HETG - Status

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Ongoing HETG Team Activities Summary

• HETG Performance (~mid-October'08 -- mid-March'09)
  – 68 HETG obsids on 13 Science + 1 Cal target
    ★ 5 of our GTO targets: long NGC 1068, EV Lac, 3 binaries
    ★ GO includes 3 at 200+ks: NGC 4051, SN 1996cr, Kappa Ori
    ★ GO multi-epochs of SN(R) 1987A and Eta Car.
  – FWHM of streak is steady; HETG performance is nominal.
  – LETG usage: 11 obsids on 4 Science + 1 Cal target;
    performance nominal.

• HETG Calibration
  – CC and TE cross-calibration with 4U 1957+11
    ★ Data in-house, looks useful. Analysis in progress (N. Schulz.)
  – Plans: Look into re-observing E0102 w/HETG for cal.
Ongoing HETG Team Activities, cont.

- **Science Support to CXC, etc.**
  - HETG article in Chandra Newsletter
    ✴ "Z-pattern" of the X-ray binary Cyg X-2
  - TGCat Support
    ✴ List ~ 350 HETG Objects, through Cy10.
    ✴ Help do V&V of the TGCat products.
    ✴ TGCat ready for use:  [http://tgcat.mit.edu/](http://tgcat.mit.edu/)
    ✴ Plans: Using TGCat products w/ISIS, etc.
Ongoing HETG Team Activities, cont.

• GTO Science Program
  – Cycle 9:
    ✓ Completed, NGC 1068: 400 ks in Nov./Dec.'08
  – Cycle 10:
    ✓ AGN, Ark 564 (250 ks)
    ✓ XRB/IGM, 4U 0614+091 (200 ks)
    ✓ Flare star, EV Lac (100 ks)
    ✓ XRBs: GX 5-1, 4U 1556-60 (32, 40 ks)
  – Postdoc status:
    ✴ One PD finishing 8/09; within current contract.
    ✴ Two PDs started during past months:
      * Increasing group focus on AGN
Science:

- **EV Lac: Catching the Flares**
  - Extract spectrum from flaring regions/times
  - Infer flaring loop temp., density, dynamics, and height (Testa+ 2008).
Science:

- **NGC 1068: Spectra vs Position**
  - ~ 450 ks of HETG exposure
  - Extract spectra along the "ionization cone"
  - PostDocs will figure out what it means :)

![HST view of NGC 1068](image_url)