



MIT Kavli Institute
for Astrophysics
and Space Research

HETG - Status

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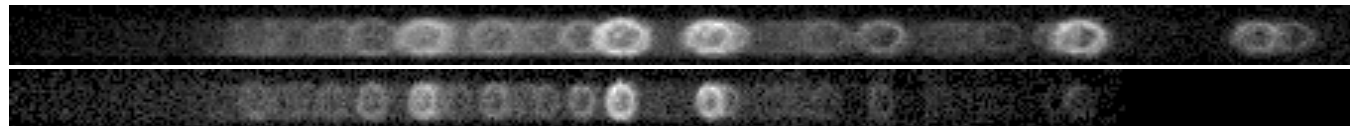
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Ongoing HETG Team Activities Summary

- HETG Performance (mid-May 2007 -- mid-November '07)
 - 29 HETG obsids on 15 targets
 - ✓ Our GTO: **Orion fields (161 ks)**, Cyg X-2 (CC, 150 ks)
 - ✓ Calibration targets: 3C 273, PKS 2155-304 (30ks each)
 - HRMA FWHM is constant - OK.
 - HETG performance is nominal.

- HETG Calibration



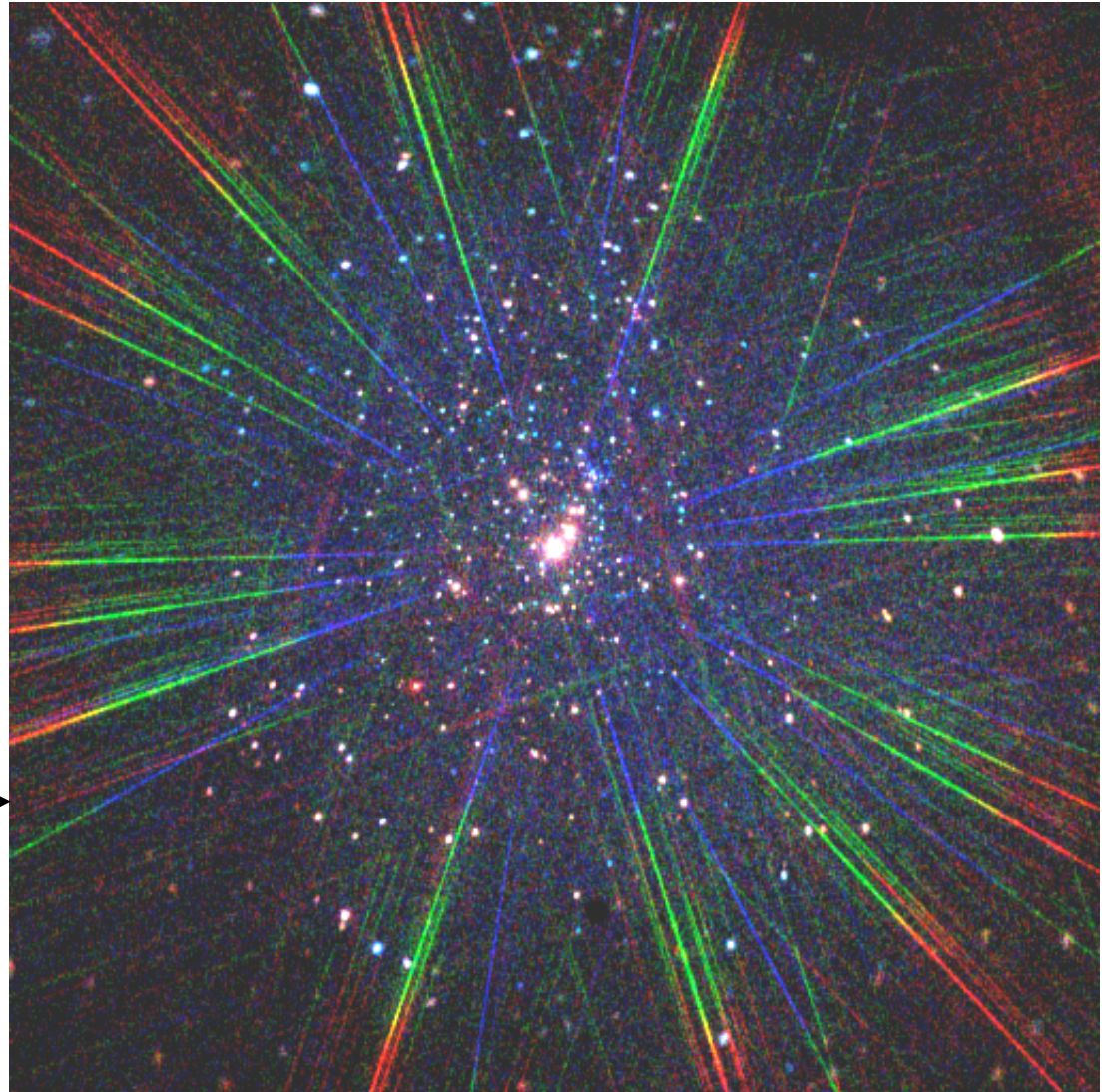
- Recent work:
 - http://space.mit.edu/home/dd/Hydra/E0102_Cal/P2COMP/P2comp_sept07.html
 - SNR E0102 for cross-calibration: compared with new RGS model fluxes.
- Future work:
 - HEG cross-dispersion asymmetry (initial work by Ishibashi)
 - Higher-orders' calibration

- Science Support to CXC, etc.
 - X-ray Grating Spectroscopy Workshop (July)
<http://cxc.harvard.edu/xgratings07/agenda/abstracts.html>
 - 8 Years of Science with Chandra, Huntsville (October)
 - Many talks/posters from HETG & CXC@MIT people.
- GTO Science Program
 - Cycle 8 program: All 4 targets complete.
 - **Orion example on next page.**
 - Cycle 9 observations begun with more Orion data.
 - Postdoc status:
 - 3 PDs with finishing dates: 9/08, 3/09, 8/09; all within current contract.
 - Expect Fall/Winter '08 advertising for '09 replacements (2) on new contract.



Huntsville Museum of Art

- Long-term GTO project
- Cycles 1, 5, 8 & 9
- 15 observations, totaling ~ 480 ks
- Rich set of sources and observation epochs
- 7 papers in ApJ (so far)
- Composite "sky" image from recent poster → by Testa et al. at the "Eight Years of Science with Chandra" meeting, Huntsville.





Ongoing HETG Team Activities, cont.

- GTO Science Program, cont.
 - HETG (and LETG) Legacy: High-Resolution X-ray Spectroscopy
 - Analysis Software: "day-to-day" and advanced
 - <http://space.mit.edu/CXC/software/index.html>
 - * MARX -- Chandra all-component ray-trace code.
 - * ISIS -- Interactive [high-resolution] spectral interpretation system.
 - * "Event-2D" and "Source-3D" -- custom s/w, works with ISIS.
 - Catalog of transmission grating targets & observations - "TG Cat"
 - * Manageable number of HETG & LETG targets observed, ~ 400.
 - * Provide "value-added" high-resolution products and information.
 - * Supports multi-wavelength users.
 - Informing the community
 - * TBD (papers, threads, x-ray 'textbook', ...)
 - Carried out by the "**HETG and CXC@MIT**" group, working with others in the CXC.



The "HETG & CXC@MIT" Group

- Supporting High-Resolution Spectroscopy in a variety of domains.

HETG &
CXC@MIT
Group

