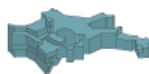




Astronomer's Workbench

Preliminary use cases and functional
components

Jai Won Kim





Examples used for “AWOB”

- Angela Bongiorno: zCosmos
- Alexis Finoguenov: Multivariate Archive of X-ray images(Data publication + “advanced” services)
- Marat Gilfanov: organizing & tracking students projects
- Frank Haberl: XMM-Newton SMC Survey Project
- Mike Boylan-Khinchin: SAM comparison Project
- Gerard Lemson: Galformod science project management
- Roderik Overzier: Simulations & Observations comparison
- Joachim Paul: Setting up project Wiki pages
- Manolis Rovilos: Lockman Hole multi-wavelength survey
- Gyula Szokoly: Publishing cdfs X-ray followup spectra to VO



MAXI - Alexis Finoguenov

- Publish the observation analysis results.
 - <http://www.g-v-o.org/MAXI>
- Resource types
 - Documentation, FITS image, tabular data, ps files, ADS ref
- Missing features
 - Allow Alexis upload the results, and edit the documentation online by himself.



XMM-Newton SMC survey

JaiwonKim | [Settings](#) | [Logout](#) Search

SMC_XMMLPwiki: [FrontPage](#)

[HelpContents](#) » [FindPage](#) » [RecentChanges](#) » [CollaborationPage](#) » [FrontPage](#)

[FrontPage](#) [RecentChanges](#) [FindPage](#) [HelpContents](#)

[Edit](#) [Info](#) [Subscribe](#) [Add Link](#) [Attachments](#) [More Actions:](#)

Welcome to the Wiki page of the XMM-Newton SMC survey project

- Papers in preparation

Select Table SQL Edit Latest Query Result Last Selected Source Help Logout

XMM-Newton SMC Source Database

smc_private.sources [Select Table](#) [Go directly to SQL Edit Page.](#)

Table smc_private.sources

SIMBAD name resolver

Object name [Query SIMBAD](#)

Define Search Parameters

Coordinates Radius [arcsec](#)

smc_private.sources Columns

☒ Do Cross Match

Cross Matched Tables and Columns

[Create Query](#) [Reset](#)

```
jkim@ds06:~/smc_deployed_v1/smcingestor/bin$ ./smcingestor.sh -h
```

Usage:

```
java -jar <jar-file> -dbu <database user> -dbpw <database password> -dbh <host> -a <action> [OPTION]...
```

Actions and OPTIONS for each action are as follows:

<action> = config

To setup SMCIngestor database.
<database user> must be 'root'.

<action> = uploadsrclist
-dbn <database name>

To upload a source list from FITS binary table
Database name where the source list is uploaded
Case sensitive.

-t <table name>

Table name where the source list is uploaded
Case sensitive.

-f <file url>

FITS file location, full or relative path with
'/' path separator).



XMM-Newton SMC Survey

- Source list in FITS file created by user (RS)
- Uploaded into database using special purpose commandline tool (JK)
 - also cross match tables ...
- Database queriable through web site
 - pure SQL and form based
- Links to external services
 - e.g. SIMBAD, ADS, Vizier
- Updatable details view per source with
 - images/finding charts, spectra, light curves, comments, references
- Web site private: login required
- Goal: public web site once project finished
- Separately a wiki/website is used for project organization
- Missing features
 - Single platform to access wiki/command line tool/private data



MPE projects

- Set up project wiki (JP)
 - <https://wiki.mpe.mpg.de/>
- Project document sharing server
 - BSCW server
- Missing feature
 - Set up project by scientists
 - Wiki hard to stay organized
 - ..



Main Functional Components of AWOB

- Project Management
- Resource Management
- Metadata Management
- Value added components
- ...



Project Management

- Setting up a project in AWOB
 - Create a project.
 - Invite collaborators with specific privileges in the project.
 - Project mailing list created automatically.
 - Create sub projects as needed, and require specific authorisation per sub project.
 - ...
- Able to access
 - data
 - emails, write ups, papers
 - ...



Resource Management

- Resource Types
 - data, eg., catalogs, images, spectra, simulation movies
 - tex files, papers, presentations
 - web pages, wiki pages
 - ...
- What do with Resources
 - upload/download, view, visualize, edit
 - browse, search
 - link



Metadata Management

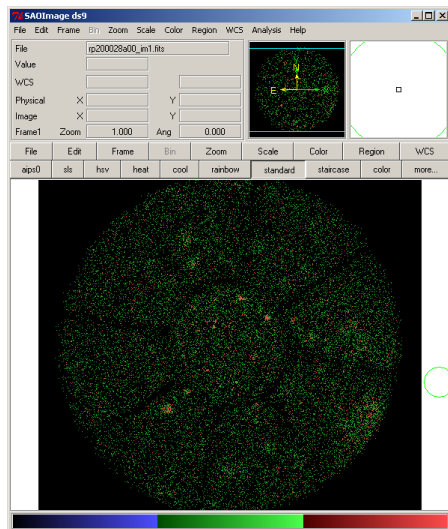
- To describe data (eg., source table columns)
- To associate tools to files to view, edit (eg., fits, ps, jpg, ...)
- To enable search
- To link related resources
- To publish to VO, and archive
- Automatically extracted or assigned by user explicitly



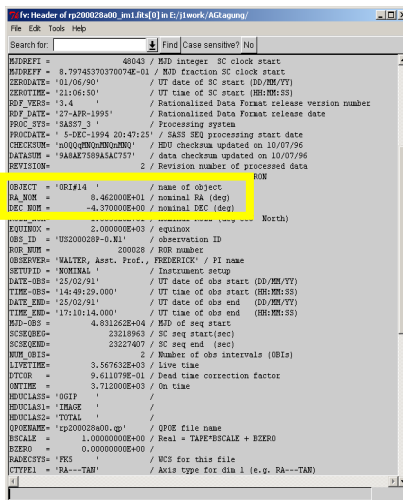
FITS Metadata Extraction

Extract tables

File type = 'fits'



Visualize with DS9



Extract header

Table with 6 columns: SRC_ID, ML_ID_SRC, RA, DEC, TOTAL_RADEC_ERR, DET_ML. The table contains 20 rows of astronomical data.

SRC_ID	ML_ID_SRC	RA	DEC	TOTAL_RADEC_ERR	DET_ML
1	1	1.92711369919E+001	-7.34433130703E+000	1.00701220924E-001	1.476680E+000
2	1	1.927102261002E+001	-7.34431540559E+000	1.04627221344E-001	6.328743E+004
3	2	1.965797409667E+001	-7.34240087528E+000	1.050463277930E-001	4.063033E+004
4	2	1.965764261223E+001	-7.34245974133E+000	1.16539387846E-001	7.895010E+003
5	3	1.963425814163E+001	-7.32948914525E+000	1.46066664295E-001	2.980008E+003
6	3	1.963445056525E+001	-7.32947869744E+000	1.65728956424E-001	6.493001E+002
7	3	1.963316243038E+001	-7.329352296321E+000	1.296860701661E-001	3.638638E+002
8	4	1.982683997078E+001	-7.339863160478E+000	1.376443297378E-001	8.768808E+002
9	4	1.982561720612E+001	-7.33985999994E+000	1.954334956192E-001	1.937153E+002
10	4	1.982632842019E+001	-7.339882663591E+000	1.121232240211E+000	5.464294E+001
11	5	1.943655259195E+001	-7.365669636108E+000	7.22494474822E-001	8.559657E+002
12	5	1.943636911859E+001	-7.365656606223E+000	8.246367962722E-001	4.674290E+002
13	6	1.931553181178E+001	-7.324925301203E+000	7.117949753779E-001	6.112839E+002
14	6	1.931635044770E+001	-7.324908758338E+000	1.321748708549E+000	6.749363E+001
15	6	1.931490287421E+001	-7.324902632007E+000	1.836923773554E+000	5.856033E+001
16	6	1.931813307222E+001	-7.324935227295E+000	1.707937570793E-001	1.583433E+002
17	7	1.991409610366E+001	-7.345903829305E+000	4.751281691655E-001	5.521608E+002
18	7	1.991398360707E+001	-7.345892926565E+000	5.547961234124E-001	2.089822E+002
19	7	1.991373707384E+001	-7.345963177014E+000	8.438866823788E-001	2.284590E+002
20	8	1.934973203431E+001	-7.353399216954E+000	7.05656480337E-001	3.612028E+002

N FITS files



Find all the FITS files containing
RA = ?, DEC = ?



Linking between resources

[Select Table](#) [SQL Edit](#) [Latest Query Result](#) [Last Selected XMM Source](#) [Help](#) [Logout](#)

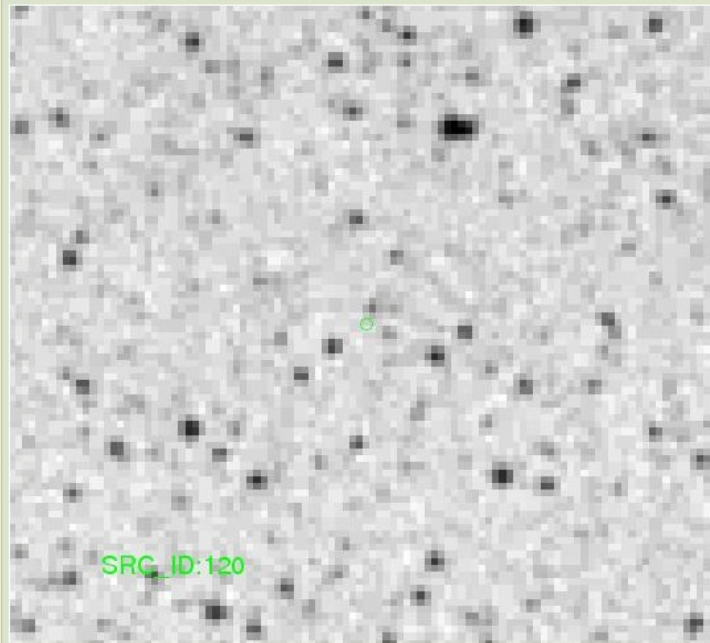
Details for source #120

[SIMBAD](#) / [VIZIER](#)

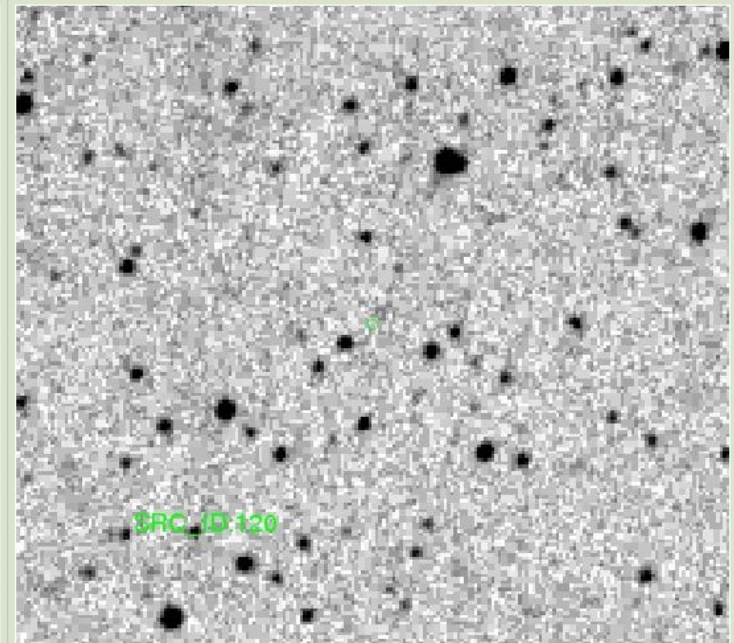
Source Class:	<input type="text" value="Pulser"/>
XMM comment:	<input type="text" value="Unclear two detections"/>
References:	<input type="text" value="2006A&A...455..773V"/>
ROSAT comment:	two different optical counterparts
<input type="button" value="Update"/>	

[2006A&A...455..773V](#)

[dss1 finding chart](#)



[dss2red finding chart](#)



[Energy spectrum](#) [FFT power spectrum](#) [Folded lightcurve](#)


[show xif file](#)



Value added services

- Portal to external services
 - ADS, VizieR, SDSS, SIMBAD, etc
- Visualization tools
 - Aladin, DS9, Topcat
- Database support for tabular data
 - Make easier to do advanced search
 - IVOA's TAP(Table access protocol) for querying archives.
 - Support upload tables in files to database.
 - Provide query interfaces.



Usability

- Centralized place to organize
 - your projects
 - your resources
- We need your inputs!



Preliminary AWOB User dashboard

Astronomers Workbench - Dashboard

http://www.awob.de/dashboard

Dashboard [Login](#) [About AWOB](#)

DASHBOARD NEW PROJECT MEMBERS ACCOUNT

search

PROJECTS

My Projects

- [ProjectX, 09.05.2011](#)
- [ProjectX, 09.05.2011](#)
- [ProjectX, 09.05.2011](#)
- [ProjectX, 09.05.2011](#)

Project Collaborators

Role ▼ Project ▼

Collaborator name
mail: coll@orgx.com

Collaborator name
mail: coll@orgx.com

Collaborator name
mail: coll@orgx.com

Collaborator name
mail: coll@orgx.com

Recent Changes can go here as well

Me

My Ressources

search

Format Type ▼
MIME Type

Images

- [M13](#) rosat_pspc_rdf2_3_bk1.tif
- [M13](#) rosat_pspc_rdf2_3_bk1.tif
- [M13](#) rosat_pspc_rdf2_3_bk1.tif

Movies

- ☐ [Galaxy merge simulation](#)
- ☐ [White dwarf simulation](#)

FITS

- rosat_pspc_rdf2_3_bk1.fits

External

- Paper on rosat EUV data

System Resources & Tools

search ressources

VizieR

Aladin

ADS

Could be a head level

My Profile

Tasks & Upcoming

- Compare spectra for M13
- VidCon 11:00 Room 23

Events

System upgrades

- 01.01.2011 FITS connector installed

Messages

Mike, did we summarize last experiment changes?

Me> Yes but I need to not put them here [ProjectX](#)

Any idea for the scrip changes?
[ProjectX/Resources/Scripts/shift_images.sh](#)

Me> We should split it and let Bernard take over

Can go to my project

- listen to events RSS
- or AWOB system extentions



Discussion?

- What does the scientist expect from AWOB ?
- What should be the first user scenarios?
- What are the features that AWOB must support?
- How do we interact with the scientists?
- What is a project?
 - Consortium vs Paper