



MIT Kavli Institute
for Astrophysics
and Space Research

HETG - Status

Chandra Quarterly Review No. 33
4 April 2012




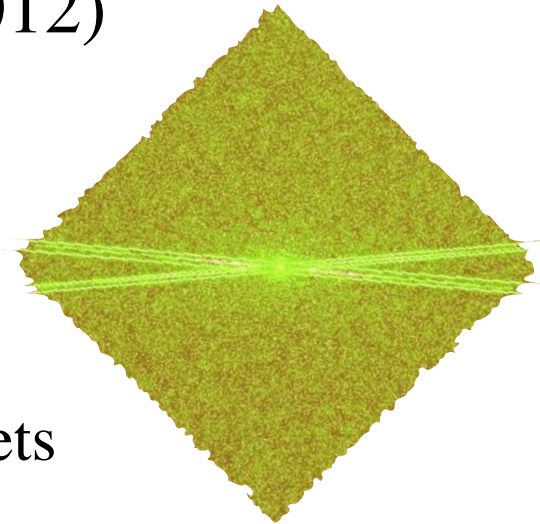
Dan Dewey
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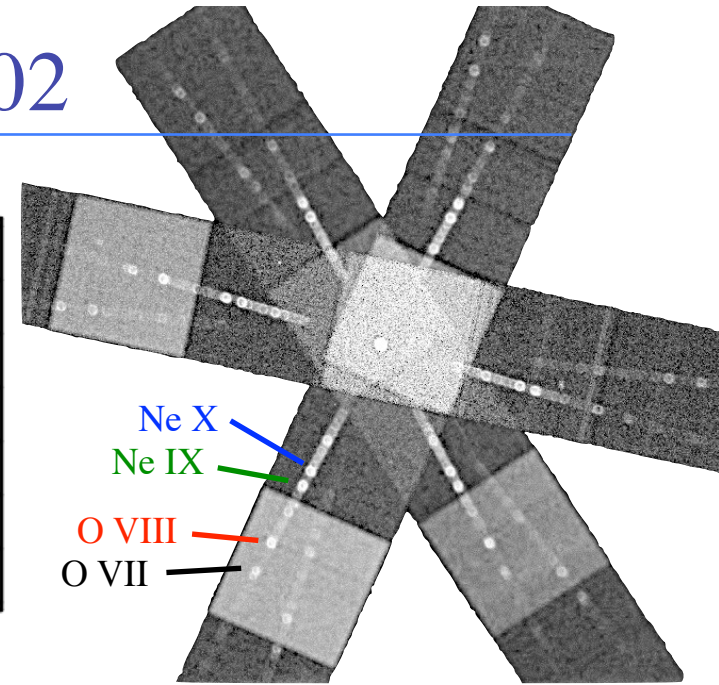
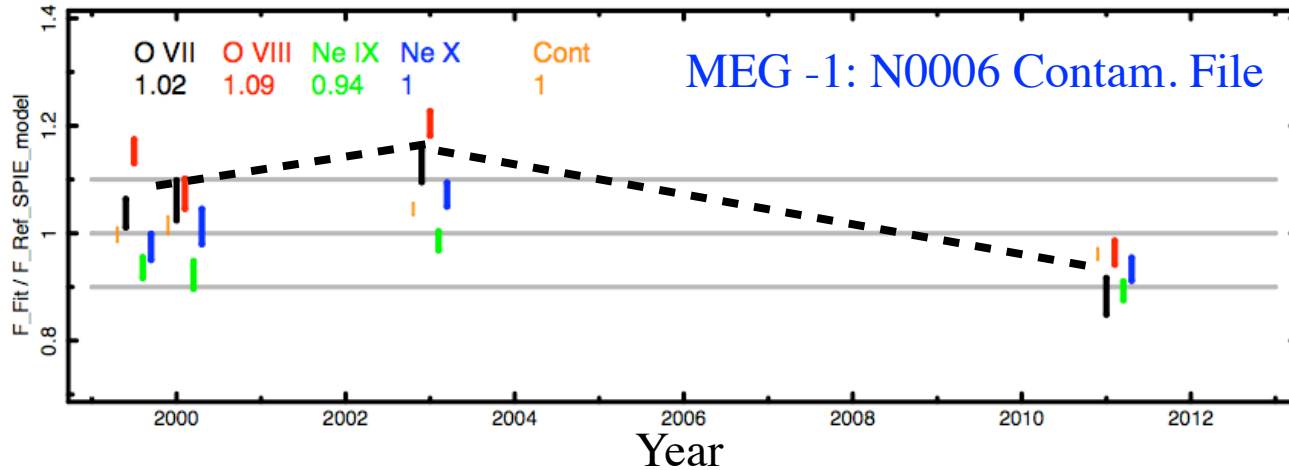
HETG IPI: Prof. C.R. Canizares
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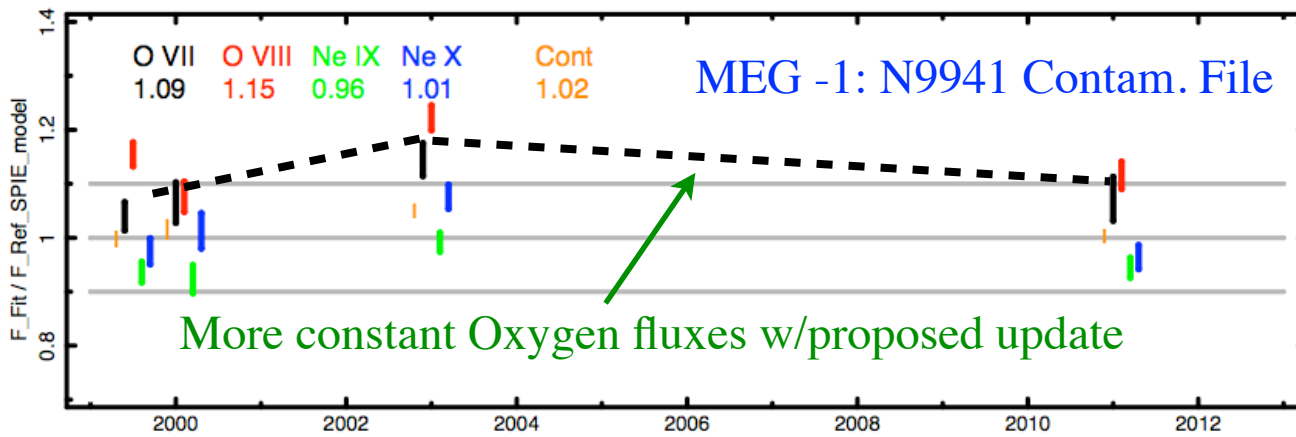
Ongoing HETG Team Activities Summary

- HETG Performance (Sept. 2011 -- Feb. 2012)
 - 29 HETG obsids on 13 Science + 1 Cal targets
 - * Included GTOs: GX 349+2(Cy12), HD 97950C.
 - * **HETG w/HRC-I** obsid 13712 
 - HETG performance is nominal.
 - LETG usage: 5 obsids on 3 Science + 2 Cal targets
- Science Support to CXC
 - HETG Calibration w/E0102 - 3 epochs, **next page.**
 - TGCat





3 HETG Epochs:
 2000, 2003, 2011
 Dominated by 4 lines:
 2 oxygen, 2 neon
 EPIC pn -->
 ~ constant in time



Part of the IACHEC calibration activities, continuing the work of Plucinsky et al. (2008, SPIE)



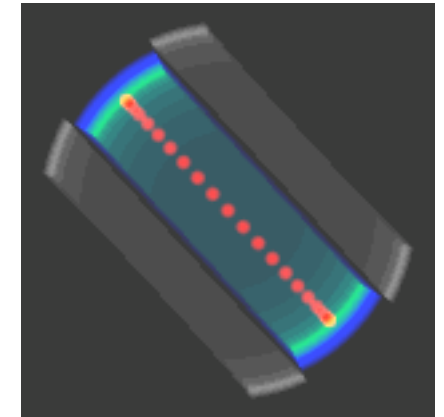
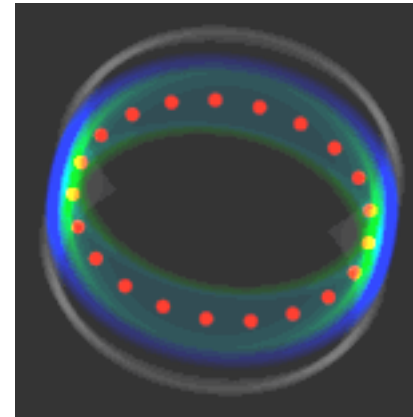
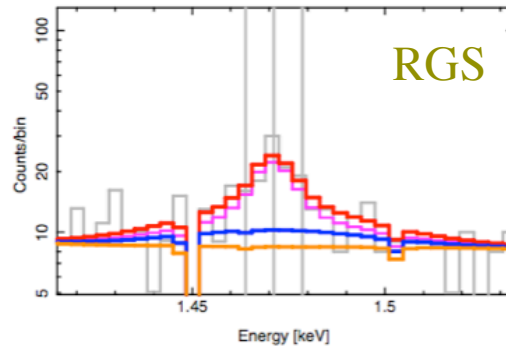
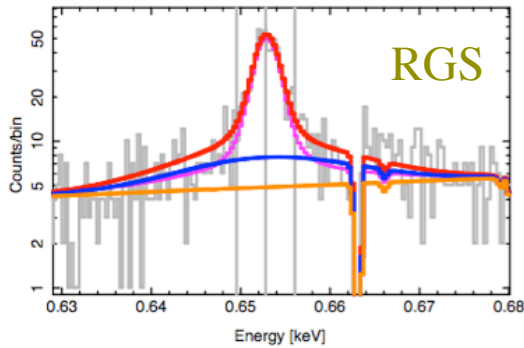
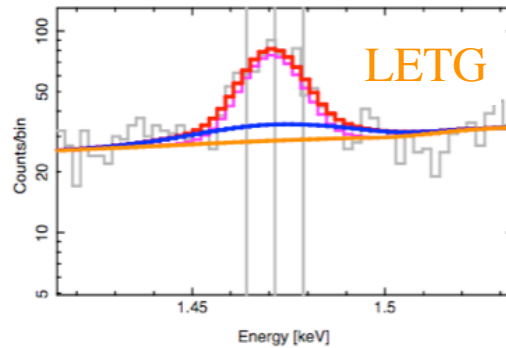
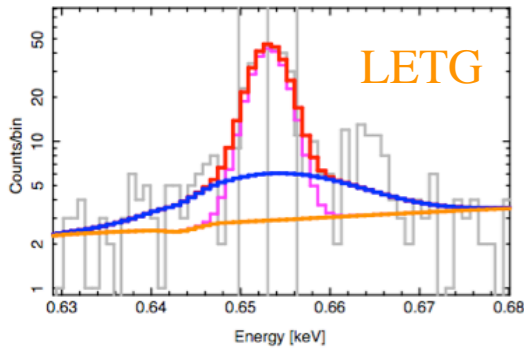
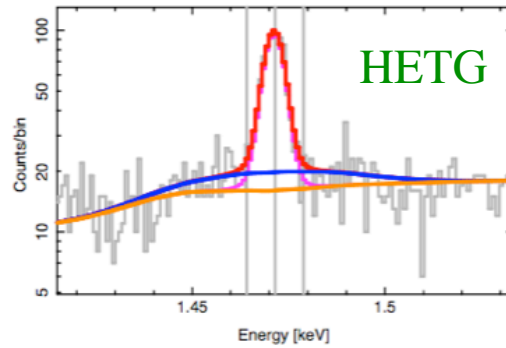
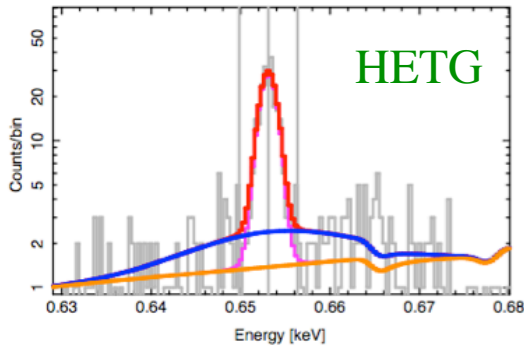
Ongoing HETG Team Activities, cont.

- GTO Science Program
 - ▶ Cycle 13:
 - ✓ AGN: 3C 445 [420 ks]
 - XRB: SMC X-1 [260 ks] (June, Aug. 2012)
 - ✓ Star: HD 97950C [50 ks]
 - ▶ Cycle 14:
 - Targets submitted, incl.: 600+ ks on M31 (no GO conflict)
 - Many sources (XRBs, SNRs), complements imaging obs.s
 - ▶ Postdoc status:
 - Two HETG Postdocs: high-res SNR and XRB.
 - One received Einstein Fellowship, leaving this Fall (to BU).

Science: Very-broad Component in SN 1987A

0.65 keV

1.47 keV



“Sky” view

“Side” view

SN 1987A w/HETG in '07, '11
 Ring emission (**Red**) - narrow lines

“HII” material out-of-plane
 ~ 9000 km/s FWHM (**Blue/green**)

HETG best able to separate them.

Dewey et al. (2012) - ApJ re-submitted
 arXiv:1111.5314