

# Swift: Catching Gamma Ray Bursts on the Fly

## The UK Swift Science Data Centre

<http://www.swift.ac.uk>

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The UK Swift Science Data Centre (UKSSDC), based at the University of Leicester, is the first point of contact for UK scientists wishing to analyse Swift data. We host quick-look science data from the Swift satellite (usually available within a few hours of the observation), as well as a data archive which will contain the full complement of observations from the mission; the data are publicly accessible to all. As well as providing routine support for Swift operations, we offer training in the retrieval and analysis of the data, and an on-line help facility. We are also happy to advise on and support Target of Opportunity observations.

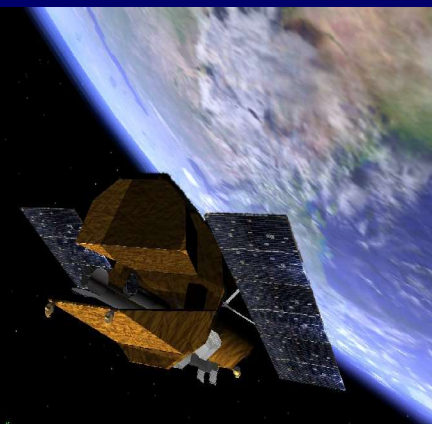
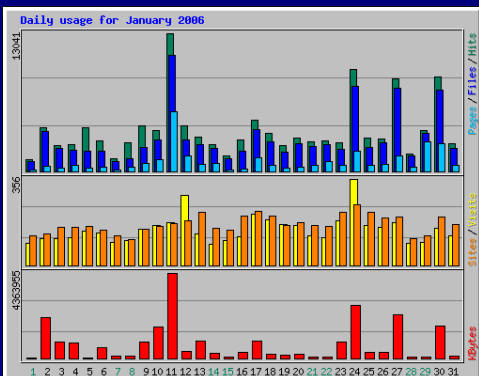


Image by Andy Beardmore

Swift is a US/UK/Italian satellite designed to study Gamma-Ray Bursts (GRBs). There are 3 instruments on board, covering the gamma-ray, X-ray and UV/optical bands (the wide-field BAT and narrow-field XRT and UVOT respectively). These allow multi-wavelength observations and the localisation of GRB positions, with arcsecond accuracy, within a few minutes of their discovery.

The University of Leicester designed the X-ray Telescope and built both the CCD focal plane camera and the Telescope Alignment Monitor; we are also responsible for calibrating the CCD response matrix. Between Leicester and UCL-MSSL, the UK provides expertise on both narrow-field instruments on-board Swift.

The UKSSDC receives, disseminates and archives the data shipped from the Swift Data Center (SDC) at the Goddard Space Flight Center. As well as providing access to the data, our website <http://www.swift.ac.uk> also provides an introduction to GRBs and the satellite, highlights topical issues related to Swift and provides a catalogue of papers based on Swift data.



Usage statistics for the UKSSDC data.

The daily usage throughout January 2006. The data access rates generally spike when new GRBs are detected; there were 2 bursts on 11<sup>th</sup> January.

Up until July 2006, the archive contains (among others) the following distribution of datasets:

Observations	Time (hours)	%age of total
GRBs	5151	56.2
ToOs/fill-in targets	2464	26.9
Calibration Obs.	1007	11.0

The archive now contains (previously encrypted) data for January-March 2005 (part of the calibration phase of the mission).



Screen-shot of the UKSSDC front page.

Swift is funded in the UK by PPARC.

## Swift Software Training

The UKSSDC offers one-day training sessions in the analysis of Swift data from all three instruments: the BAT, XRT and UVOT. The training covers a brief introduction to the BAT and narrow-field instruments, followed by real-time demonstrations of running the standard "pipeline" routines, included as part of the HEASoft FTOOLS package. We offer expert advice in making the most of Swift data, including tips on cleaning event-files and extracting spectra and light-curves.

To take advantage of this training opportunity, please contact [swift-help@star.le.ac.uk](mailto:swift-help@star.le.ac.uk).

### Useful URLs

<http://www.swift.ac.uk/cgi-bin/ql> - Quick Look data

[http://www.swift.ac.uk/swift\\_live](http://www.swift.ac.uk/swift_live) - Archive data

The initial GCN (GRB Coordinate Network) notices, which are transmitted immediately a burst is detected, have been made available in a form suitable for easy access via internet-ready mobile phones and PDAs. See <http://www.swift.ac.uk/gcn.shtml> for details.



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