

The astronomy information network

from observations to journals

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INSTITUTIONAL PARTNERS

⇒ data producers

know instruments and methods
⇒ have to preserve 'usable' data
(validated, documented)

towards integrated systems
observation proposal to archive

⇒ specialized centres

data and information on a given
domain

HEASARC, IPAC, MAST
PDS

⇒ **journals**

access to research results

very quick implementation

conceptual evolution for editors,
publisher and readers

⇒ **data centres**

value-added, reference databases
and tools

✓ scientific expertise

✓ technical expertise

data bases, user interfaces, standards

THE BIBLIOGRAPHIC NETWORK

Integration between electronic publications
and data centres

Links from/to

journals

ADS

CDS (SIMBAD, VizieR)

NED

... Observatory archives

new concepts

- ✓ for journals
checks complementary to the
referee's

- ✓ for readers
links from/to journals
published information = data (table)

de facto exchange standards

✓ *bibcode*

1995A&A...305.468H

first defined by NED and SIMBAD
widely used by ADS
accepted by journals

the key for journal/DB links
allows verification of reference list

✓ **table description**

defined by CDS, shared with data
centres and journals

information about the contents
contents verification
transformation, data exchange

integration cats/published
tables/logs/surveys

THE OBSERVATION NETWORK

On-line archives (observatories, NASA centres)

✓ **Information discovery tools**

AstroWeb

AstroBrowse, AstroGLU

To maintain links: the GLU
(Générateur de Liens Uniformes)
shared, distributed dictionary
symbolic URLs

✓ **VizieR**

Survey and archive federation (tables!)
links to original data when available
GSC, USNO, VLA/FIRST, 2MASS,
DENIS, ... APM, GSC II, MAPS

IUE, HST, CFHT, ... ISO, VLT,
MERLIN,...

✓ **ALADIN, prototype of a versatile data integration tool**

Images (FITS WCS)

at CDS

in observatory archives (HST)

in distributed image DB

(e.g. Supercosmos)

Tabular data

reference catalogues, published

tables, *surveys*, *observation logs*

Databases

SIMBAD, NED

Links to original data

With the Standalone version

local catalogues and images

Fully XML-compatible (*astrores*)

Access to the NED image collection

Tool in the CFHT QSO

TOWARDS VIRTUAL OBSERVATOR(IES)

*from observations to published results
integrating surveys*

⇒ **infrastructure** (network, GRID...)

⇒ **statistical tools** (surveys)

⇒ **information discovery services**

⇒ **data mining**
e.g. XMM SSC cross-identification

⇒ **interoperability**

>>> structure, format, contents
description

⇒ metadata standardisation
FITS... XML

international partnership

TOOLS

✓ *bibcode*

http://cdsweb.u-strasbg.fr/simbad/refcode/section3_2.html

✓ table description

<http://vizier.u-strasbg.fr/doc/catstd.htx>

✓ *astrores*

XML for tabular data

<http://vizier.u-strasbg.fr/doc/astrores.htx>

✓ ASU (Astronomical Server URL)
syntax for information exchange among
remote astronomical services, through
HTTP

<http://vizier.u-strasbg.fr/doc/asu.html>

✓ GLU (Générateur de Liens Uniformes)
distributed dictionary, link maintenance

<http://simbad.u-strasbg.fr/glu/glu.htx>