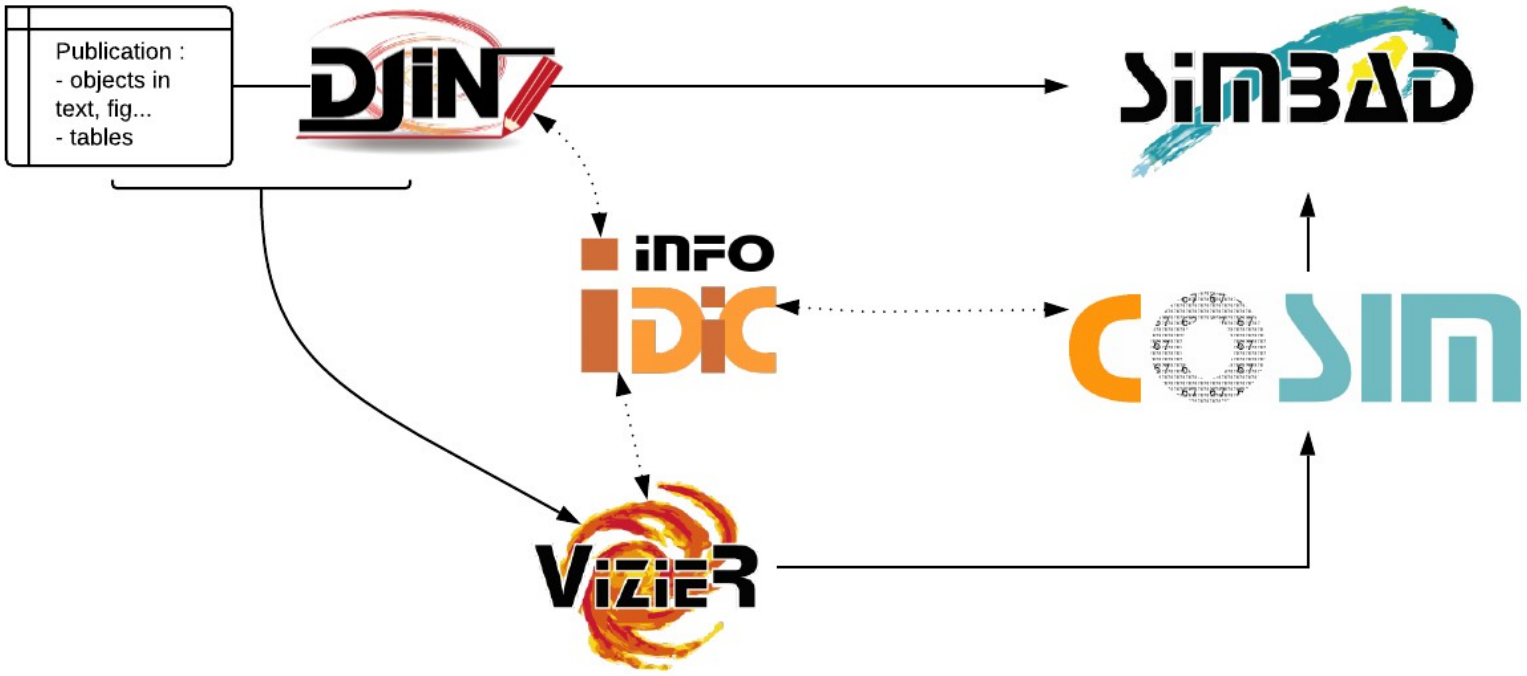
EAS 2021

How we process your papers at CDS

Mihaela Buga – Esther Collas
June & July 2021


Publication :
- objects in
text, fig...
- tables
DJIN
SIMBAD
INFO
IDIC
COSIM
VIZIER

A cooperative team

References

Year, journal, volume, pages, title, authors, abtract, keyword, bibcode, copyright, DOI

From publishers to SIMBAD

Soizick Lesteven
Magali Neuville

IT Development

SIMBAD	:	**A. Oberto, T. Boch , S. Lesteven, G. Mantelet**
Dictionary	:	**A. Oberto**
VizieR	:	**G. Landais, T. Boch, F.-X. Pineau**
Aladin	:	**P. Fernique, T. Boch**

2021AJ....161..252T - *Astron. J., 161, 252-252 (2021/June-0)*

Broadband stability of the Habitable Zone Planet Finder Fabry-Perot etalon calibration system: evidence for chromatic variation.

TERRIEN R.C., NINAN J.P., DIDDAMS S.A., MAHADEVAN S., HALVERSON S., BENDER C., FREDRICK C., HEARTY F., JENNINGS J., METCALF A.J., MONSON A., ROY A., SCHWAB C. and STEFANSSON G.

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The comblike spectrum of a white light-illuminated Fabry-Perot etalon can serve as a cost-effective and stable reference for precise Doppler measurements. Understanding the stability of these devices across their broad (hundreds of nanometers) spectral bandwidths is essential to realizing their full potential as Doppler calibrators. However, published descriptions remain limited to small bandwidths or short time spans. We present an ∼6 month broadband stability monitoring campaign of the Fabry-Perot etalon system deployed with the near-infrared Habitable Zone Planet Finder (HPF) spectrograph. We monitor the wavelengths of each of ∼3500 resonant modes measured in HPF spectra of this Fabry-Perot etalon (free spectral range = 30 GHz, bandwidth = 820-1280 nm), leveraging the accuracy and precision of an electro-optic frequency comb reference. These results reveal chromatic structure in the Fabry-Perot mode locations and their evolution with time. We measure an average drift on the order of 2 cm s^{-1} day^{-1}, with local departures up to ±5 cm s^{-1} day^{-1}. We discuss these behaviors in the context of the Fabry-Perot etalon mirror dispersion and other optical properties of the system and the implications for the use of similar systems for precise Doppler measurements. Our results show that this system supports the wavelength calibration of HPF at the <=10 cm s^{-1} level over a night and the <=30 cm s^{-1} level over ∼10 days. Our results also highlight the need for long-term and spectrally resolved study of similar systems that will be deployed to support Doppler measurement precision approaching ∼10 cm s^{-1}.

Journal keyword(s): *Near infrared astronomy - Radial velocity - Spectroscopy - Fabry-Perot interferometers - Exoplanet detection methods*

Tag astronomical objets in papers

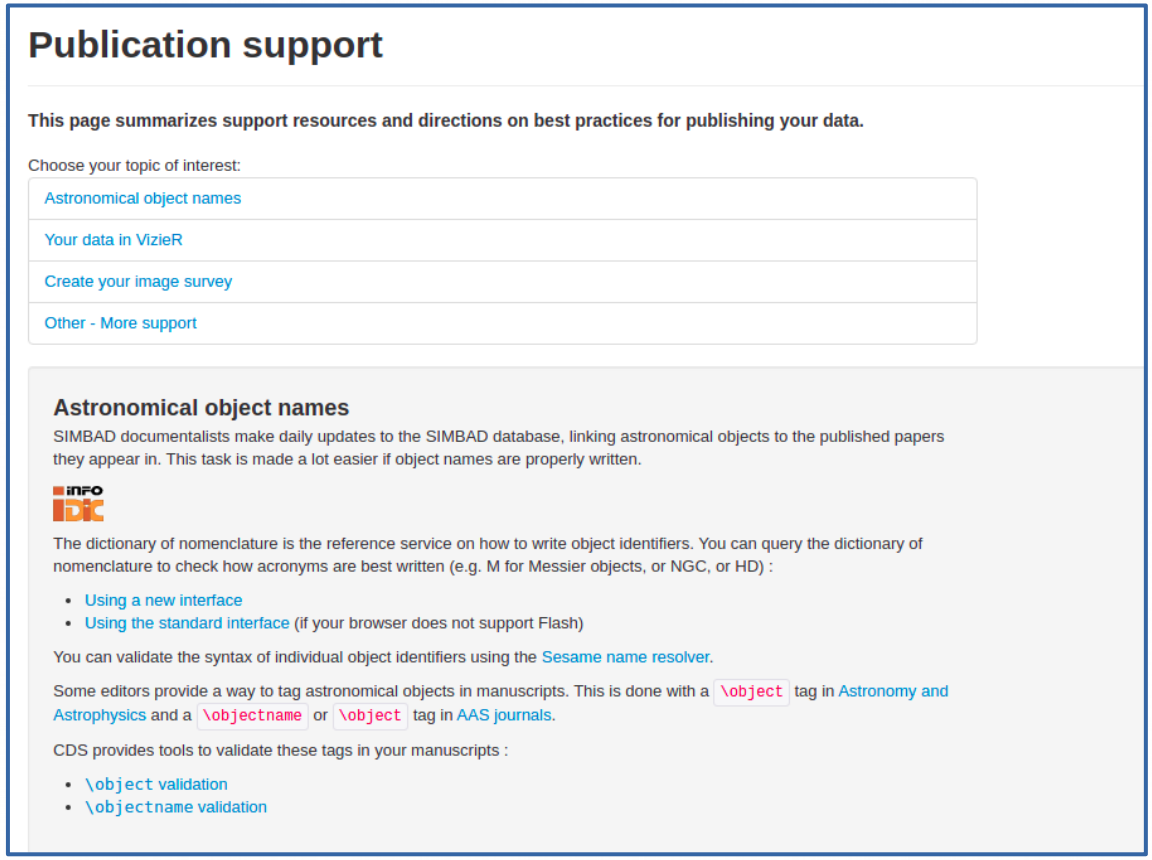
The way to tag objects

\object tag Astronomy & Astrophysics

\objectname or

\object tag A&A PUBLISHING American Astronomical Society

CDS Publication support page :



Publication support

This page summarizes support resources and directions on best practices for publishing your data.

Choose your topic of interest:

- Astronomical object names
- Your data in VizieR
- Create your image survey
- Other - More support

Astronomical object names

SIMBAD documentalists make daily updates to the SIMBAD database, linking astronomical objects to the published papers they appear in. This task is made a lot easier if object names are properly written.

INFO IDIC

The dictionary of nomenclature is the reference service on how to write object identifiers. You can query the dictionary of nomenclature to check how acronyms are best written (e.g. M for Messier objects, or NGC, or HD) :

- Using a new interface
- Using the standard interface (if your browser does not support Flash)

You can validate the syntax of individual object identifiers using the Sesame name resolver.

Some editors provide a way to tag astronomical objects in manuscripts. This is done with a `\object` tag in Astronomy and Astrophysics and a `\objectname` or `\object` tag in AAS journals.

CDS provides tools to validate these tags in your manuscripts :

- `\object` validation
- `\objectname` validation

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SIMBAD update

Extraction of information from articles

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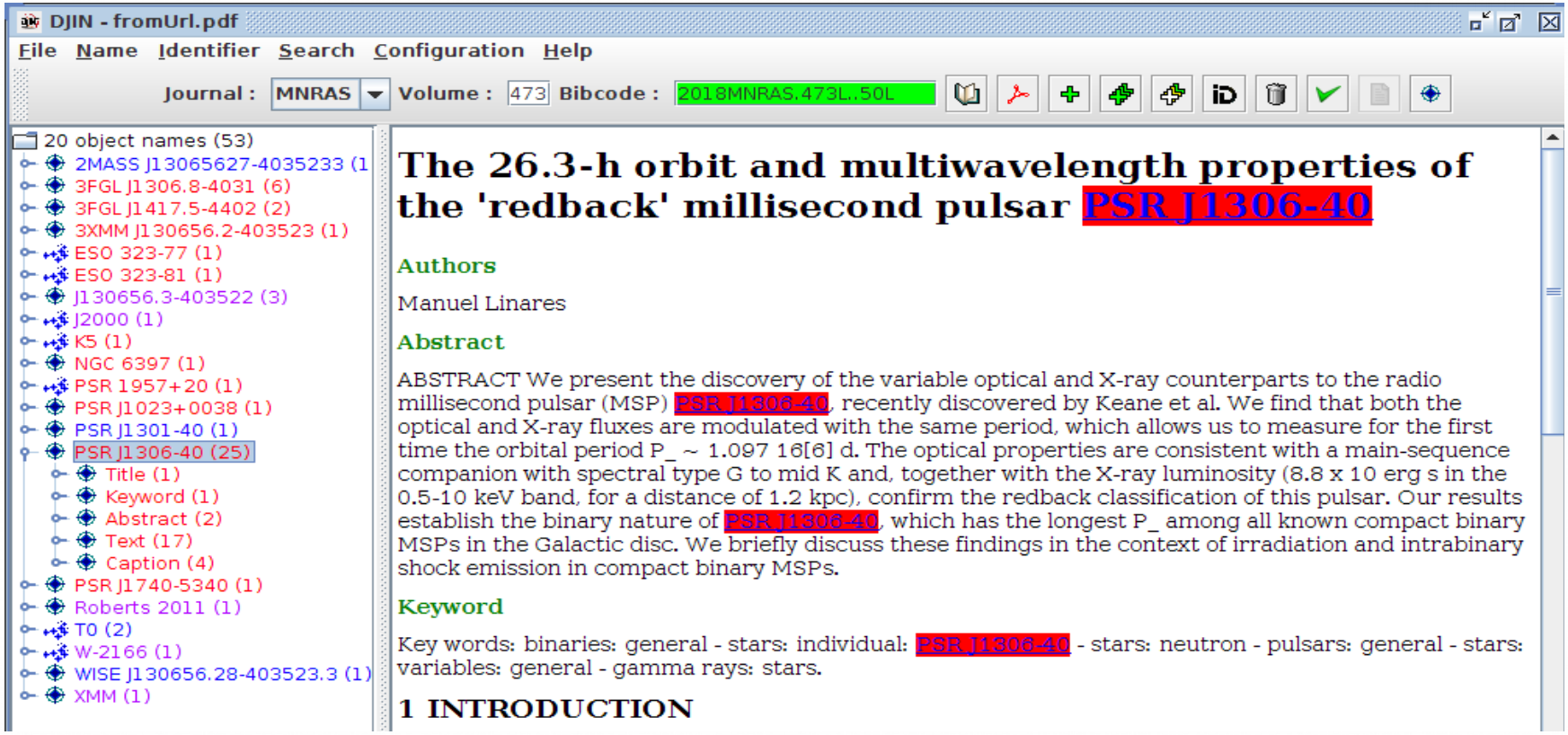
DJIN

Detection in Journals of Identifiers and Names

since 2008 DJiN



Semi-automated objects detection (from the Dictionary of Nomenclature)

The most relevant references on an object

PSR J1306-40 -- Pulsar

Identifiers (3) :

An access of full data is available using the icon Vizier near the identifier of the catalogue

PSR J1306-40 **FL8Y J1306.8-4035** **PSR J1306-4035**

Reference summaries :

from: 1850 to: $currentYear

Display or select by : (not exhaustive, explanation here) In table Title|Abstract|Keyword Score

You have selected the references with this object "in table" only: 5 refs

2021ApJ...912..124B (in ***table***) [D , PSR J1306-40,1]
Astrophys. J., 912, 124-124 (2021/May-2)
A deep Chandra X-Ray Observatory study of the millisecond pulsar population in the globular cluster Terzan 5.
BOGDANOV S., BAHRAMIAN A., HEINKE C.O., FREIRE P.C.C., HESSELS J.W.T., RANSOM S.M. and STAIRS I.H.

2020MNRAS.493.2171D (in ***table,*** *text*) [X D , PSR J1306-40,2]
Mon. Not. R. Astron. Soc., 493, 2171-2177 (2020/April-1)
Identifying the formation mechanism of redback pulsars.
DE VITO M.A., BENVENUTO O.G. and HORVATH J.E.

2020MNRAS.496.4836S (in ***table,*** *subtitle*, *text*) [S X D , J1306-4035;PSR J1306-4035;J1306 - 40,6]

The most relevant references on an object

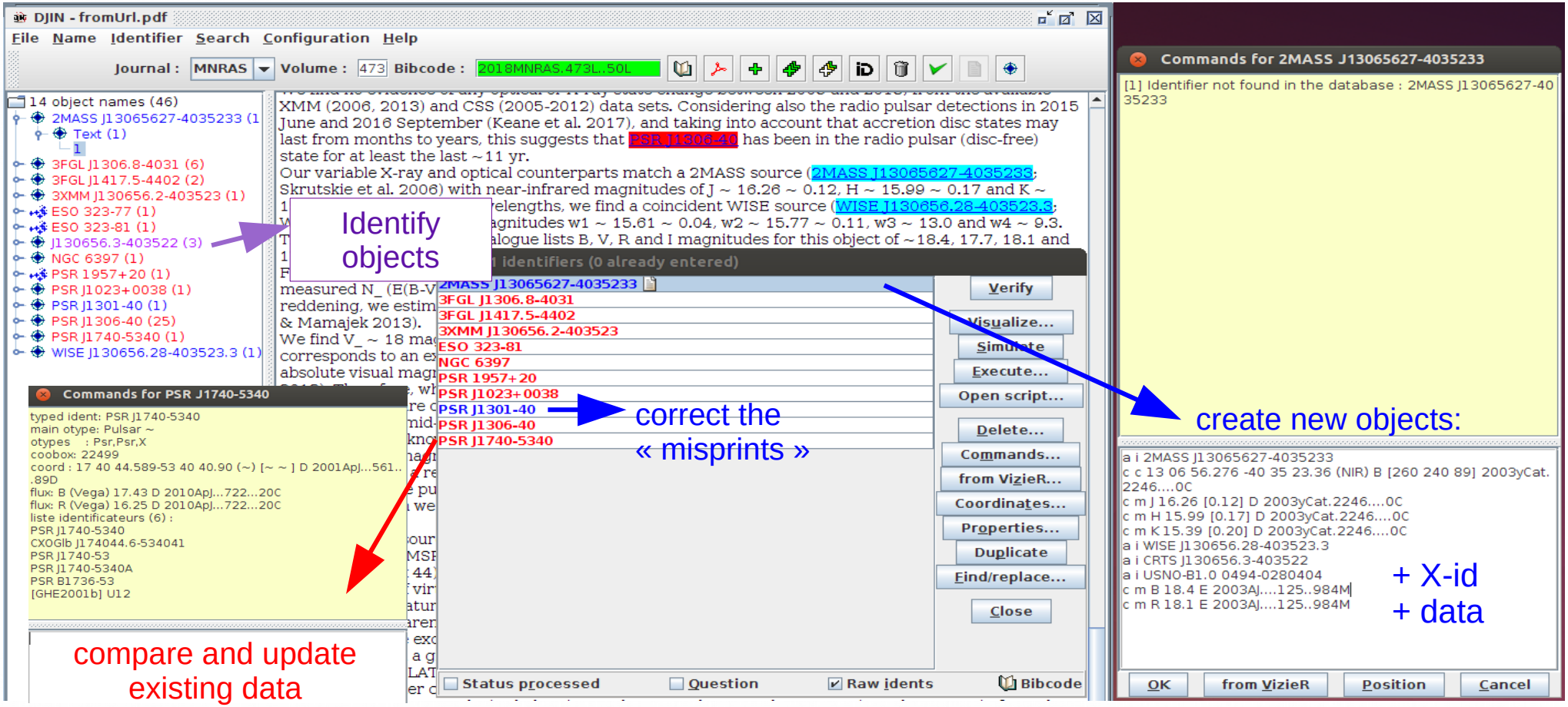
PSR J1306-40 , the SIMBAD biblio (9 results)

C.D.S. - SIMBAD4 rel 1.7 - 2021.06.29CEST14:40:40

Sort references on where and how often the object is cited
trying to find the most relevant references on this object.
More on score

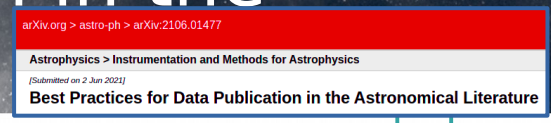
Bibcode/DOI	Score	in Title|Abstract| Keywords	in a table	in teXt, Caption, ...	Nb occurence	Nb objects in ref	Citations (from ADS)	Title
2021ApJ...909..185S	50			X	1	8	~	Discovery of a n
2021ApJ...912..124B	20		D		1	65	~	A deep Chandra
2020ApJ...895L..36P	47			X	1	8	~	Periodicity searc
2020MNRAS.493.2171D	65		D	X	2	36	~	Identifying the f
2020MNRAS.496.4836S	299		D	S X	6	29	~	The SUrvey for p
2019ApJ...872...42S	421		D	X	10	36	~	Optical spectrosc
2019ApJ...876....8S	1684	T A		X C	36	7	~	**PSR J1306-40** a
2018MNRAS.473..116K	392	A	D	S X C F	7	28	22	The SUrvey for I
2018MNRAS.473L..50L	1288	T K A		X C F	27	10	1	The 26.3-h orbit

DJIN



Necessitates extensive verification

Best practices for Data Publication in the Astronomical Literature



- Provide the complete object name.
- Explicitly include the “J” in names based on J2000 coordinates.
- Insert spacers between a catalog name and the identifiers within the catalog.
- Distinguish between part of an object and the object itself
- Do not use the same name for different objects.
- For newly discovered objects, please follow the IAU
    - Always assign a name
    - Verify the name is unique
    - Keep the appropriate number of significant figures in coordinate-based names.

T. Chen, M. Schmitz, J. Mazzarella, et. al. , arxiv.org Draft version June 4, 2021

Best practices for Data Publication in the Astronomical Literature

arXiv.org > astro-ph > arXiv:2106.01477

Astrophysics > Instrumentation and Methods for Astrophysics

[Submitted on 2 Jun 2021]

Best Practices for Data Publication in the Astronomical Literature

Table 1. Examples of improper astronomical designations in literature

As published	Why it is improper	Recommended usage (notes if available)
SDSS J1441+0948	Insufficient precision in RA and DEC can cause confusion with nearby sources.	SDSS J144157.24+094859.1, or SDSS J144156.97+094856.5, or SDSS J144157.26+094853.7
SN 05J	Incomplete name can be interpreted into different objects.	SN 1905J, or SN 2005J
HESS J232+202	Leading zero in RA is missing and can cause misinterpretation of the RA at 23 hours instead of 02 hour.	HESS J0232+202
BR 0529-3526	Missing letter J to specify J2000 equatorial coordinates.	BR J0529-3526
0008+006	Name prefix is needed to distinguish between different objects.	ZC 0008+006 (z = 2.3), or IVS B0008+006 (z = 1.5)
DEM45	H II regions in LMC or SMC should be indicated with "L" or "S" to avoid ambiguity.	DEM L 045, or DEM S 045
SDSS 587729386611212320	Database objectID numbers are used without specifying release number. The same running number may refer to a different source in a different release.	SDSS DR6 587729386611212320
Gaia DR 2 2.7904e18	ID is written in scientific notation, making it impossible to retrieve the actual object.	Gaia DR2 2790494815860044544

T. Chen, M. Schmitz, J. Mazzarella, et. al. , arxiv.org Draft version June 4, 2021

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Dictionary of Nomenclature

Dictionary update
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Update links to NED database

Marianne Brouty
Aline Eisele
Fabienne Marquis

Designation = Acronym + Sequence

eg. M 31 / 1RXS J164251.3-542955

Scientific Expertise

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The Dictionnaty of Nomenclature

Dictionary of Nomenclature of Celestial Objects

(Last update: 25-Jun-2021)

Designations of astronomical objects are often confusing. Astronomical designations (also called Object *Identifiers*) have been collected and published by Lortet and collaborators in *Dictionaries of Nomenclature of Celestial Objects outside the solar system* (Biblio). This *Info service* is the electronic look-up version of the *Dictionary* which is updated on a regular basis; it provides full references and usages about 24982 different acronyms.

To find out the meaning of specific acronyms or related references, choose and fill the form below; the words you type in the box are *anded*, i.e. the acronyms matching *all words* will be displayed.

Type in your words:

Clear

Choose one of the *Info* possibilities:

Identifier starting by

Select the output layout:

Default

SIMBAD Usage

Select the number of answers:

Maximum of 100 entries

...and ask for the result

Submit INFO question

How to refer to a source or designate a new one is a short document from the Task Group on Astronomical Designations of IAU Commission B2 which provides basic advices in this topic. A more extensive Specifications concerning designations for astronomical radiation sources outside the solar system document gives more complete definitions and examples.

If you are preparing a new catalogue, we wish to encourage to register for an acronym, preferably *before* your new objects become referenced (even informally).

Status at CDS

2021AJ....161..252T - *Astron. J., 161, 252-252 (2021/June-0)*

Broadband stability of the Habitable Zone Planet Finder Fabry-Perot etalon calibration system: evidence for chromatic variation.

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Journal keyword(s): *Near infrared astronomy - Radial velocity - Spectroscopy - Fabry-Perot interferometers - Exoplanet detection methods*

2012MNRAS.423..256H - *Mon. Not. R. Astron. Soc., 423, 256-283 (2012/June-2)*

Data and two-dimensional scaling relations for galaxies in Abell 1689: a hint of size evolution at z ∼ 0.2.

HOUGHTON R.C.W., DAVIES R.L., DALLA BONTA E. and MASTERS R.

Abstract (from CDS):

We present imaging and spectroscopy of Abell 1689 (z= 0.183) from the Gemini multi-object spectrograph (GMOS) on the Gemini North telescope and the Advanced Camera for Surveys (ACS) on the *Hubble Space Telescope* (*HST*). We measure integrated photometry from the GMOS g' and r' images (for 531 galaxies) and surface photometry from the *HST*F625*W* image (for 43 galaxies) as well as velocities and velocity dispersions from the GMOS spectra (for 71 galaxies). We construct the Kormendy, Faber-Jackson and colour-magnitude relations for early-type galaxies in Abell 1689 using these data and compare them to those of the Coma cluster. We measure the intrinsic scatter of the colour-magnitude relation in Abell 1689 to be σ_{CMR}= 0.054±0.004 mag, which places degenerate constraints on the ratio of the assembly time-scale to the time available (β) and the age of the population. Making the assumption that galaxies in Abell 1689 will evolve into those of Coma over an interval of 2.26 Gyr breaks this degeneracy and limits β to be >0.6 and the age of the red sequence to be >5.5 Gyr (formed at $z > 0.55$). Without corrections for size evolution but accounting for magnitude cuts and selection effects, the Kormendy and Faber-Jackson relations are inconsistent and disagree at the 2σ level regarding the amount of luminosity evolution in the last 2.26 Gyr. However, after correcting for size evolution the Kormendy and Faber-Jackson relations show similar changes in luminosity (0.22±0.11 mag) that are consistent with the passive evolution of the stellar populations from a single burst of star formation 10.2±3.3 Gyr ago ($z = 1.8 \pm {}^{\infty}_{0.9}$). Thus, the changes in the Kormendy, Faber-Jackson and colour-magnitude relations of Abell 1689 relative to Coma all agree and suggest old galaxy populations with little or no synchronization in the star formation histories. Furthermore, the weak evidence for size evolution in the cluster environment in the last 2.26 Gyr places interesting constraints on the possible mechanisms at work, favouring harassment or secular processes over merger scenarios. A new observational tracer for high-density disc-like structures around B[e] supergiants

Journal keyword(s): *galaxies: elliptical and lenticular, CD - galaxies: evolution - galaxies: clusters: individual: Abell 1689*

VizieR on-line data: <Available at CDS (J/MNRAS/423/256): table3.dat table6.dat>

Nomenclature: Table 3: [HDD2012] Phot NNNN N=532 among (Nos 2-1694), [HDD2012] Spec NNNN N=76 among (Nos 14-1164).

Status at CDS : All or part of tables of objects will be ingested in SIMBAD with priority 1.

Simbad objects: 7

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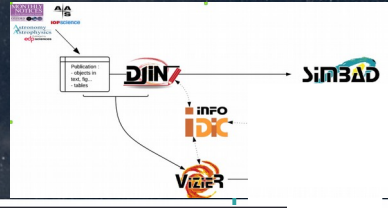

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Marianne Brouty
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Tables

VizieR

Standardization, description of tables, and data valorization.
VizieR update

Marianne Brouty : ApJ
Coralie Fix : ApJ
Emmanuelle Perret: ApJS, ApJ
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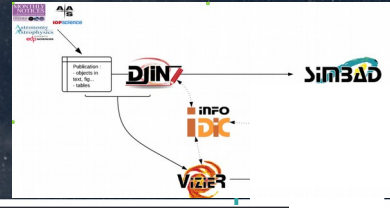

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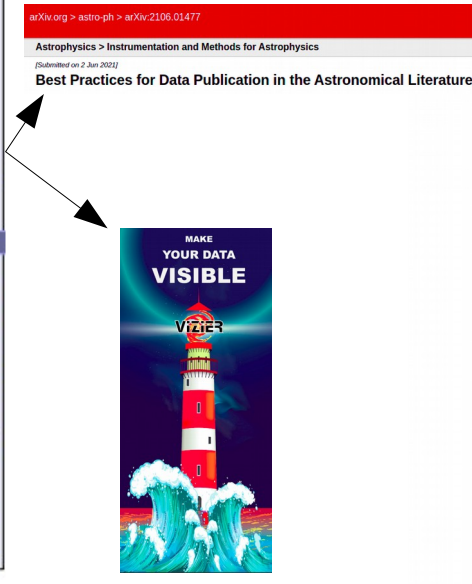

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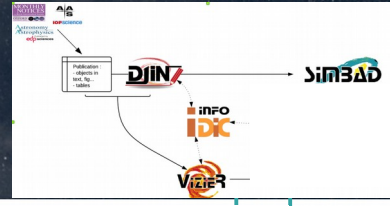

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COSIM =g= SIMBAD update

Via electronic tables (selections, extractions, scripts, cross-identifications)

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Mihaela Buga
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Katia Van der Woerd

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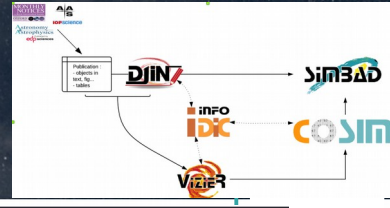

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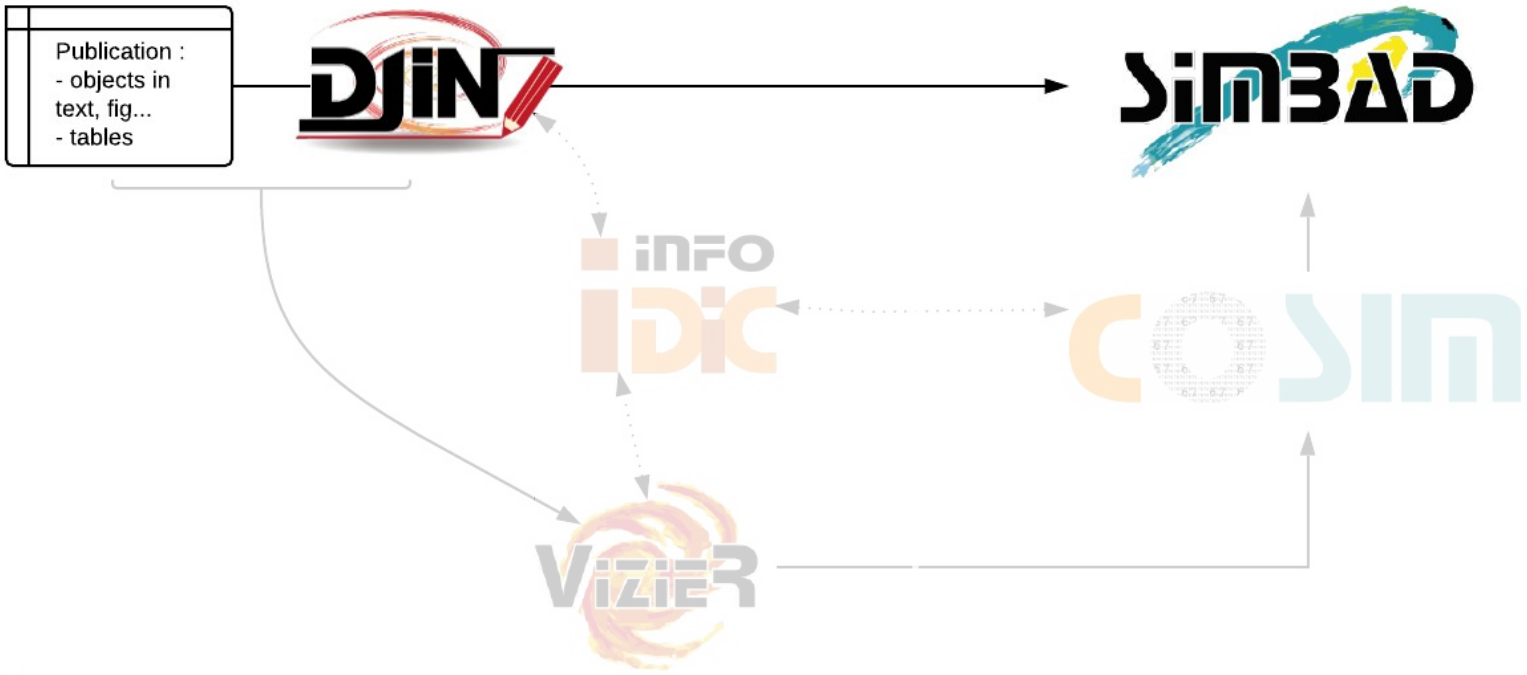
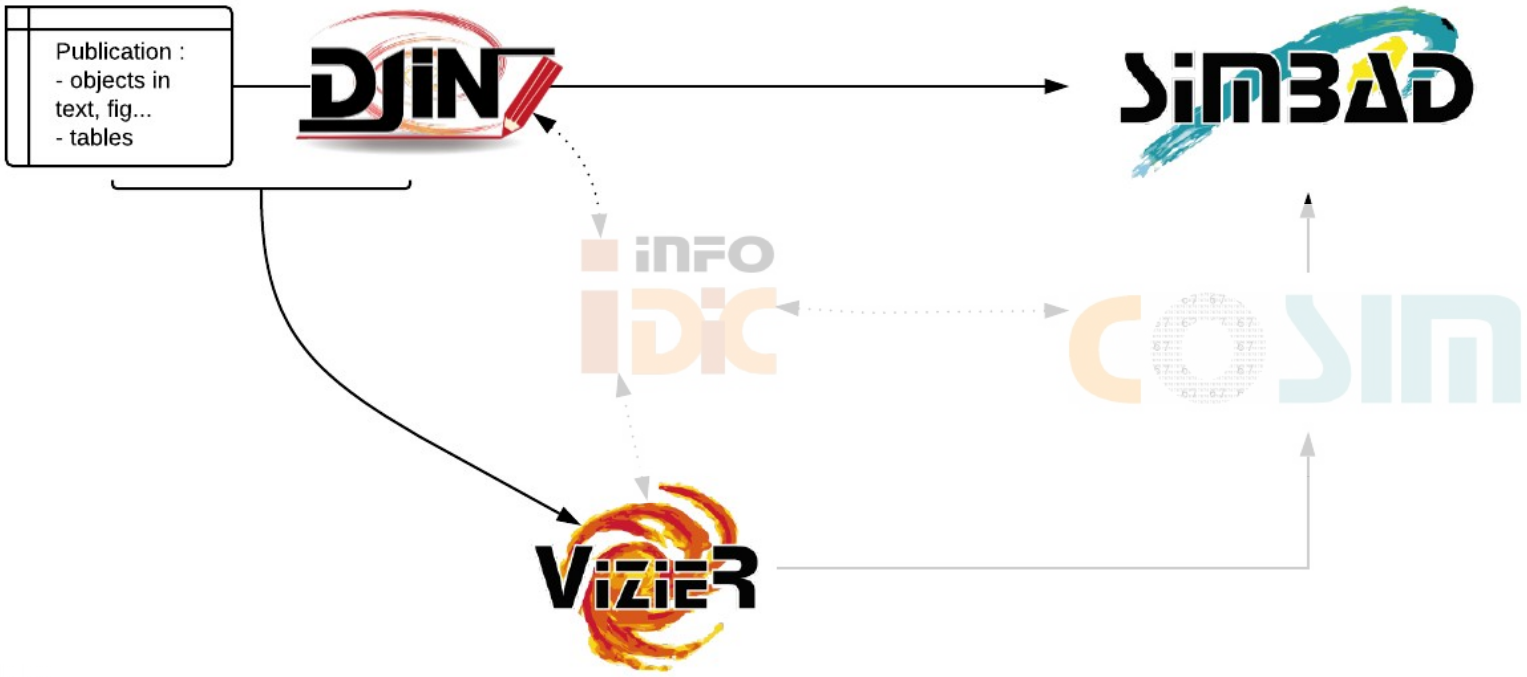
VizieR : **G. Landais, T. Boch, F.-X. Pineau**
Aladin : **P. Fernique, T. Boch**

CDS Documentalists team work



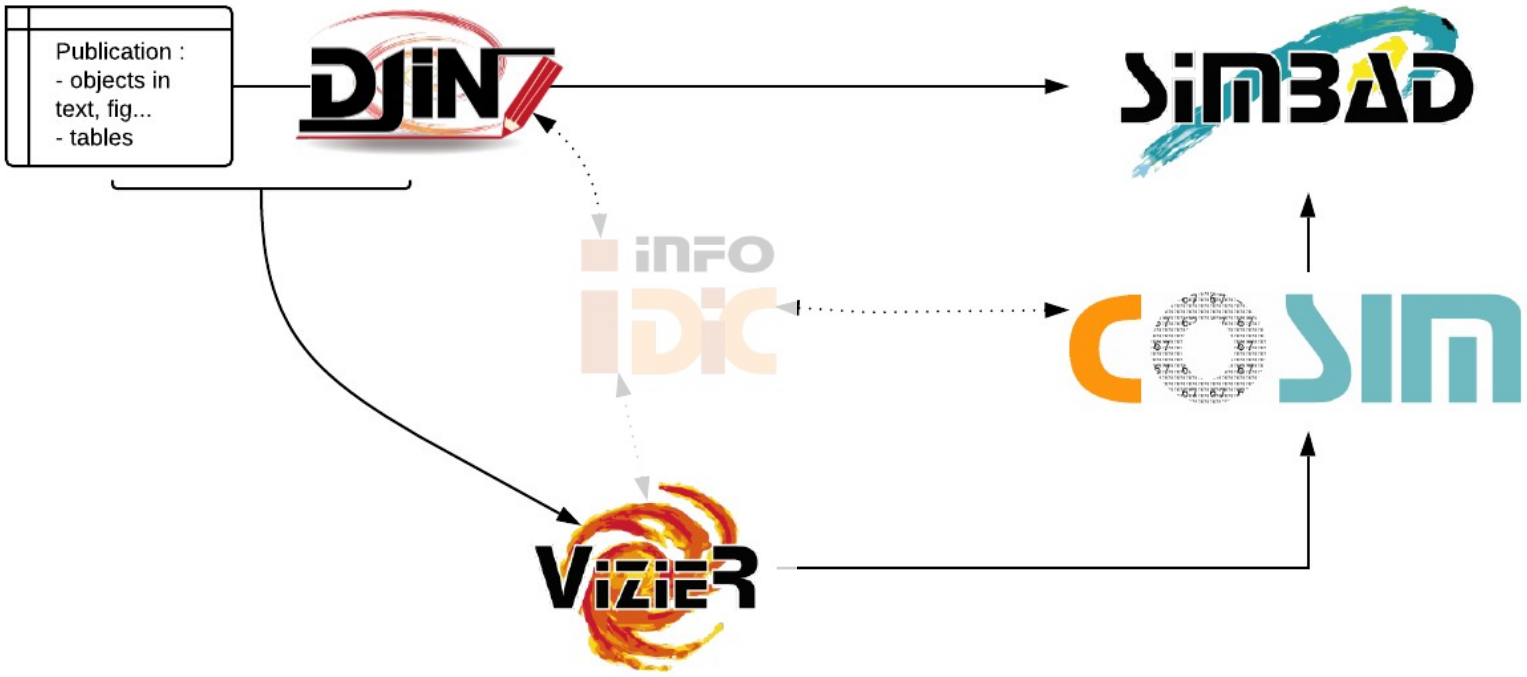
CENTRE DE DONNÉES
ASTRONOMIQUES DE STRASBOURG

CDS Documentalists team work



CENTRE DE DONNÉES
ASTRONOMIQUES DE STRASBOURG

CDS Documentalists team work



Demo

Demo

2019A&A...631A.171S - *Astronomy and Astrophysics, volume 631A, 171-171 (2019/11-1)*

Neutron-capture elements in dwarf galaxies. I. Chemical clocks and the short timescale of the r-process.

SKULADOTTIR A., HANSEN C.J., SALVADORI S. and CHOPLIN A.

Abstract (from CDS):

The heavy elements (Z>30) are created in neutron (n)-capture processes that are predicted to happen at vastly different nucleosynthetic sites. To study these processes in an environment different from the Milky Way, we targeted the n-capture elements in red giant branch stars in the Sculptor dwarf spheroidal galaxy. Using ESO VLT/FLAMES spectra, we measured the chemical abundances of Y, Ba, La, Nd, and Eu in 98 stars covering the metallicity range -2.4<[Fe/H]←0.9. This is the first paper in a series about the n-capture elements in dwarf galaxies, and here we focus on the relative and absolute timescales of the slow (s)- and rapid (r)-processes in Sculptor. From the abundances of the s-process element Ba and the r-process element Eu, it is clear that the r-process enrichment occurred throughout the entire chemical evolution history of Sculptor. Furthermore, there is no evidence for the r-process to be significantly delayed in time relative to core-collapse supernovae. Neutron star mergers are therefore unlikely the dominant (or only) nucleosynthetic site of the r-process. However, the products of the s-process only become apparent at [Fe/H]~=-2 in Sculptor, and the s-process becomes the dominant source of Ba at [Fe/H]≥-2. We tested the use of [Y/Mg] and [Ba/Mg] as chemical clocks in Sculptor. Similarly to what is observed in the Milky Way, [Y/Mg] and [Ba/Mg] increase towards younger ages. However, there is an offset in the trends, where the abundance ratios of [Y/Mg] in Sculptor are significantly lower than those of the Milky Way at any given age. This is most likely caused by metallicity dependence of yields from the s-process, as well as by a different relative contribution of the s-process to core-collapse supernovae in these galaxies. Comparisons of our results with data of the Milky Way and the Fornax dwarf spheroidal galaxy furthermore show that these chemical clocks depend on both metallicity and environment.

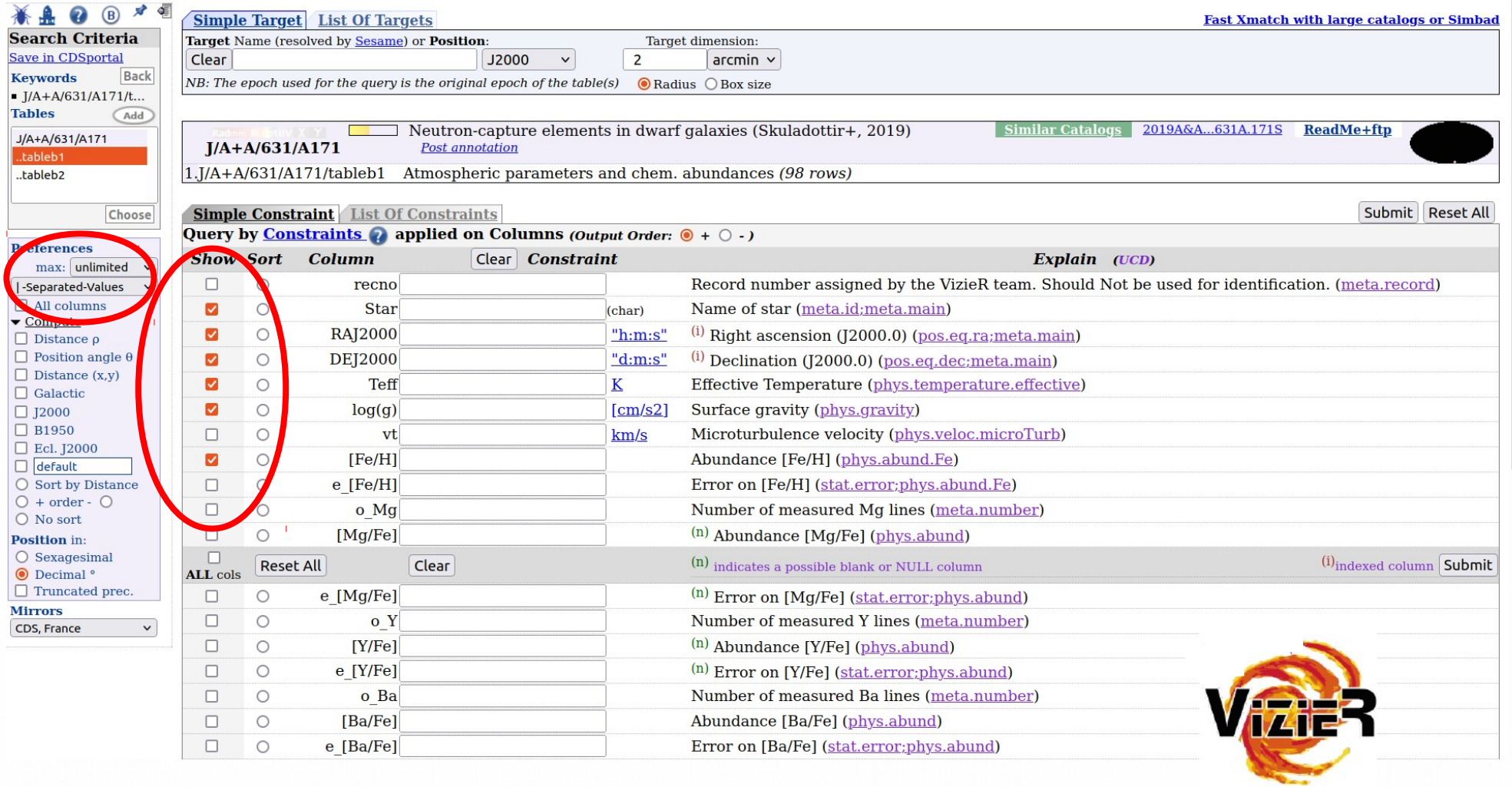
Journal keyword(s): *stars: abundances - Galaxy: abundances - galaxies: abundances - galaxies: groups: individual: Sculptor - galaxies: dwarf - galaxies: evolution*

VizieR on-line data: <Available at CDS (J/A+A/631/A171): tableb1.dat tableb2.dat>

Status at CDS : All or part of tables of objects will be ingested in SIMBAD with priority 1.

Simbad objects: 12

Demo


VizieR
Search Criteria
Save in CDSportal
Keywords
Back
J/A+A/631/A171/t...
Tables
Add
J/A+A/631/A171
..tableb1
..tableb2
Choose
Preferences
max: unlimited
-Separated-Values
All columns
Distance ρ
Position angle θ
Distance (x,y)
Galactic
J2000
B1950
Ecl. J2000
default
Sort by Distance
+ order -
No sort
Position in:
Sexagesimal
Decimal °
Truncated prec.
Mirrors
CDS, France
Simple Target
List Of Targets
Fast Xmatch with large catalogs or Simbad
Target Name (resolved by Sesame) or Position:
Clear
J2000
Target dimension:
2
arcmin
NB: The epoch used for the query is the original epoch of the table(s)
Radius
Box size
J/A+A/631/A171
Neutron-capture elements in dwarf galaxies (Skuladottir+, 2019)
Post annotation
Similar Catalogs
2019A&A...631A.171S
ReadMe+ftp
1.J/A+A/631/A171/tableb1 Atmospheric parameters and chem. abundances (98 rows)
Simple Constraint
List Of Constraints
Submit
Reset All
Query by Constraints applied on Columns (Output Order: + -)
Show
Sort
Column
Clear
Constraint
Explain (UCD)
recno
Record number assigned by the VizieR team. Should Not be used for identification. (meta.record)
Star
(char)
Name of star (meta.id;meta.main)
RAJ2000
"h:m:s"
(i) Right ascension (J2000.0) (pos.eq.ra;meta.main)
DEJ2000
"d:m:s"
(i) Declination (J2000.0) (pos.eq.dec;meta.main)
Teff
K
Effective Temperature (phys.temperature.effective)
log(g)
[cm/s2]
Surface gravity (phys.gravity)
vt
km/s
Microturbulence velocity (phys.veloc.microTurb)
[Fe/H]
Abundance [Fe/H] (phys.abund.Fe)
e_[Fe/H]
Error on [Fe/H] (stat.error;phys.abund.Fe)
o_Mg
Number of measured Mg lines (meta.number)
[Mg/Fe]
(n) Abundance [Mg/Fe] (phys.abund)
ALL cols
Reset All
Clear
(n) indicates a possible blank or NULL column
(i) indexed column
Submit
e_[Mg/Fe]
(n) Error on [Mg/Fe] (stat.error;phys.abund)
o_Y
Number of measured Y lines (meta.number)
[Y/Fe]
(n) Abundance [Y/Fe] (phys.abund)
e_[Y/Fe]
(n) Error on [Y/Fe] (stat.error;phys.abund)
o_Ba
Number of measured Ba lines (meta.number)
[Ba/Fe]
Abundance [Ba/Fe] (phys.abund)
e_[Ba/Fe]
Error on [Ba/Fe] (stat.error;phys.abund)
VizieR

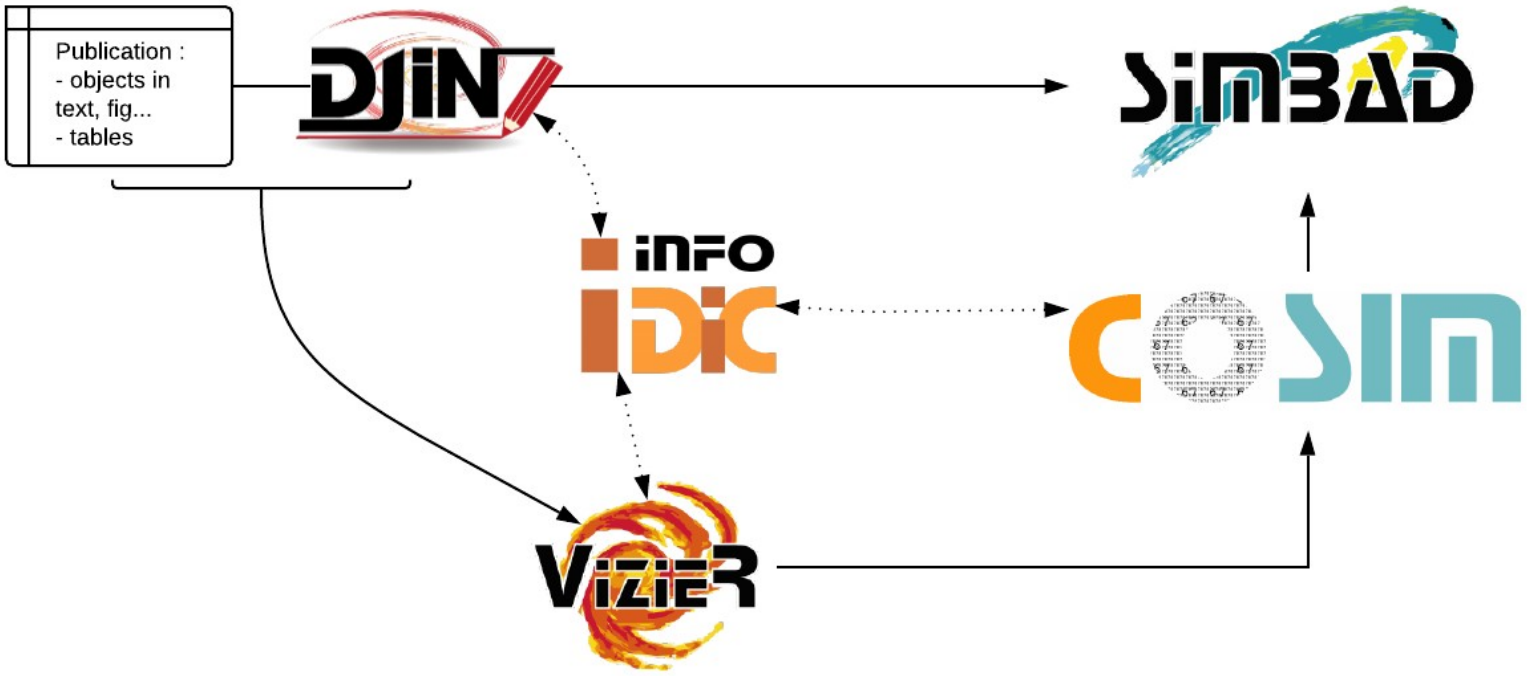
Demo

updates:

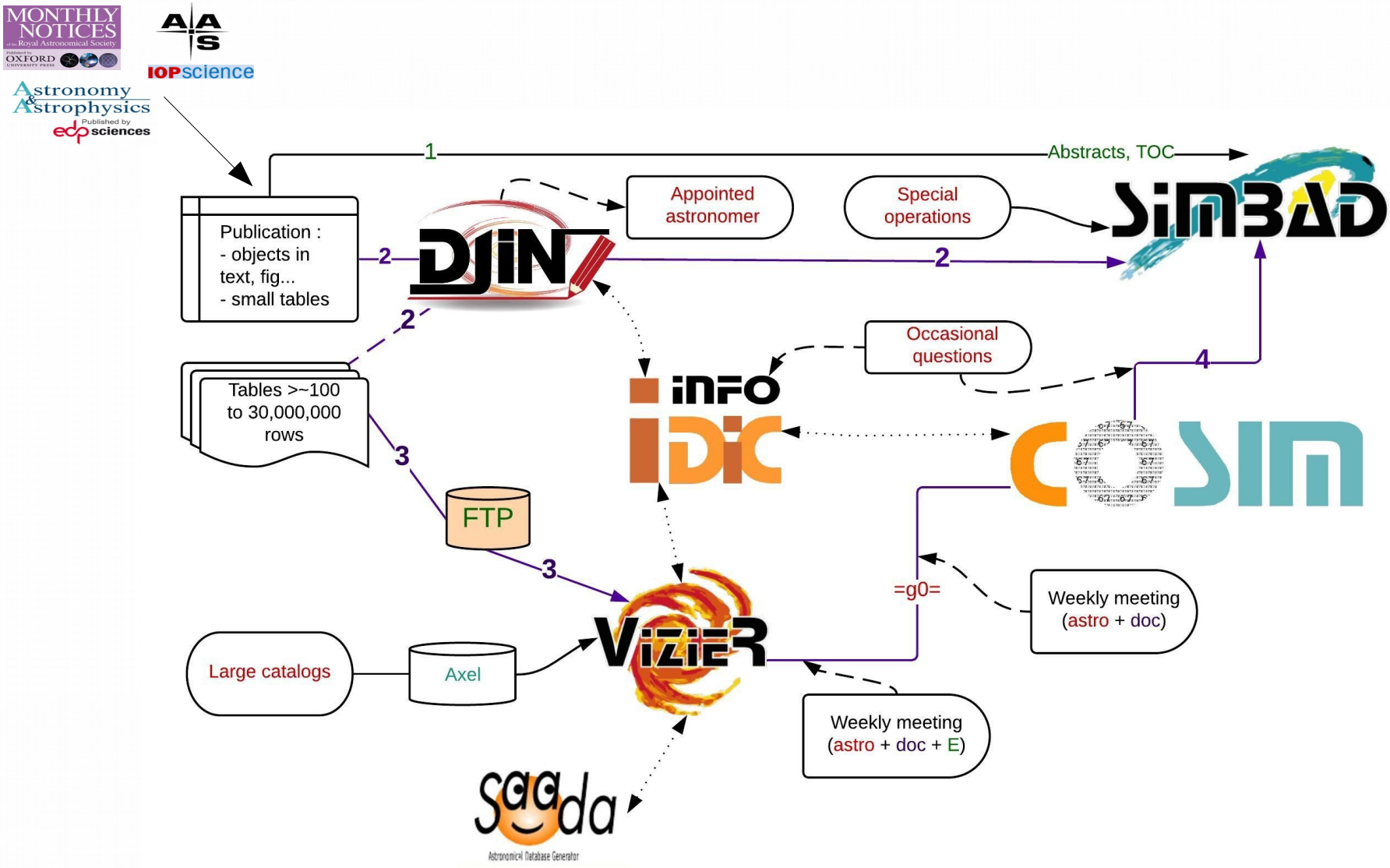
Simbad database: already existing objects are updated, new objects are created, cross-identifications are made

VizieR table: links to Simbad objects

Simbad reference web page: attached objects, status at CDS


Publication :
- objects in
text, fig...
- tables
DJIN
SIMBAD
INFO
IDIC
COSIM
VIZIER

A complex network of interactions



Bibliographical Team

Soizick Lesteven / Cécile Loup

References

Year, journal, volume, pages, title, authors, abtract, keyword, bibcode, copyright, DOI

From publishers to SIMBAD

Soizick Lesteven
Magali Neuville

Dictionary of Nomenclature

Dictionary update
(analysis, creation and update of acronyms)
Update links to NED database

Marianne Brouty
Aline Eisele
Fabienne Marquis

HiPS

Aladin update
Creation and description of HiPS

Mihaela Buga

SIMBAD update

Extraction of information from articles
Objects, identifiers, fundamental data, measurements, references, …..

Aline Eisele : A&A, PASJ, PASP, ...
Magali Neuville : ApJ, ApJS, Sci, Natur, ...
Evelyne Son : AJ, MNRAS
Philippe Vonflie : MNRAS

Tables

VizieR

Standardization, description of tables, and data valorization.
VizieR update

Marianne Brouty
Coralie Fix : AJ
Emmanuelle Perret: ApJS, ApJ
Patricia Vannier: A&A, MNRAS,…

=g= SIMBAD update

Via electronic tables
(selections, extractions, scripts, cross-identifications)

Catherine Brunet
Mihaela Buga
Esther Collas
Fabienne Marquis
Emmanuelle Perret
Katia Van der Woerd

Scientific Expertise

SIMBAD : **C. Loup, C. Bot , L. Cambrésy, G. Monari, A. Nebot, P. Ocvirk, A. Siebert, B. Vollmer**
Dictionary : **B. Vollmer**
VizieR : **P. Ocvirk, C. Bot, S. Derrière, G. Monari, A. Nebot**

IT Development

SIMBAD : **A. Oberto, T. Boch , S. Lesteven, G. Mantelet**
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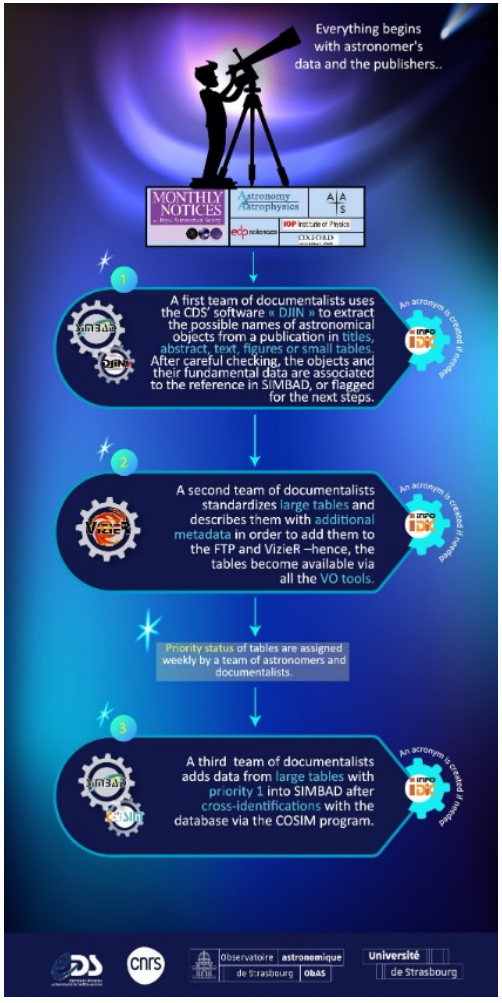
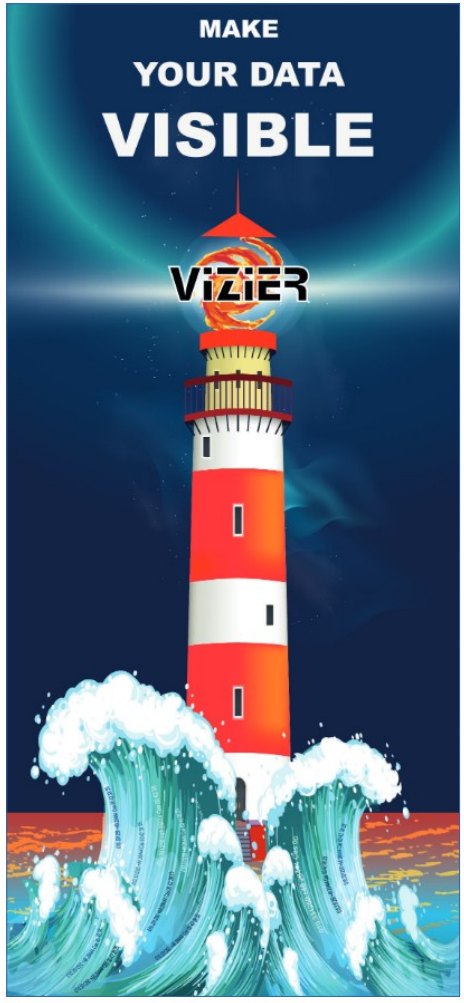
Aladin : **P. Fernique, T. Boch**

Juin 2021

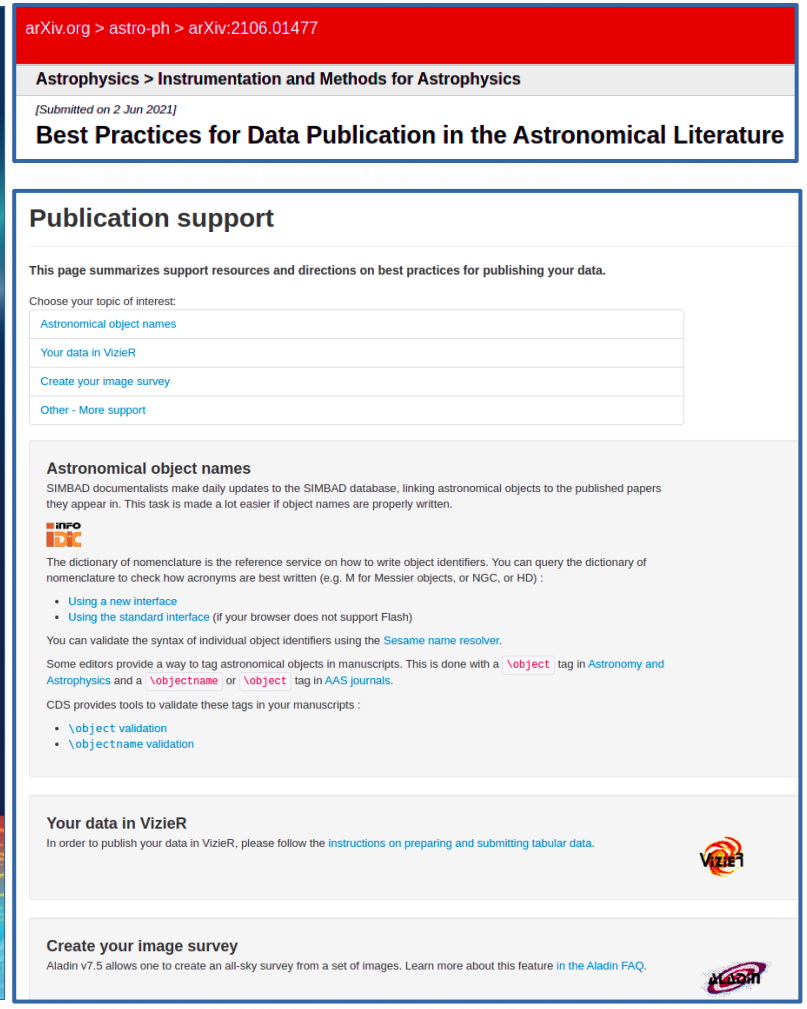
How can authors help in the process?



http://simbad.u-strasbg.fr/Files/Status.pdf



http://cdsarc.u-strasbg.fr/vizier/submit/Make_your_data_visible.pdf
https://arxiv.org/abs/2106.01477



http://cdsweb.u-strasbg.fr/publication-support