Swift Calibration Status

1. BAT status
2. XRT status
3. XRT-BAT cross-calibration

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Burst Alert Telescope (BAT)

**BAT Characteristics**

- **Energy range**: 15-150 keV
- **Energy resolution**: ~3 keV @ 22 keV
  ~7 keV @ 122 keV
- **Loc. accuracy**: 1-4 arcmin
- **PSF**: 22 arcmin
- **Field of view**: 2 steradian
- **32K CdZnTe detectors, 5200 cm²**
- **Currently, ~29K detectors are working fine**
  (10-12 % detectors are disabled)
Obs. ID: 0005010021 (March 20, 2007)
Exposure time: 2082.186 sec

Fit results
- Photon Index = 2.13 +/- 0.04
- Norm at 1 keV = 8.9 (-1.3, +1.5)
- Flux in 15-150 keV
  = 1.99 +/- 0.03 x 10^{-8} ergs/cm^2/s
- $\chi^2_r = 0.80$ (58 dof)

Note on the DRM:
- Good agreement in 27-100 keV
- Discrepancies < 27 keV and > 100 keV
  ==> Fudge the response to fit with the Crab

Remember to apply batphasyserr to your PHA files

This part will be reduced in the next software release
Angular dependence

Crab Grid observations (2004/2005)

- Photon Index
  - Current (swbparams v8, fudged)
  - $1\sigma$ error
  - $2.15 \pm (0.05, +0.10)$

- 15-150 keV Flux
  - Current (swbparams v8, fudged)
  - $1\sigma$ error
  - $+/- 5\%$
Timing Accuracy

Obs. ID: 0005010021 (March 20, 2007)
Exposure time: 2082.186 sec

BAT Time resolution: 100 µs

Crab folded light curve

Jodrell Bank radio phase: ~ 0.99

The BAT data precede the Jodrell Bank radio by ~300 µs