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AWOB, an Astronomer's Workbench

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Talk: Andreas Vogler, MPDL, June 09, 2011



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Digital publications allow a good data-mining



Get

- flux
- spectrum
- do an SFB profile
- etc.

to classify sources



The edge-on spiral Galaxy NGC 4631
and its companion NGC 4627

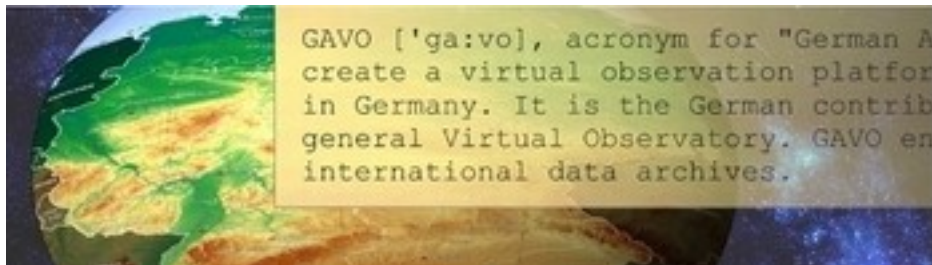


What is AWOB (in Few Words)?

AWOB, the Astronomer's Workbench, is a WEB based publication-information-communication-collaboration-data-platform which helps scientific working groups of any size to enhance the communication and to share resources, data, results, publication texts etc. throughout the whole scientific life cycle.

The data in e-publications are standardised, thereby allowing long term archiving of the data, the annotation of metadata as well as easy access of digital outcomes by other scientists.

The AWOB project has a duration of 3 years and is based on experiences made by the German Astrophysical Virtual Observatory (GAVO) and the MPDL. The AWOB project takes advantage of the experiences gained by MPDL's eSciDoc and other projects. Where appropriate, existing solutions will be used.



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Situation and Challenge in Today's Astronomy

- Projects can include hundreds of collaborators, often spread out over the globe (large groups due to expensive large telescopes, satellites, super clusters for computing)
- Sharing resources (e.g., data products, images, or texts for publications) can be cumbersome
- If one group wants to use the „digital results“ (e.g., a calibrated image) of another group, an exchange and a detailed description of the underlying data is necessary

Examples for observatories:

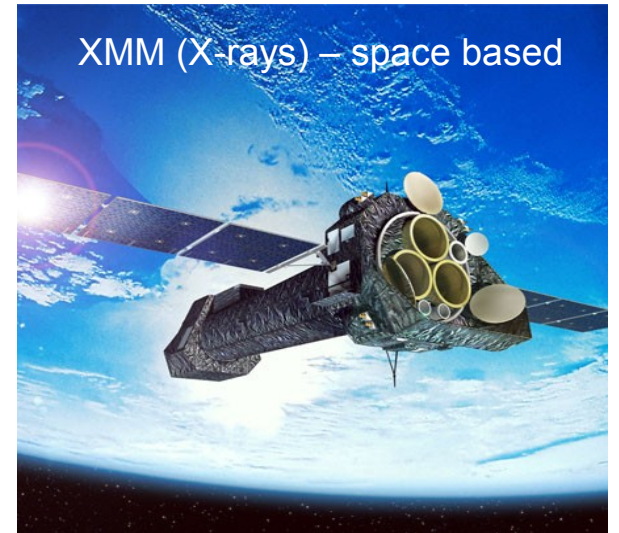
VLT (optical) - ground based



VLA (radio) - ground based



XMM (X-rays) – space based

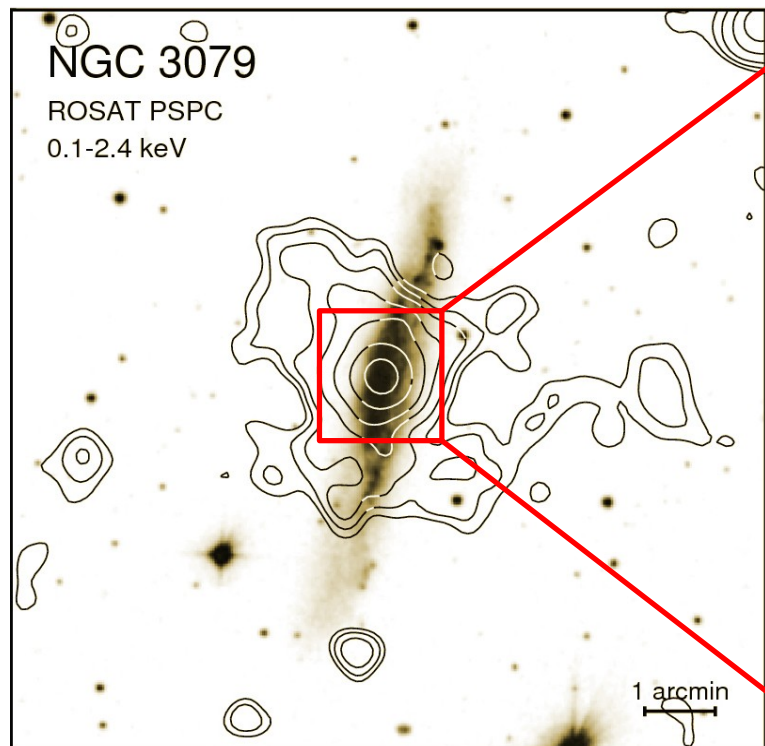




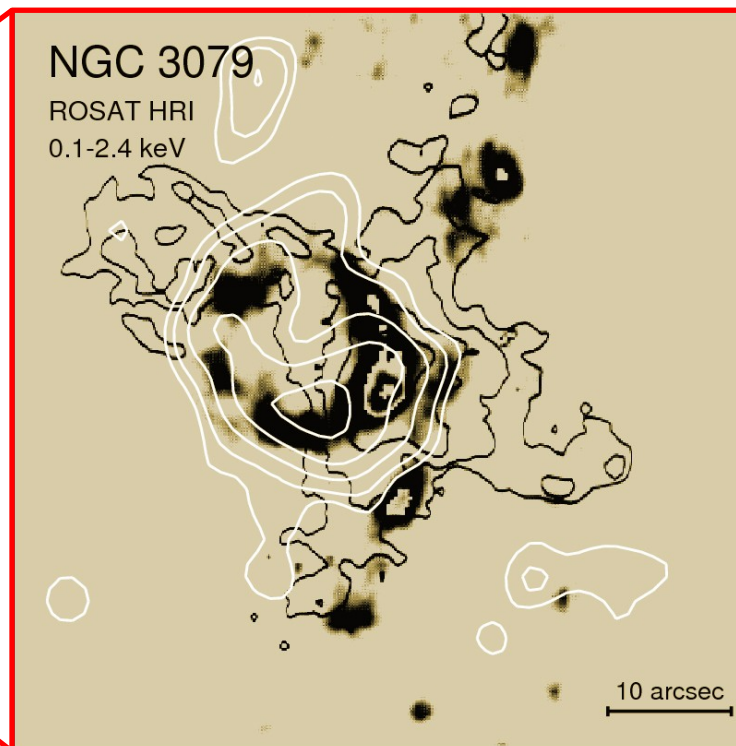
Multi Wavelengths Observations

Multi wavelengths observations allow a holistic view of objects.
E-publications are a perfect basis for them!

Example: An optical, X-ray, radio and H α view of the edge-on spiral galaxy NGC 3079



NGC 3079: Optical image and X-rays (contours)



The central super bubble: H α image, X-rays (white contours) and radio (black contours)

References:

Optical image:
ESO/DSS2

X-rays:
Pietsch et al. (1997)

Radio and H α :
Veilleux et al. (1994)



The Central Super Bubble of NGC 3079: A False-Colour Image

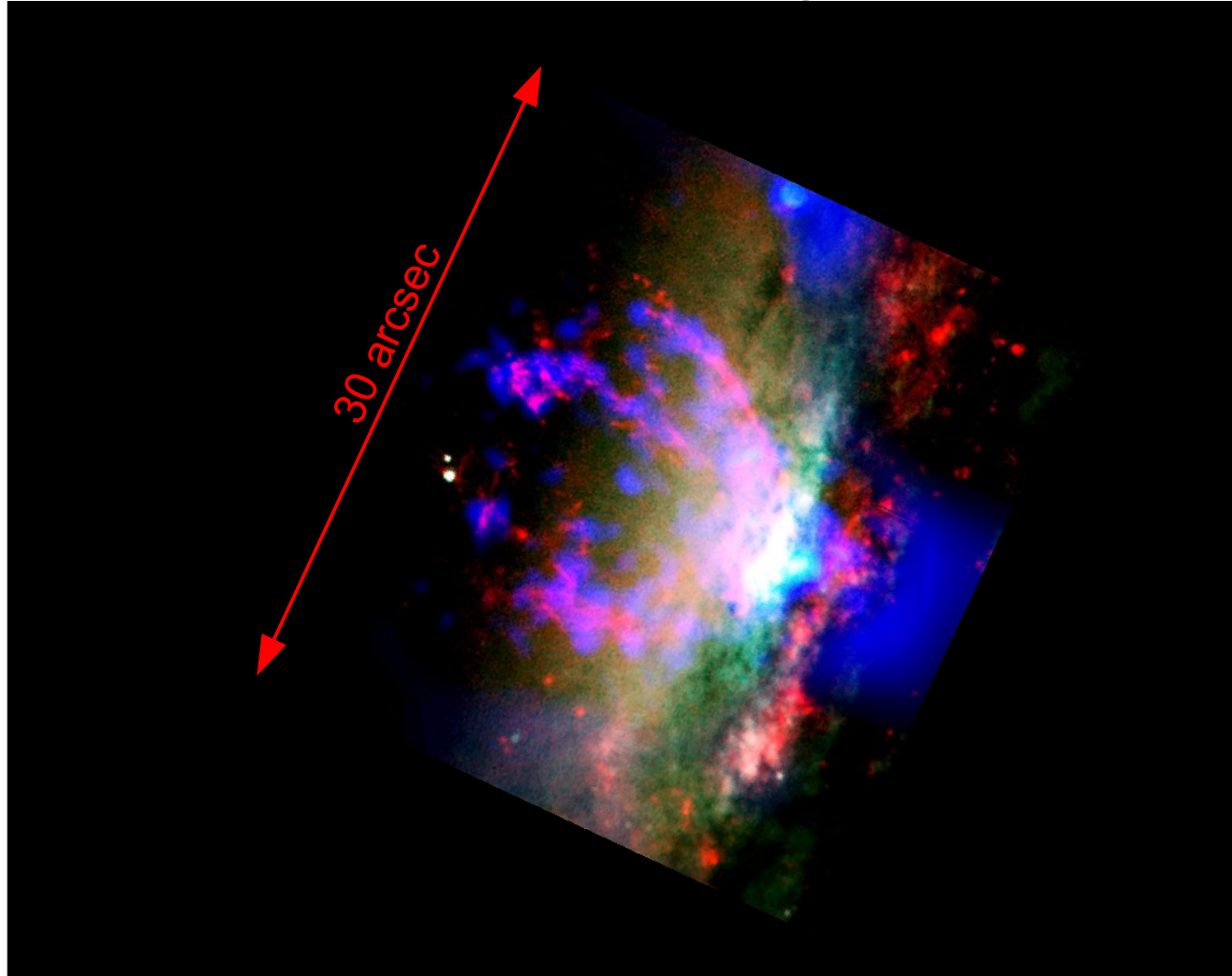


Image rotated, so that
North is to the top



Showcase Life Cycle of Science in Astrophysics

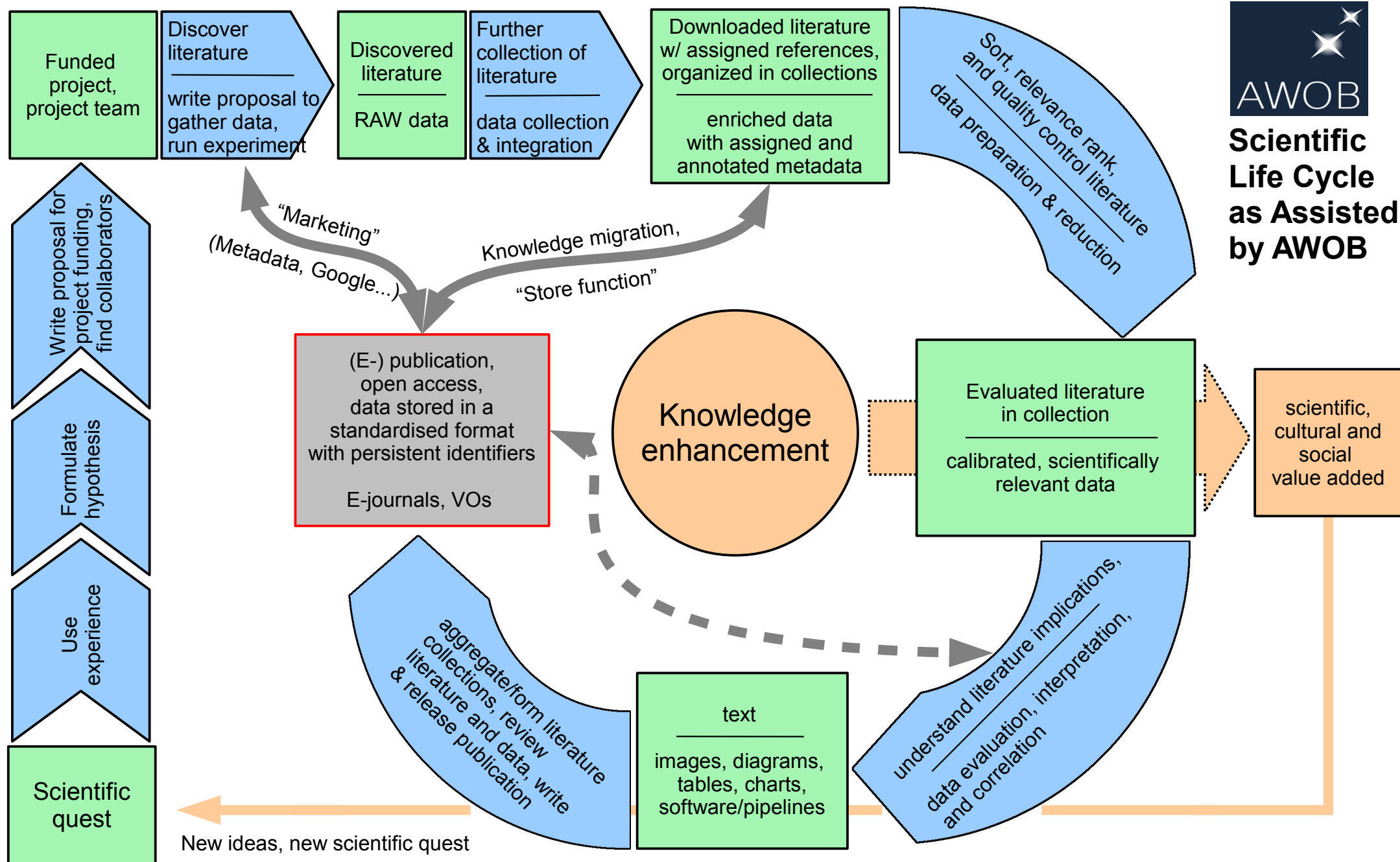
A typical scientific life cycle in Astrophysics is sketched in the following transparency

It may contain:

- Finding partners for a scientific quest
- Doing literature research
- Writing proposals for funding and observation time
- data/literature preparation, evaluation, interpretation
- writing a publication
- publishing as e-publication and to Virtual Observatories (VOs)



Scientific Life Cycle as Assisted by AWOB





How AWOB May Assist the Scientific Life Cycle

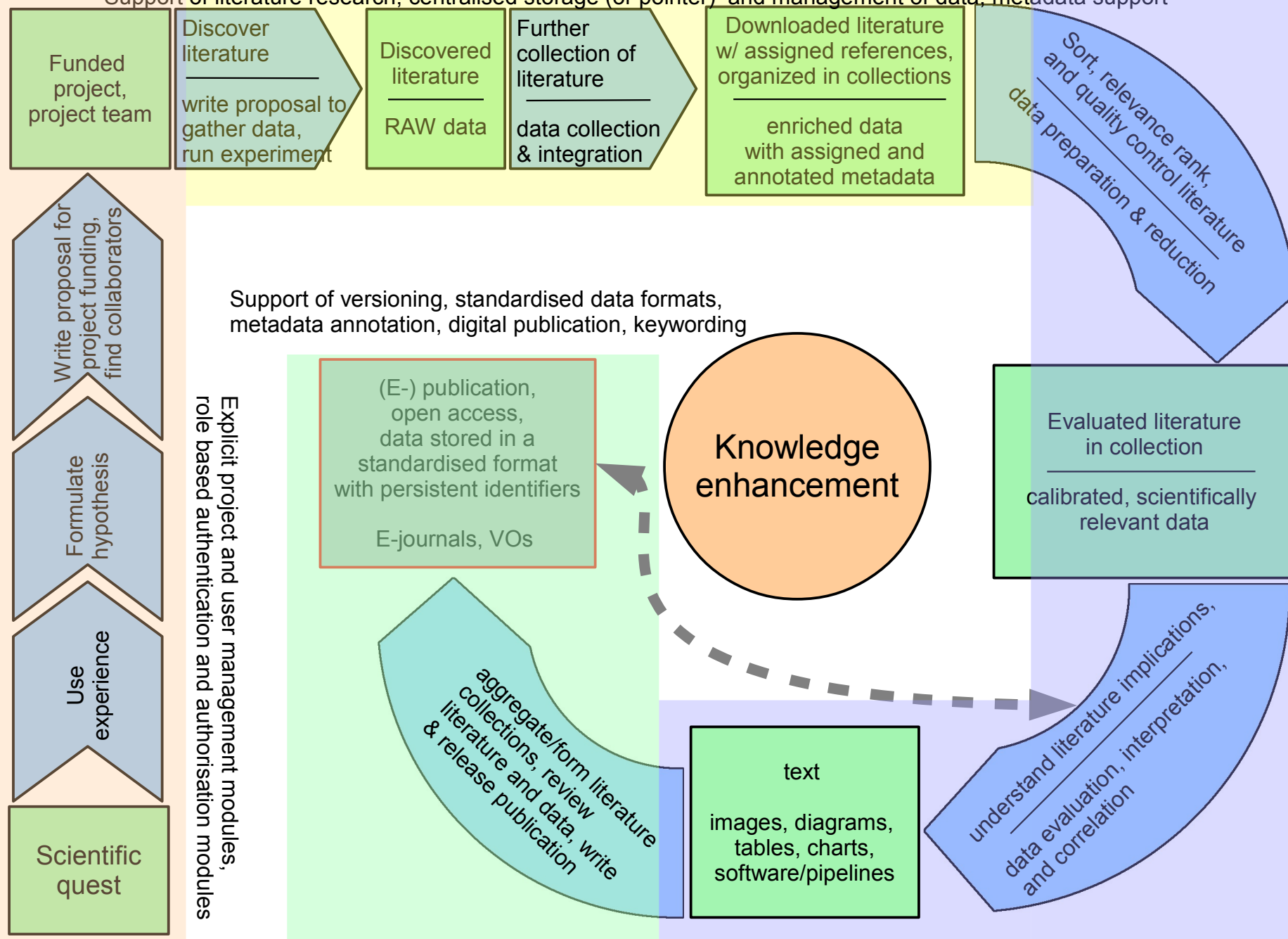
The overlap of the AWOB features with the showcase life cycle is demonstrated in the next transparency

Support of literature research, centralised storage (or pointer) and management of data, metadata support



AWOB Contributions to the Scientific Life Cycle

Easy access to external web services, value-adding tools (e.g., visualization, search), centralised storage of publication relevant data like texts, images etc., versioning





Astronomer's Workbench: Requirements

Build a publication-information-communication-collaboration-data-platform assisting the scientists throughout the whole scientific life cycle.

The AWOB platform will contain the following main functional components:

- Project and user management modules
- Role based authentication and authorisation for restricting access to the project resources
- Centralised storage (pointer) and management of the shared data
- Value-adding tools such as search, visualisation and analysis
- Easy access to external web services
- Meta-data extraction and annotation for publication
- One-click e-publication of data



AWOB Approach

- Build a demonstrator of the workbench
- Close cooperation of developers and scientists from MPE/MPA
- Develop further versions integrating feedback from a larger scientific community. Provide documentation and training for interested scientists.
- Final release of AWOB after 36 months. Brainstorming on sustainability already in a relative early phase.



Testing, feedback,
sustainability

Final AWOB

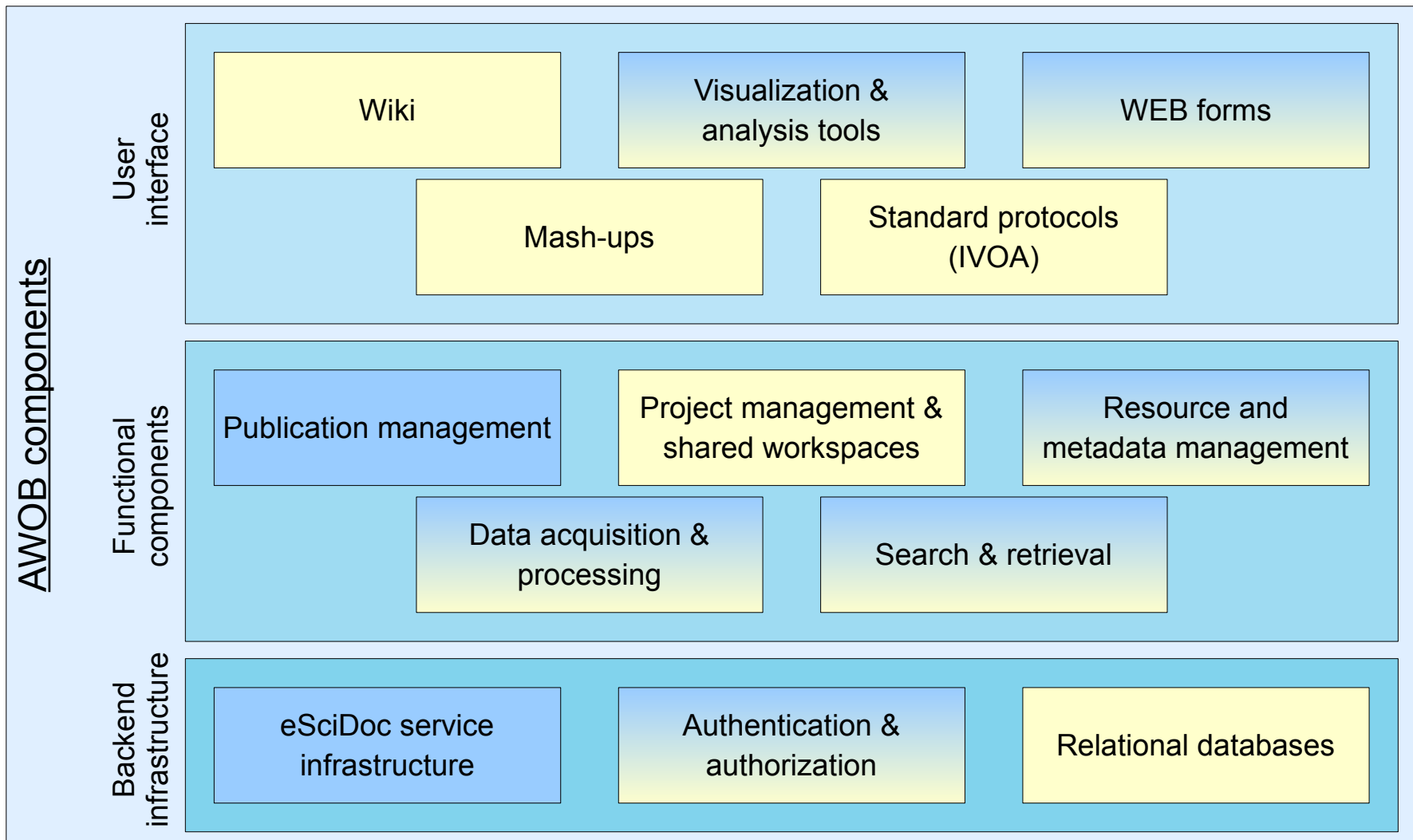


AWOB: Provisional architecture

Done

Needs extensions

New





PubMan: Management of Publications

VIEW FILTER SORTING EXPORT ADD SELECTED TO BASKET

State: All (except withdrawn) Import: 1294 Items (descending sorted by Modification Date)

25 items per page Previous 1 2 3 4 5 6 7 Next Go to page 52

State	Medium View (all Items)
<input type="checkbox"/>	Aktienrecht unter amerikanischem Einfluss More Creator(s) Hopt, Klaus J. Date(s) Published in Print: 2007 Genre Book Chapter File(s) - Locator(s) -
<input type="checkbox"/>	Aktienrechtliche Gesetzgebung (1807-2007) More Creator(s) Fleckner, Andreas M.

eSciDoc.PubMan PROJECT

HOME BASKET (6)

Advanced Search

Word or Phrase Search Terms: digital library

Person Check all Author more...

Date From 2008-01-01 To 2009-12-31

eSciDoc.PubMan PROJECT

HOME MY ITEMS QA WORKSPACE SUBMISSION BASKET (0)

Easy Submission Full Submission Import Import Multiple Items Import Workspace

Fetch from Source Upload BibTeX file

This item will be part of Pubman Test Collection.

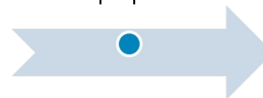
Import

Fetch from Source Source Identifier

Fetch file(s) All available None

Cancel Import

Data reuse and repurpose



PubMan



WORDPRESS
Plug-in

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LANGUAGE DESCRIPTION HERITAGE
an OPEN ACCESS DIGITAL LIBRARY

Tahiti, South, Rdebe, Mirar, Lang, Khakas, Gagauz, Carib lane, Beembe lar, Abui language

Recent additions

Kopeda, A. (2004). Etude typologique de l'expression de l'espace: localisation et déplacement en Français et en Polonais. PhD Thesis, Univ., Lyon. [eSciDoc] [pubman]

Estrada Fernández, Z. (1998). *Prima bajo de Yepachi, Chichuahua* (1. ed.). México, D.F.: El Colegio de México. [eSciDoc] [pubman]

Kayne, R. S. (1969). The transformational cycle in French syntax. PhD Thesis, Massachusetts Inst. of Technology, Cambridge, Mass. [eSciDoc] [pubman]

Fidelholtz, J. L. (1968). Micmac morphophonemics. PhD Thesis, MIT, Cambridge, Mass. [eSciDoc] [pubman]

Oehrlé, R. T. (1976). The grammatical status of the English dative alternation. PhD Thesis, Mass., Cambridge. [eSciDoc] [pubman]

Fabb, N. A. J. (1984). Syntactic affixation. PhD Thesis, Massachusetts Inst. of Technology, Cambridge. [eSciDoc] [pubman]

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Reinhold von Sengbusch

About

On this website you find the publications of Prof. Dr. Reinhold von Sengbusch. Reinhold Oskar Kurt von Sengbusch (* 16 February 1998 in Riga; † 13 June 1985 in Hamburg) was a Director at the Max Planck Institut für Kulturpflanzenzüchtung in Hamburg-Volksdorf and one of the most important breeding researchers of the last century. In addition to many of his publications you can find out more about his favorite topic, his breeding achievements and the scientific impact he had.

Reinhold von Sengbusch began to publish in 1924 and continued until the nineteen-eighties. Sengbusch alone and together with his colleagues published about 300 scientific articles. His institute produced about 600 publications. Over time the fulltext availability on this site will increase.

This collection is presented by the Max Planck Digital Library. The photographs of Reinhold von Sengbusch and the Institute are provided by the Archive of the Max Planck Society.

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Lupins (15)
Rice (17)
Tobacco (1)
Vegetables (19)
Apparatus (1)
Cabbage (1)
Carnell (1)
Chilony (1)

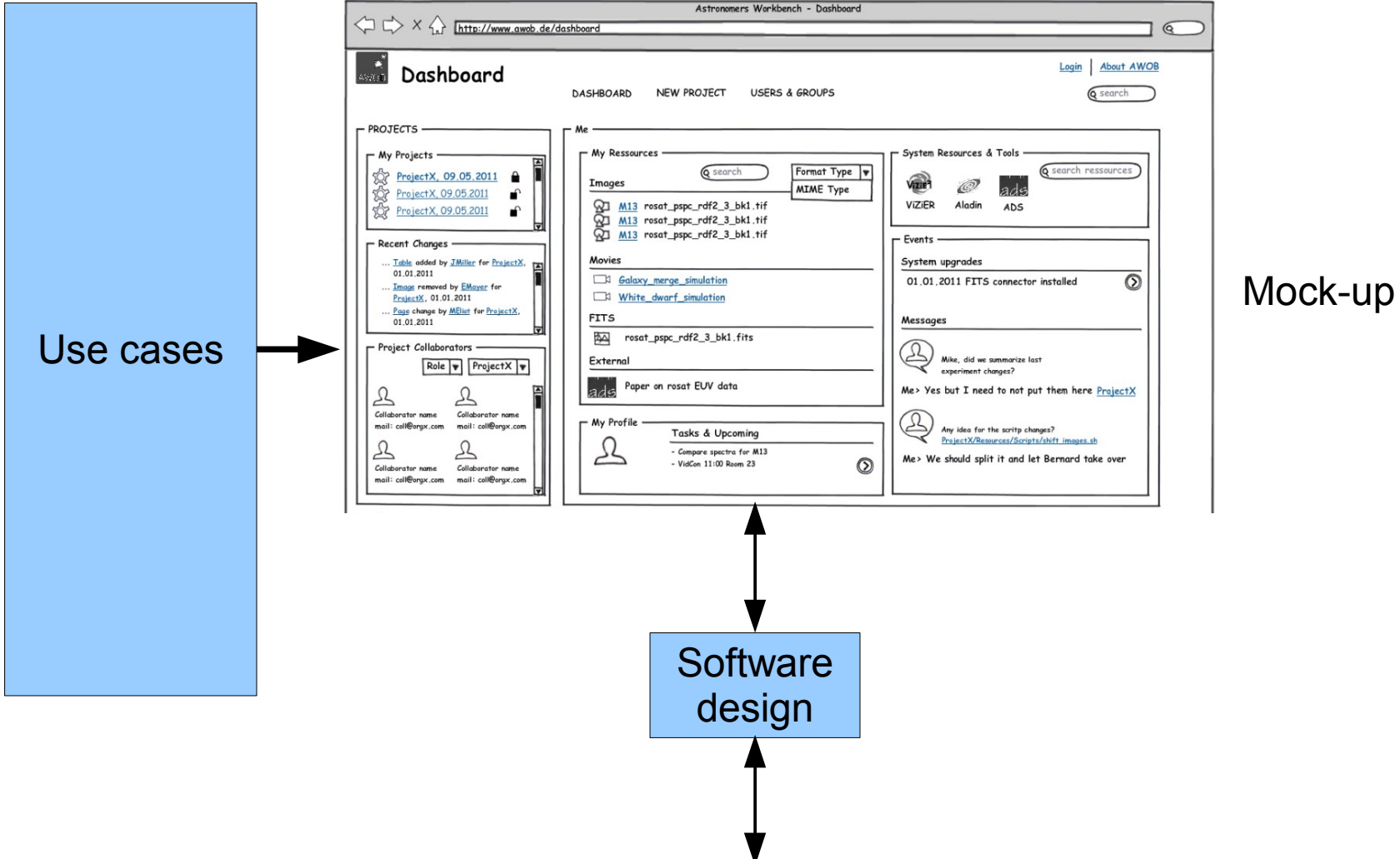


The Three Phases

- Phase 1: Building a demonstrator and subsequent first release.
- Phase 2: Outreach to the astrophysical community. Gather and integrate feedback.
- Phase 3: Further extensions. Training on AWOB for MPG and other external communities.



Phase 1: Towards a First Release



Liferay

Andreas Vogler

What AWOB is about

edit it

By Natasa Bulatovic

3 Comments

Flag

Add this to

Your Rating

Average (1 Vote)

Indeed, we should blog!!


26/05/11 20:10

Edit

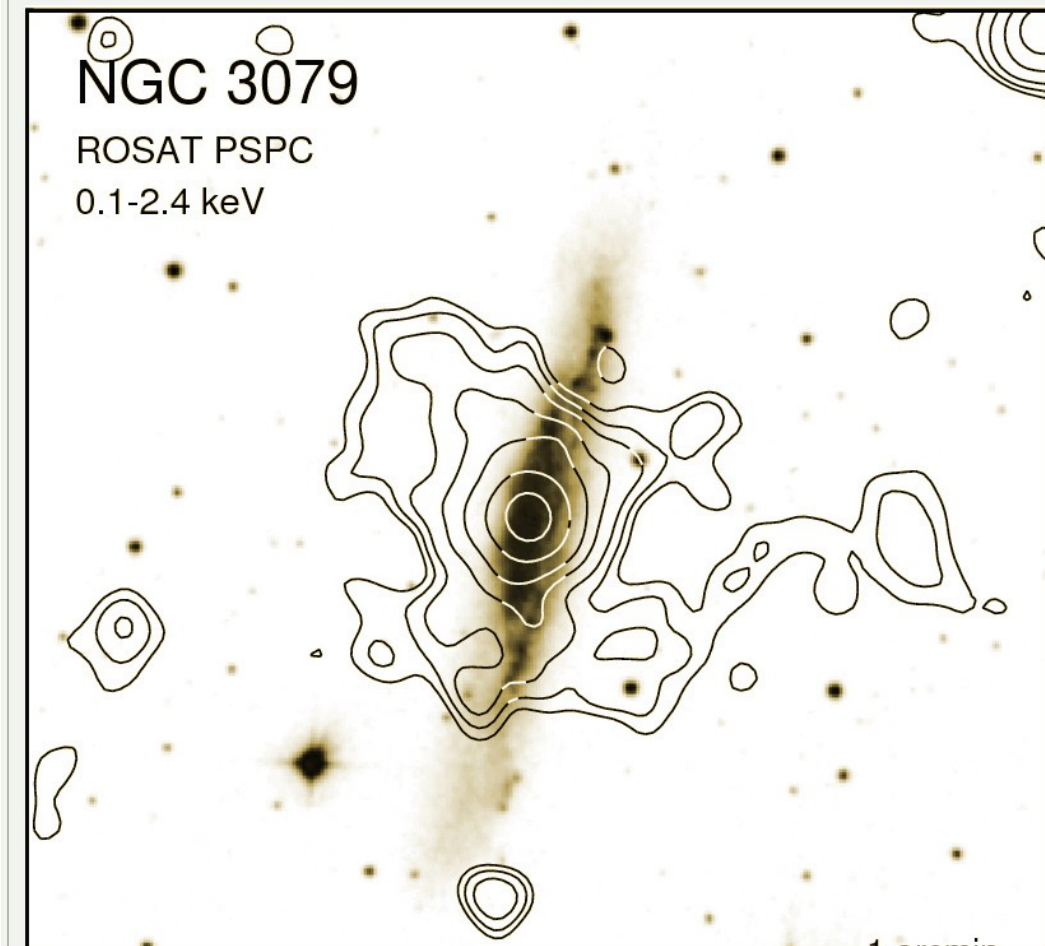
Permissions

Delete

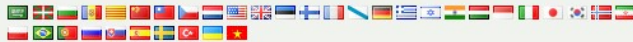
Hi friends, we should write a lot here !!!!



AWOB Demonstrator Based on Liferay



Language



Tag Cloud

[awob](#) [colab](#) [first blog!](#) [liferay](#) [mpdi](#) [non-helpful comment](#) [the quicker the better](#)

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Folders

Folder	# of Folders	# of Entries
Wild and beautiful Galaxies starring as models	0	0

Showing 1 result.

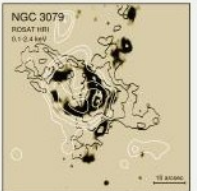
Images

Showing 4 results.



NGC 3079
ROSAT PSPC
0.1-2.4 keV

n3079_1



NGC 3079
ROSAT PSPC
0.1-2.4 keV

n3079_2

Permissions

Add Folder


Add Image

View Slide Show

Access from Desktop


Tools

Aladin




Aladin

my ads




MyADS Service

VIZIER



VIZIER

Sloan



Sloan

Search

ngc 3079

Everything

Andreas Vogler.

Settings

On



Welcome WelcomeAstronomer Tools

Liferay Aladin-1



Aladin sky atlas

File Edit Image Catalog Overlay Tool View Interop Help

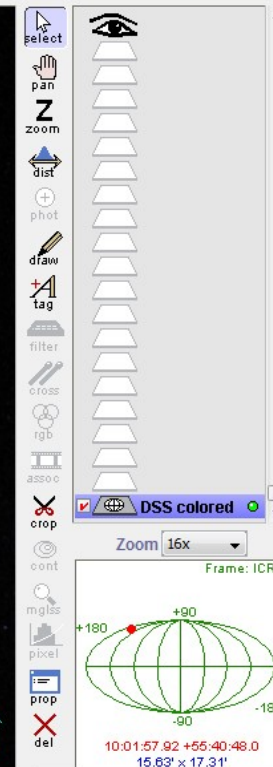
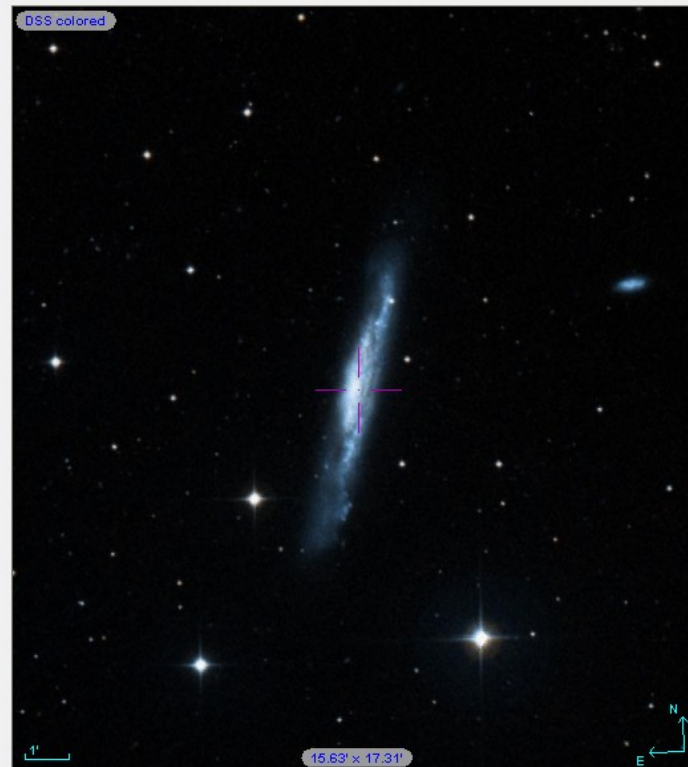
Detach Install

Location 10:01:57.92 +55:40:48.0

Clear

Frame ICRS

★ Allsky opt ★ Allsky IR ★ DSS ★ Simbad ★ NED ★ PPMX ★ 2MASS



grid north multiview match

Search

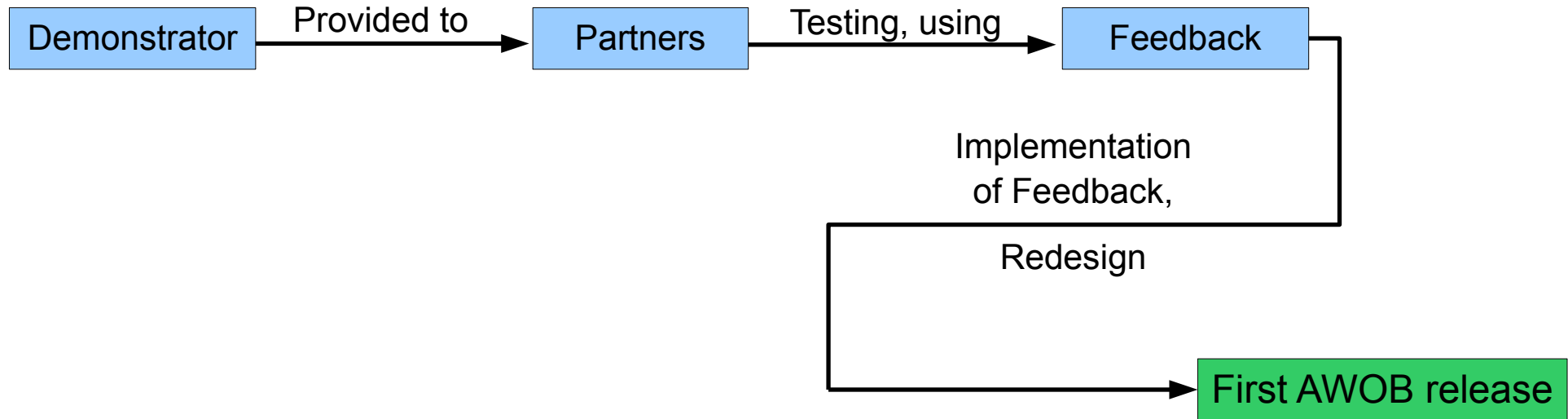
0 sel / 0 src 5Mb

(c) 2010 UDS/CNRS - by CDS - Distributed under GNU GPL v3

Using Aladin within the
AWOB Demonstrator
- an Example How to
Access External
Web Services



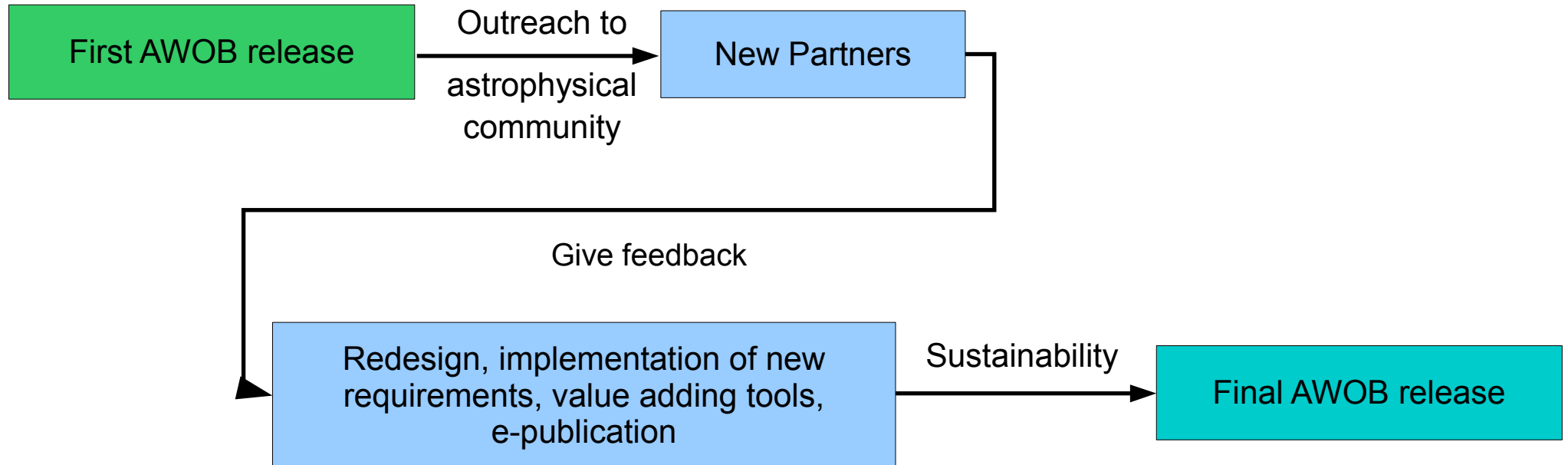
From the Demonstrator to the First Release





Phase 2+3: Active Outreach and the Final AWOB Release

- Active outreach to the astrophysical community
- Integration of feedback on content, usability, and additional requirements
- Additional tools, e-publication, interfaces to external systems...





Final AWOB Release

- Supporting the whole scientific life cycle
- Generic approach
- Presentation of AWOB on conferences/workshops
- Training/support of scientists



Milestones





Where Are We?

Important Construction Places for the Next Weeks/Few Months



Wochen

0

4

8

- Project started eight weeks ago
- Kick off meeting four weeks ago
- From use cases to drafts, public content in CoLab, evaluation of xWiki, Liferay, Sakai etc.
- Project homepage, e.g. awob.mpg.de
- Building the demonstrator



Who is AWOB?

Software, (G)UIs

Associated
Scientists

Project
coordinators

Methodology,
ideas, structures

Natasa Bulatovic *

Vlad Makarenko *

Sveto Koychev *

Rupert Kiefl *

Gerard Lemson

Frank Haberl

Alexis Finoguenov

Marat Gilfanov

et al.

Andreas Vogler *

Wolfgang Voges

Frank Sander *

Malte Dreyer *

Kristina Koller *

Jaiwon Kim

* means: member of the MPDL

Questions?



Thank you!

The edge-on spiral galaxy NGC 253
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