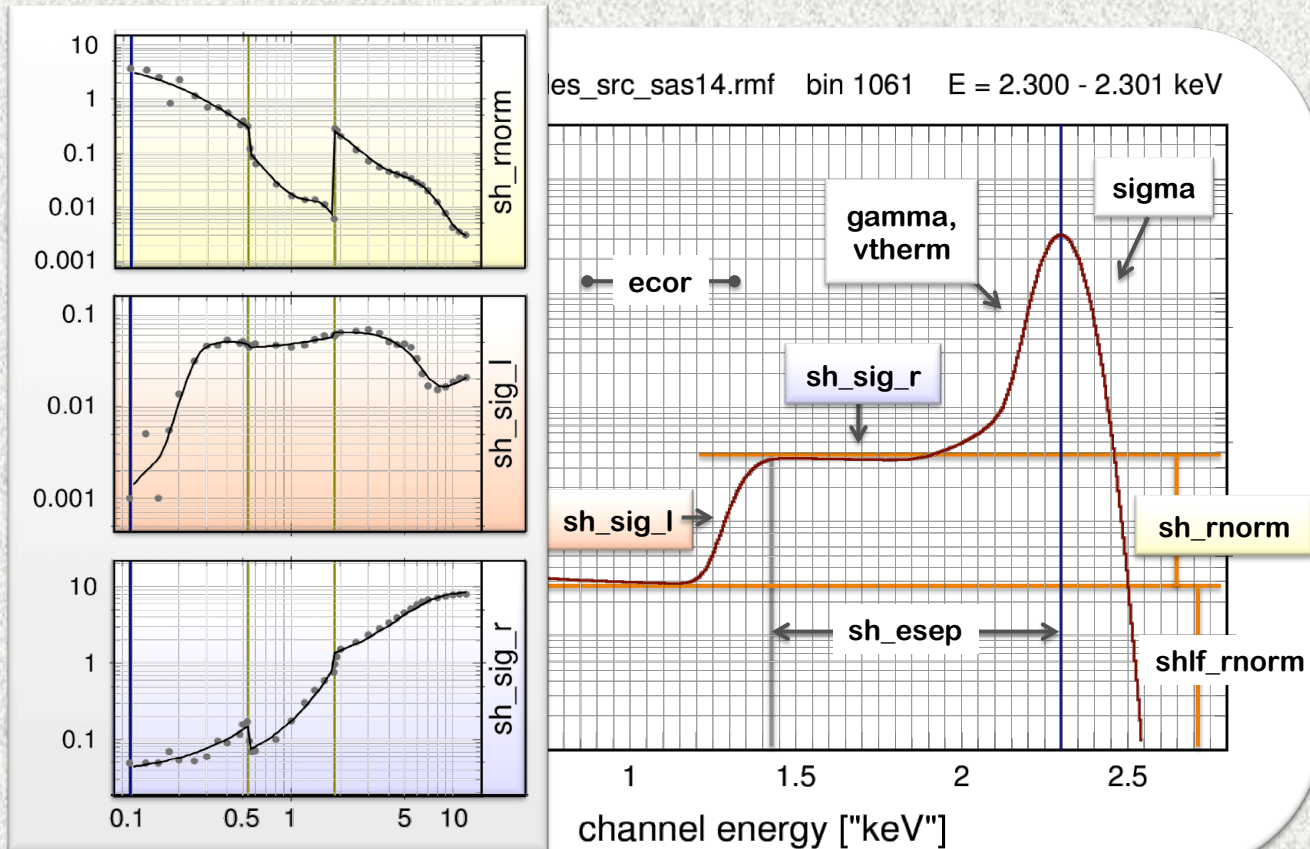
CCD/Background WG

- Dennerl, “An empirical method for improving the XMM-Newton/EPIC-pn RMF and ARFs”
 - Parameterize and optimize RMF components
 - Proof of concept with a few sources (E0102, etc.)
 - Significant RMF/ARF improvement for 2 soft sources (<2keV)
 - Will extend to higher energies, other readout modes, longer time span, multiple detector positions, ...

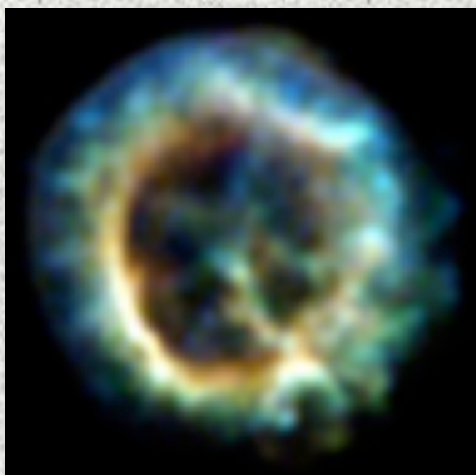
CCD/Background WG

- Dennerl, "An empirical method for improving the XMM-Newton

Modeling the EPIC pn RMF at individual energies



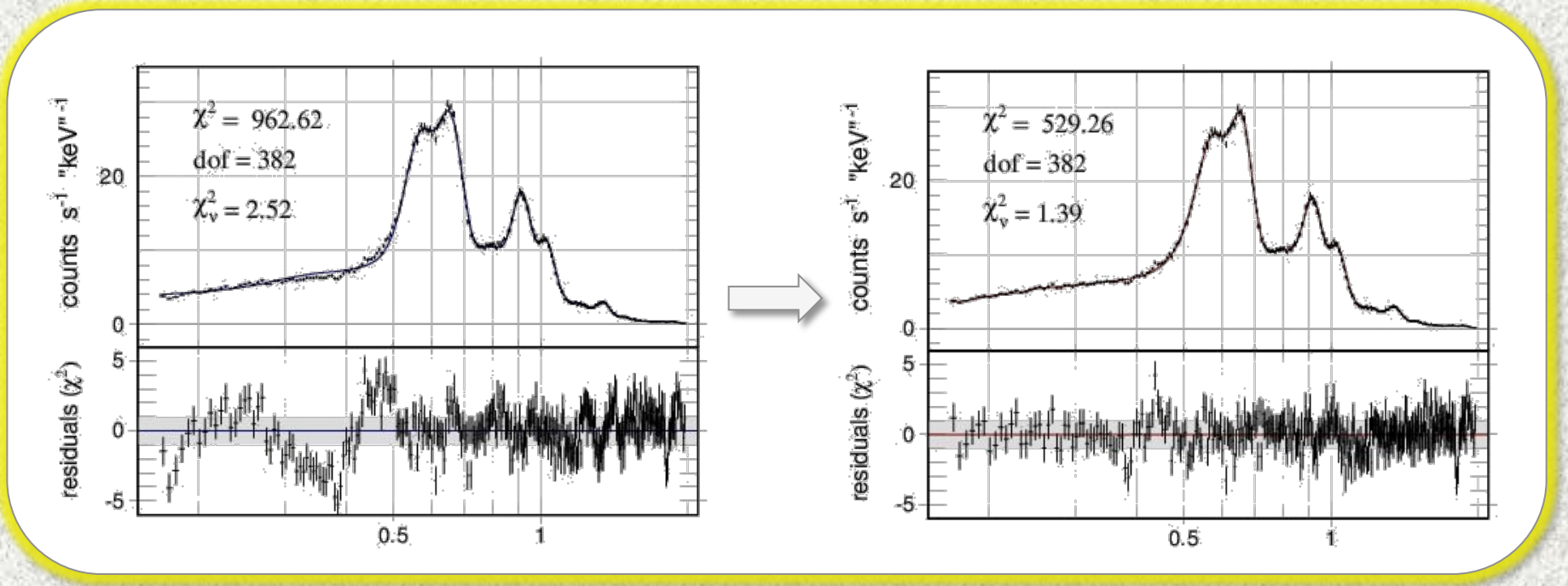
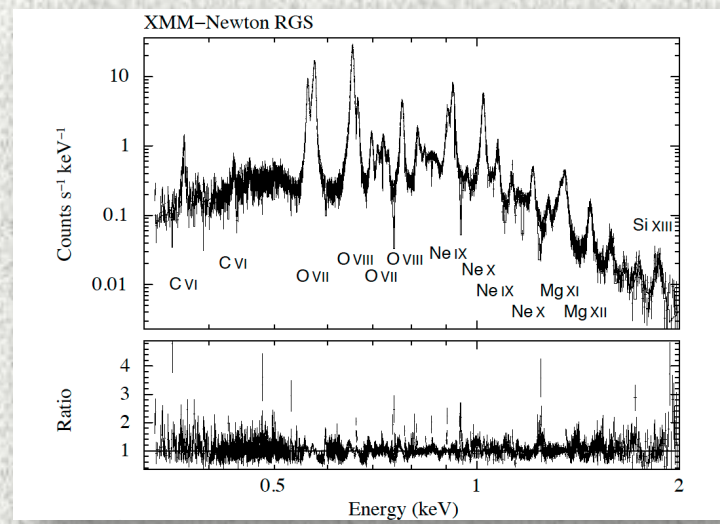
(<2keV)
, longer



Improving the EPIC pn RMF

SNR 1E0102

proof of concept



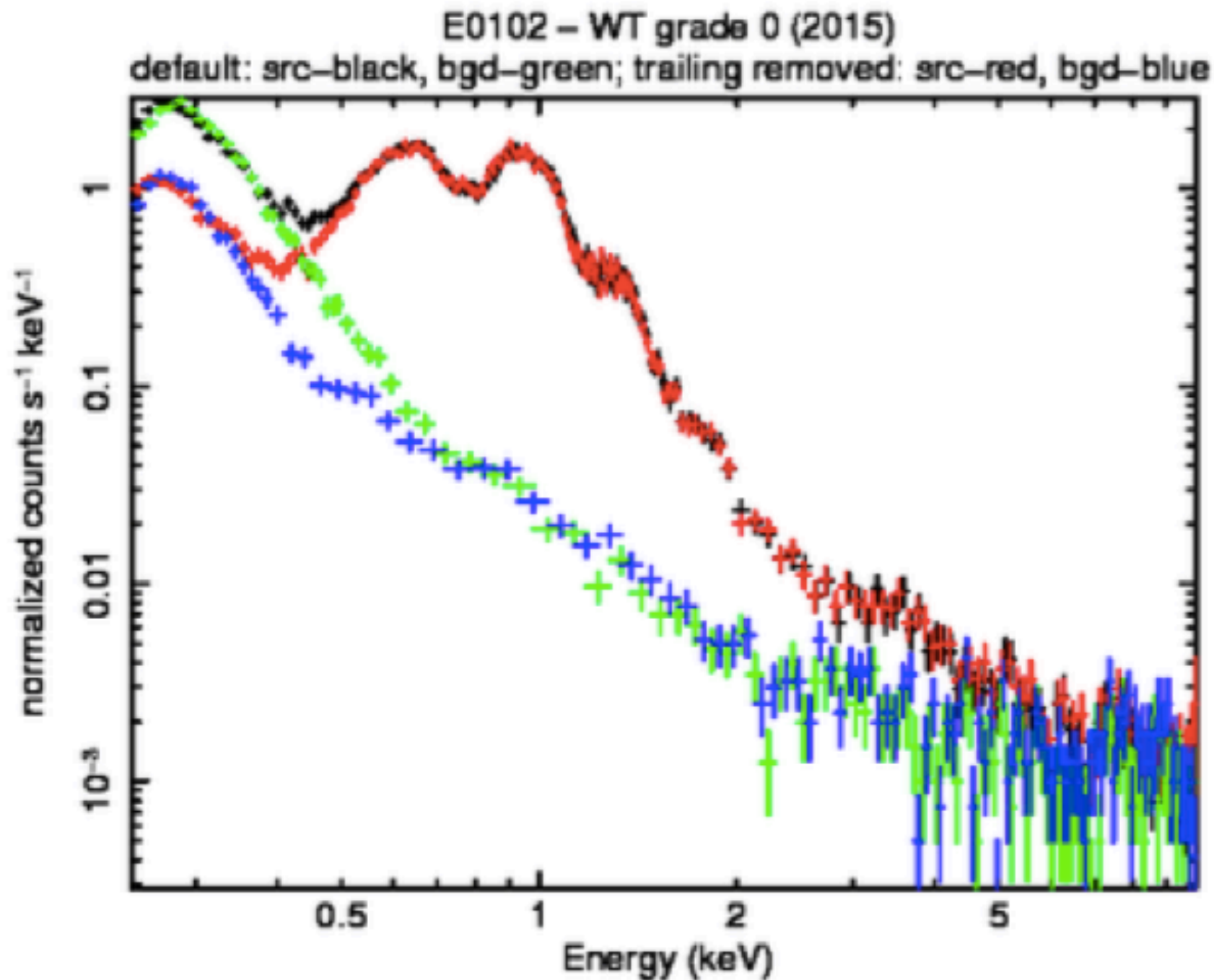
CCD/Background WG

- Gaetz, “Chandra ACIS Background” and “Chandra ACIS-I3 Response Width”
 - Status of new ACIS blank-sky background files covering more recent times
 - Future improvements for ACIS-I3 response products with better time and temperature dependence
- Durham, “ACIS Gain Studies: Temporal, Spatial, and Temperature Dependencies”
 - Future improvements to ACIS gain calibration

CCD/Background WG

- Beardmore, “XRT Windowed Timing Mode – Trailing Charge”
 - Low energy background increasing with time
 - Identified with trailing charge released from deep charge traps
 - Developing algorithm to identify and remove trailed events

CCD/Background W/G





Periwinkle Jones
@peachesanscream

 Follow

Whoa, we're halfway there...
Whoa-oh...

4:35 AM - 22 Aug 2016

  3,943  5,061

Mar 2017

Grant, IACHEC 2017