
Implementing 2007 NRC Portals of the Universe Report

Chandra X-ray Center

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User Support

Afternoon Discussion

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Critical Requirements:

- In-house expertise on all aspects of the observatory
 - Active research scientists who use the observatory, documentation, software etc. for their own research
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Discussion Topics

- **Small Mission/Science Center synergy**
 - Where does one end and the other pick up?
 - Start working together early
 - **Oversight**
 - Balance overhead in committees with usefulness of input from outside
 - Useful as sounding board for new ideas as well as review of current status
 - Engage a broad cross-section of users from outside mission and wavelength range, e.g. Spitzer User Panel includes Hubble, Chandra reps
 - **Software/Processes**
 - Ready and fully tested by launch
 - Beta-testing by outside scientists
 - Keep current via surveys and monitoring of usage
 - Avoid using software with expensive licenses
 - Reuse software (other missions) where possible e.g. Spot (Spitzer), H-Spot, SOFIA-Spot); ROSAT RPS, Chandra RPS
 - **Helpdesk**
 - Prompt initial response (duty person 8/5)
 - Backup staff available (scientists/software experts)
 - Expand duty time around deadlines
 - Importance of robust, flexible Helpdesk software
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Discussion Topics (cont)

- **Data/Archive**

- Reliable delivery of verified, science-ready data
 - Fast turnaround processing important for time-dependent science
 - Combination of the two is most efficient (Chandra standard is 1-2 days)
- Ability to reprocess: provide software, calibration, engineering and raw data
- Use standard data formats (VO compatible)
- Work with Users' Committee to define/understand Users' needs
- Funding creation of advanced data products (Legacy, Treasury)

- **Documentation**

- Multiple layers, interlinked via website
 - Documents: CFP, Handbooks etc. (remain available "forever")
 - Webpages on specific topics
 - Memos and reports
 - Threads focusing on specific tasks (proposal preparation, data analysis)
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Discussion Topics (cont)

- **To be ready at Launch, User Support needs to start 2-3 years earlier, address all aspects**
 - User Panels, Helpdesk, Website, Software tools, etc
 - Different phases (observation planning, analysis) require different emphasis, but they should be well integrated, connected via Archive
 - **User Support should continue to evolve and innovate**
 - E.g. When Herschel data reduction became “heavy”, we had to introduce remote computing resources more powerful than users could buy for themselves
 - E.g. NHSC moved away from in-house visits, towards webinars, remote session support, video tutorials, etc
 - Need to be willing to try novel approaches suggested by users, even if some do not bear fruit
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Backup Slides

Input from others

User Support (from Martin S)

Archive Services

- Validation and verification of archived data
- Provision of raw, calibrated, higher-level data
- Provision of engineering and calibration data
- Synergizing mission data content and formats with other missions and existing software
- Aligning the different interests and services of mission and archive to best support the community

Develop and support data analysis tools

- Create open source projects
 - Avoid re-invention where possible
 - Synergize software with other missions
 - Don't delay – be software-ready for launch and commissioning
 - Avoid software licenses – the cost to the community is wasteful and resented
 - Avoid writing proprietary code for pipelines – archived data becomes a black box for the community
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