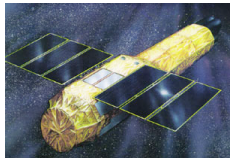
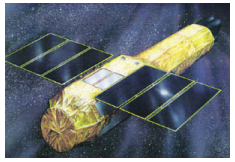


Astro-E2 Archive

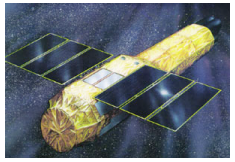
Lorella Angelini/HEASARC



HEASARC responsibilities

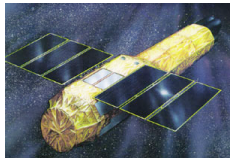
- Populate and maintain the Astro-E2 science and calibration data archive
- Provide the following services
  - Public access to the Astro-E2 archive
  - Science data analysis software environment
  - Web server for the Guest Observer Facility
  - Database system for the Astroe-E2 tables
  - Long-term archive

Astro-E2 data archive present at HEASARC and DARTS (ISAS/JAXA)



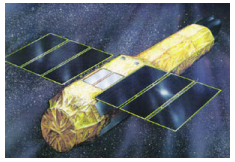
Archival Data

- Data sets part of Astro-E2 archive
  - Science & housekeeping data organized by observation (each containing Level 1 & 2 & 3 for all three instruments)
  - Monitoring and/or Trend data organized by type
  - Calibration data using CALDB infrastructure
- File format:
  - Science, housekeeping and calibration data are provided in FITS format (OGIP standard)
  - Preview of summary products in other standard formats (e.g. GIF, JPEG)
  - HTML used to record processing



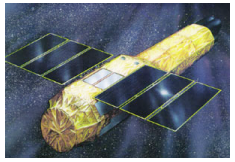
Archival Data

- Database tables
  - Allow users to select data by querying these tables via the Web based search facility (Browse)
  - ASCII files using the TDAT layout (HEASARC standard)
  - Record high level information related to the data set (position, time, and others parameters)
- Tables are :
  - Master & Instrument configurations
    - —Linked via the observation Id parameter
    - —Containing parameter to link to the data file



Time of delivery

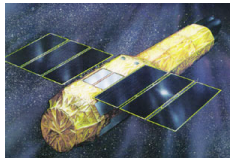
- Data from standard processing
  - Database tables master & the instrument configuration are updated daily
  - Observation and Monitoring data also daily
  - Populate the archive from the start of the mission
  - Data during PV phase and proprietary period are kept encrypted.
- Data volume estimated up to 2 Gbyte/day



Operational Plan (1)

- Re-use existing software and infrastructure
  - to minimize costs and risks
  - maximize inter-operability with other missions

- Archive procedure fully automated (Re-use software established for Swift)
  - Transfers from the processing site to the archive via DTS (Data Transfer protocol) initiated at the processing site
  - At the receiving site data are pulled into a staging area are validated and send to populate the archive via DAS (data archive system)
  - Data and tables on-line on a time-scale of minutes

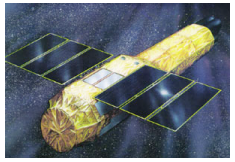


Operational Plan (2)

- Archive verification between data at HEASARC and DARTS to ensure serving the same data (procedure re-use from Swift)
- Ingest calibration data in CALDB

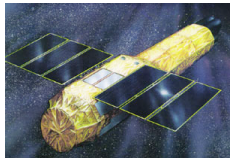
  Deliveries and updates provided by the GOF
- Import Astro-E2 software into the HEAsoft package for distribution

  Deliveries and updates provided by the Software Team via CVS
- Backups
  - Use RAID arrays as disk storage
  - Redundant hot-backup disk system
  - Backup weekly
  - Backup copy to the NSSDC



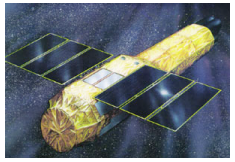
Data Access

- Data by observation :
  - HEASARC Browse interface
    - —Search via database tables by coordinates, time, and other parameters.
    - — Data retrieval via tar file or download script to run on user machine
  - FTP access
- Monitoring data
  - FTP access
- CALDB
  - via FTP to install CALDB file on user local machine
  - Remote access via CALDB interface software for files used in the reduction software



Initial Mission Phase

- During the PV Phase data access to the SWG team
  - Data in the archive are encrypted and key distribute to the Team .
- GO data
  - Data in the archive encrypted and password distributed to the GOs. One year proprietary period
- First public data foreseen ~ 1 year into the mission (to be confirmed)
  - End of the proprietary period data are decrypted at the archive site.
  - HEASARC and DARTS needs to coordinate this operation



Schedule

- **April-May 2005 :**
  - Testing data delivery from US processing site to HEASARC and archive ingest
  - Test of database ingest
- **June 2005**
  - Archive operational. Capability to fully ingest data in the archive and tables in the DBMS
- **April 2005**
  - First pre-launch software distribution
    - —Coincide with the HEAsoft main distribution
  - First CALDB distribution to work with software