DJIN Presentation

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What is DJIN ?

A tool developed here at **CDS**

- Software designed in 2008 and updated in 2019
- Automatic **recognition of object names** in literature
- Helps the documentalists in the analysis of articles

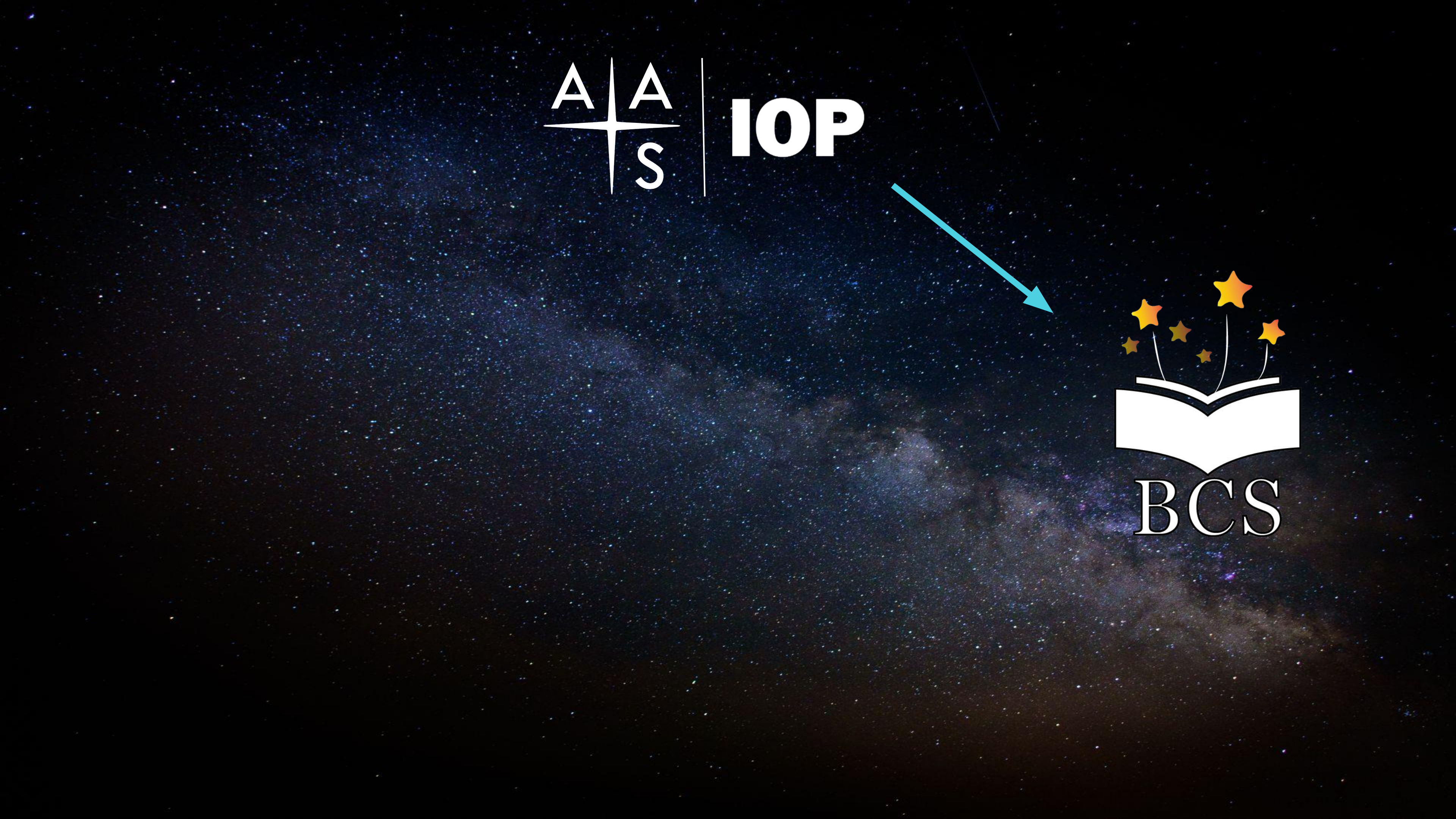
How does it work ?

- DJIN reads **XCDS** files* directly from the **B**ibliography **C**enter **S**upervisor (**BCS**)
- With the use of the **Dictionary of Nomenclature** it detects object names

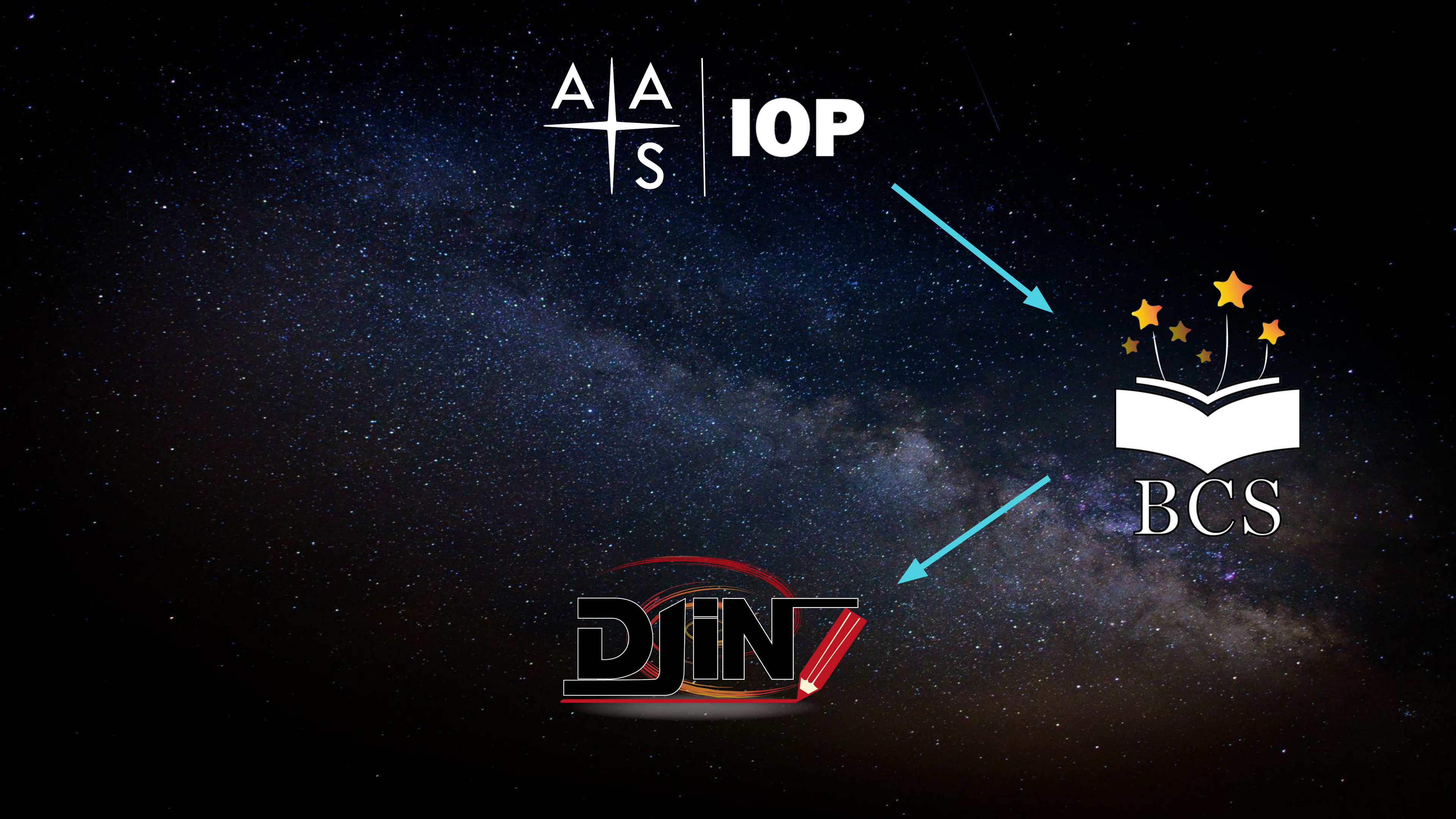
* XCDS is a format created specially for DJIN and our use


AAS
IOP

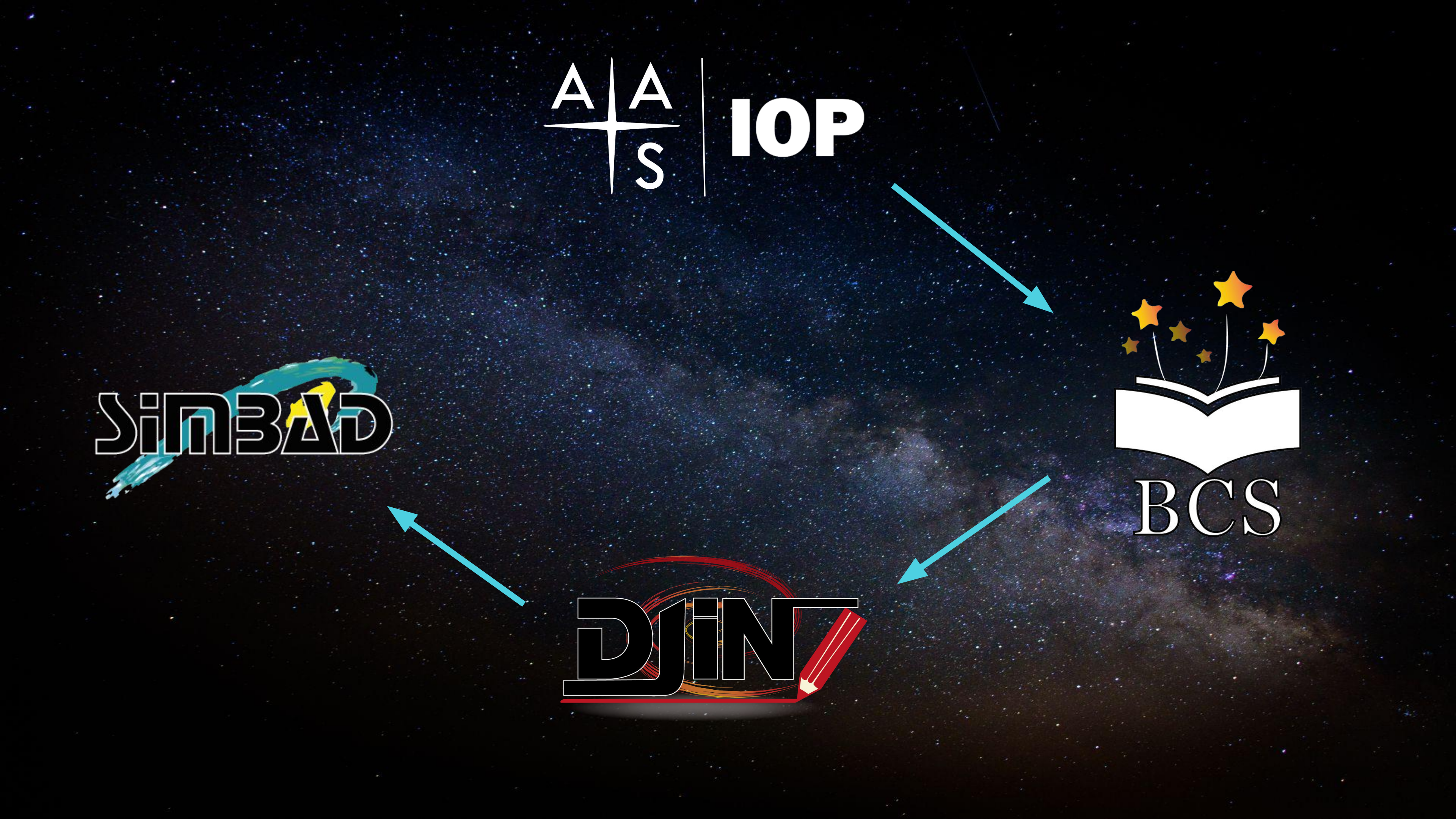
We get xml files from **IOP** and transform them into XCDS with the **BCS**

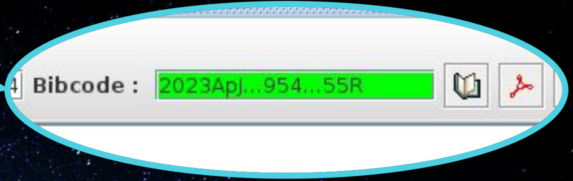

AAS
IOP
BCS

DJIN can now access the **XCDS** files directly from the **BCS**


AAS
IOP
BCS
DJiN

The analysis is made and **SIMBAD** is updated


AAS
IOP
BCS
DJIN
SIMBAD



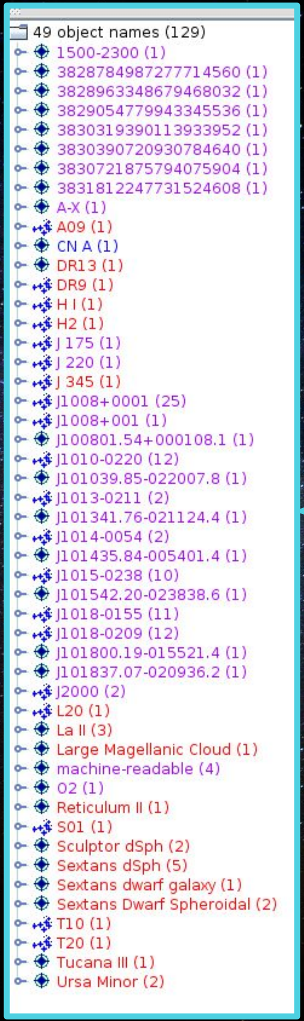
- We start by entering the code of the article (bibcode)
- DJIN will then fetch the article from the BCS

DJIN finds a list of **potential** names from:

Formats of the Dictionary of Nomenclature

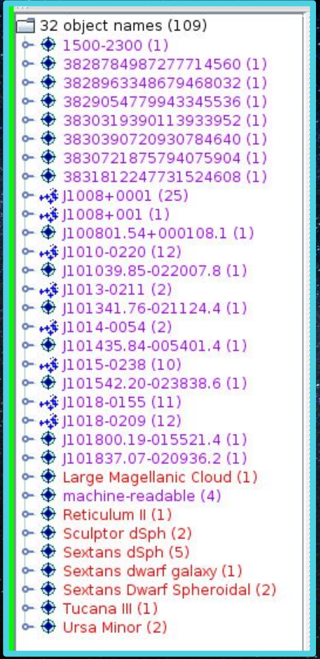
Formats added manually

Regular expressions added manually

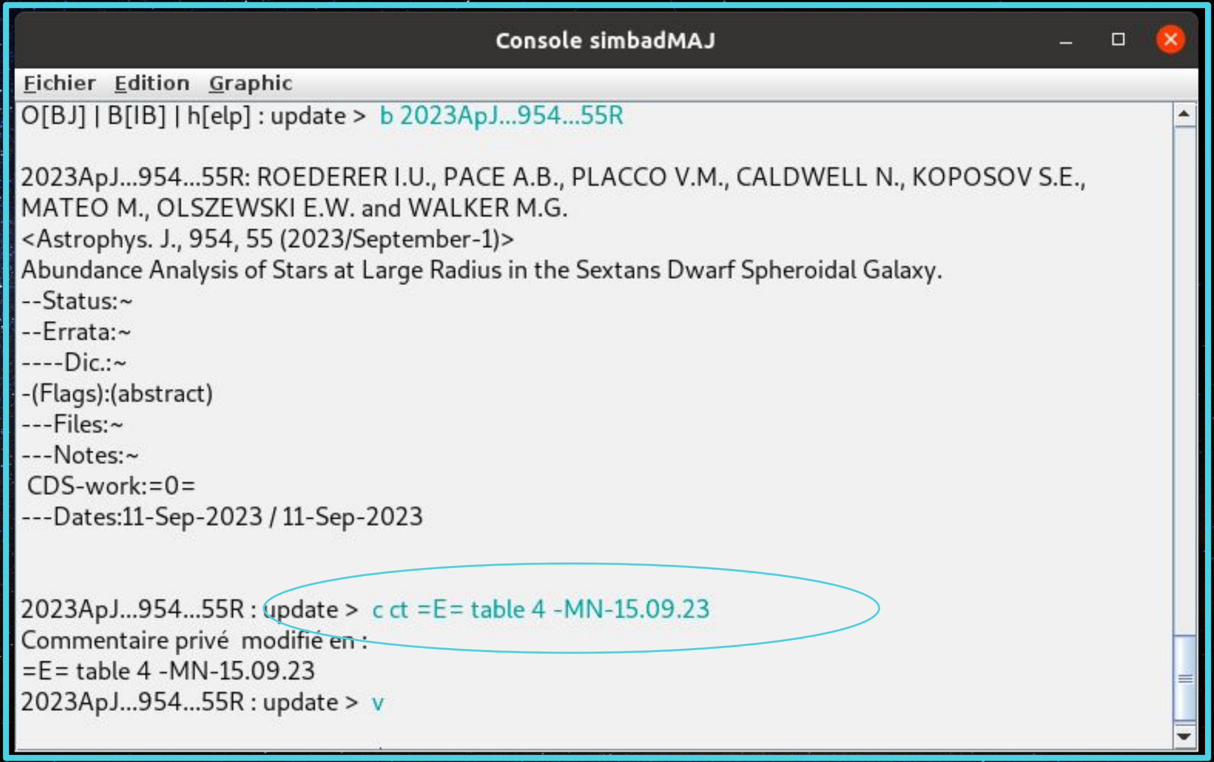


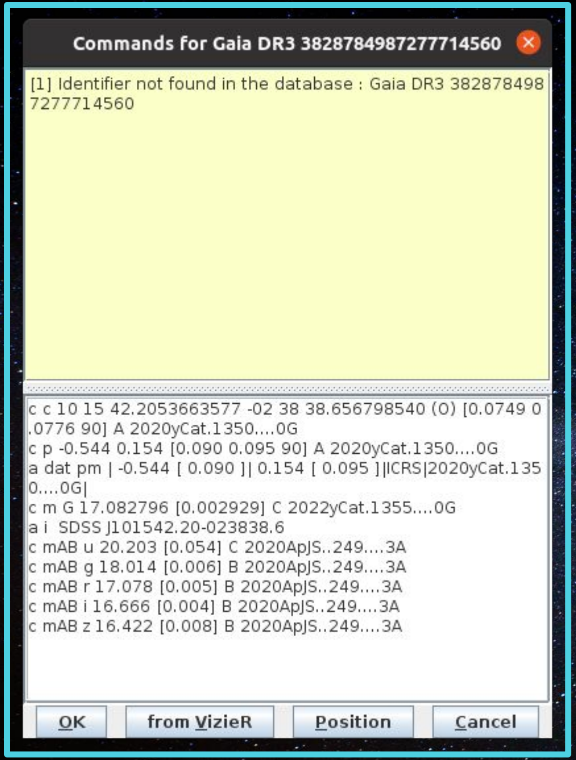
The list is cleaned up by the documentalist

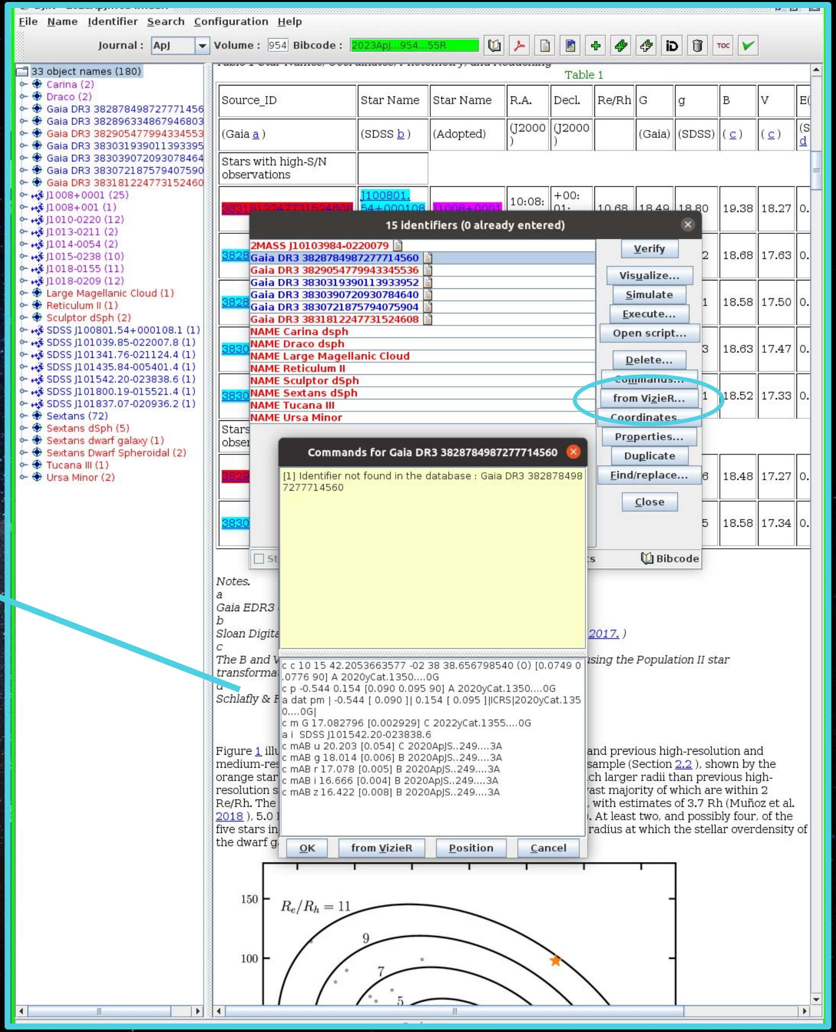
We added the regular expressions : ‘**machine-readable**’ and ‘**data behind figures**’ specifically for the AAS journals



We inform the **VizieR team** that they have work to do for that article

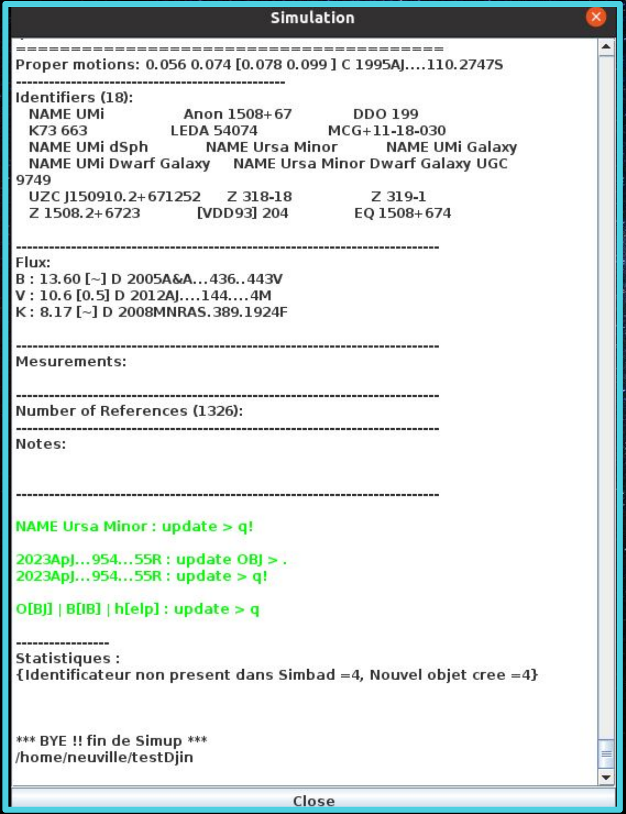


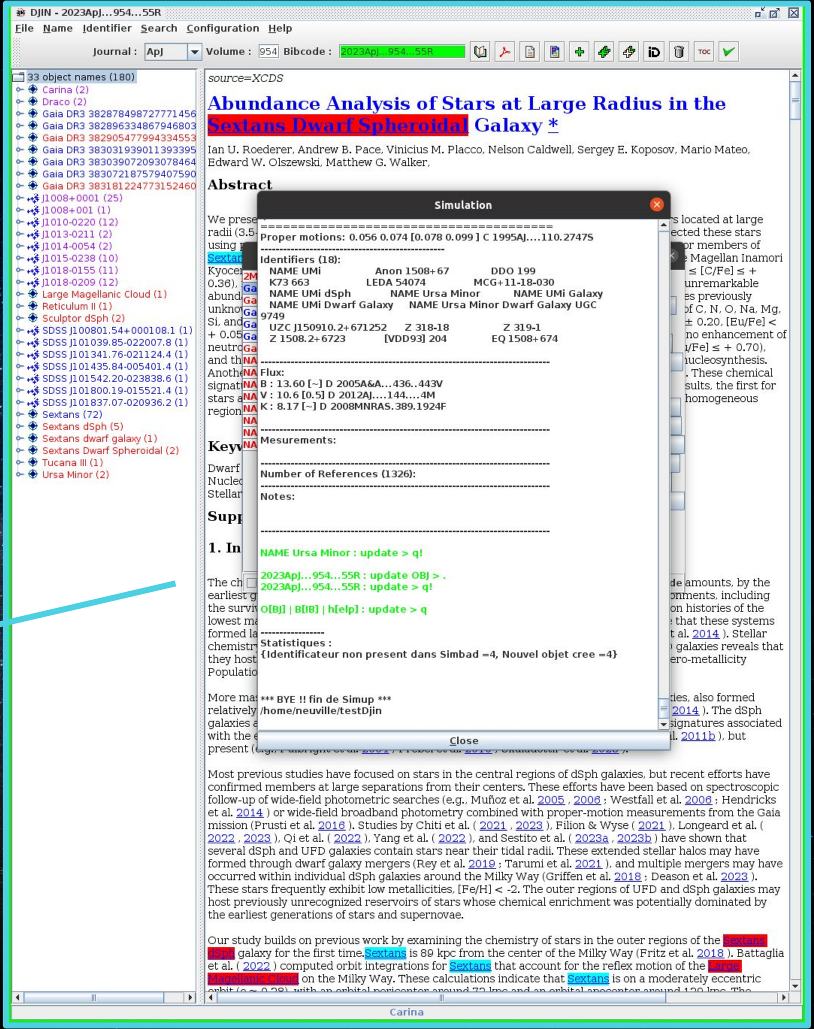




We can create objects and/or add data in SIMBAD directly from DJIN

Once everything is ready DJIN will run a script to **update SIMBAD** with all the objects we selected





2023ApJ...954...55R - *Astrophys. J., 954, 55 (2023/September-1)*

Abundance Analysis of Stars at Large Radius in the Sextans Dwarf Spheroidal Galaxy.

ROEDERER I.U., PACE A.B., PLACCO V.M., CALDWELL N., KOPOSOV S.E., MATEO M., OLSZEWSKI E.W. and WALKER M.G.

Abstract (from CDS):

We present the stellar parameters and chemical abundances of 30 elements for five stars located at large radii (3.5-10.7 times the half-light radius) in the Sextans dwarf spheroidal galaxy. We selected these stars using proper motions, radial velocities, and metallicities, and we confirm them as metal-poor members of Sextans with $-3.34 \le$ [Fe/H] ≤ -2.64 using high-resolution optical spectra collected with the Magellan Inamori Kyocera Echelle spectrograph. Four of the five stars exhibit normal abundances of C ($-0.34 \le$ [C/Fe] $\le +0.36$), mild enhancement of the α elements Mg, Si, Ca, and Ti ([α/Fe] $= +0.12 \pm 0.03$), and unremarkable abundances of Na, Al, K, Sc, V, Cr, Mn, Co, Ni, and Zn. We identify three chemical signatures previously unknown among stars in Sextans. One star exhibits large overabundances ([X/Fe] $> +1.2$) of C, N, O, Na, Mg, Si, and K, and large deficiencies of heavy elements ([Sr/Fe] $= -2.37 \pm 0.25$, [Ba/Fe] $= -1.45 \pm 0.20$, [Eu/Fe] $< +0.05$), establishing it as a member of the class of carbon-enhanced metal-poor stars with no enhancement of neutron-capture elements. Three stars exhibit moderate enhancements of Eu ($+0.17 \le$ [Eu/Fe] $\le +0.70$), and the abundance ratios among 12 neutron-capture elements are indicative of r-process nucleosynthesis. Another star is highly enhanced in Sr relative to heavier elements ([Sr/Ba] $= +1.21 \pm 0.25$). These chemical signatures can all be attributed to massive, low-metallicity stars or their end states. Our results, the first for stars at large radius in Sextans, demonstrate that these stars were formed in chemically inhomogeneous regions, such as those found in ultra-faint dwarf galaxies.

Journal keyword(s): *Dwarf spheroidal galaxies - Nucleosynthesis - Stellar abundances*

Status at CDS : Large table(s) will be appraised for possible ingestion in VizieR.

Simbad objects: 15

Commentaire privé:
=E= table 4 -MN-15.09.23

▶Full paper

▶View the references in ADS

Number of rows : 15

Show Raw id

Show 100 entries

Search:

N	Identifier	Otype	ICRS (J2000) RA	ICRS (J2000) DEC	Redshift	Sp type	18
1	NAME Sculptor Dwarf Galaxy	G	01 00 09.4	-33 42 32	0.000372	~	
2	NAME Reticulum II	G	03 35 42.1	-54 02 57	0.000210	~	
3	NAME LMC	G	05 23 34.6	-69 45 22	0.000875	~	
4	NAME Carina dSph	G	06 41 36.7	-50 57 58	0.000744	~	
5	MGC 2663	*	10 08 01.5437288352	+00 01 08.082695388	~	~	
6	2MASS J10103984-0220079	*	10 10 39.8502247429	-02 20 07.766571558	-0.002698	~	
7	NAME Sextans dSph	G	10 13 02.9	-01 36 53	0.000748	~	
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9	SDSS J101435.84-005401.4	*	10 14 35.8381053435	-00 54 01.402484394	~	~	
10	SDSS J101542.20-023838.6	*	10 15 42.2053663577	-02 38 38.656798540	~	~	
11	SDSS J101800.19-015521.4	*	10 18 00.1971433072	-01 55 21.474414688	~	~	
12	SDSS J101837.07-020936.2	*	10 18 37.0821905897	-02 09 36.277720366	~	~	
13	NAME UMi Galaxy	G	15 09 11.34	+67 12 51.7	-0.000823	~	
14	NAME Dra dSph	G	17 20 14.335	+57 55 16.39	-0.000970	~	
15	NAME Tuc III	G	23 56.6	-59 36	-0.000341	~	

SIMBAD is now updated

The analysis of the article is over for the DJIN team

Number of rows : 15

Hide Raw id

Show 100 entries

N	Identifier	obj tags	obj count	raw id
1	NAME Sculptor Dwarf Galaxy	*x*	*2*	*Sculptor dSph*
2	NAME Reticulum II	*x*	*1*	*Reticulum II*
3	NAME LMC	*x*	*1*	*Large Magellanic Cloud*
4	NAME Carina dSph	*x*	*2*	*Carina*
5	MGC 2663	*scdx*	*28*	*J1008+0001;Gaia DR3 3831812247731524608;J1008+001;SDSS J100801.54+000108.1*
6	2MASS J10103984-0220079	*dx*	*14*	*J1010-0220;Gaia DR3 3828963348679468032;SDSS J101039.85-022007.8*
7	NAME Sextans dSph	*tascx*	*80*	*Sextans;Sextans dSph;Sextans Dwarf Spheroidal Galaxy;Sextans dwarf galaxy*
8	2MASS J10134175-0211244	*d*	*4*	*J1013-0211;Gaia DR3 3829054779943345536;SDSS J101341.76-021124.4*
9	SDSS J101435.84-005401.4	*d*	*4*	*J1014-0054;Gaia DR3 3830721875794075904;SDSS J101435.84-005401.4*
10	SDSS J101542.20-023838.6	*dx*	*12*	*J1015-0238;Gaia DR3 3828784987277714560;SDSS J101542.20-023838.6*
11	SDSS J101800.19-015521.4	*dx*	*13*	*J1018-0155;Gaia DR3 3830390720930784640;SDSS J101800.19-015521.4*
12	SDSS J101837.07-020936.2	*dx*	*14*	*J1018-0209;Gaia DR3 3830319390113933952;SDSS J101837.07-020936.2*
13	NAME UMi Galaxy	*x*	*2*	*Ursa Minor*
14	NAME Dra dSph	*x*	*2*	*Draco*
15	NAME Tuc III	*x*	*1*	*Tucana III*

DJIN adds **metadata** to the objects :
Obj tags → place in the article (title, abstract, keywords, text, table, caption ...)
Obj count → number occurrences of the object in the article
Raw id → the way(s) the object is written in the article

2023ApJ...954...55R - *Astrophys. J., 954, 55 (2023/September-1)*

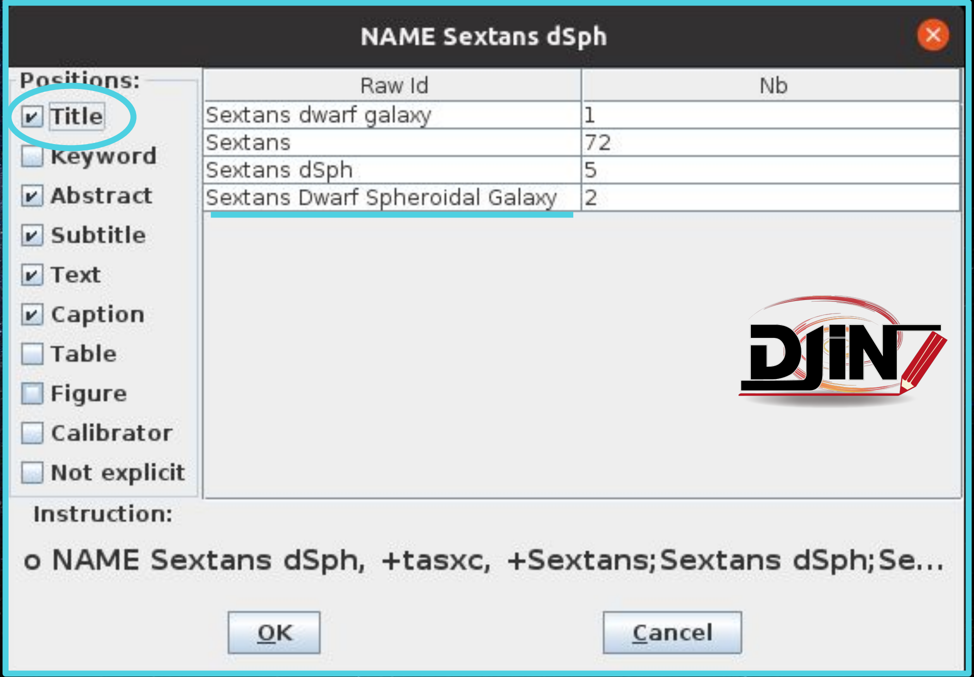
Abundance Analysis of Stars at Large Radius in the Sextans Dwarf Spheroidal Galaxy.

ROEDERER I.U., PACE A.B., PLACCO V.M., CALDWELL N., KOPOSOV S.E., MATEO M., OLSZEWSKI E.W. and WALKER M.G.

All metadata can be updated/changed if necessary

Raw Id is used in SIMBAD to make objects in titles clickable

The Raw Ids have become an essential part of **objects identification**



NAME Sextans dSph , the SIMBAD biblio (825 results)

C.D.S. - SIMBAD4 rel 1.8 - 2023.09.18CEST09:42:59

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

More on score

Show 100 entries

Search:

Bibcode/DOI	Score	in Title|Abstract|Keywords	in a table	in teXt, Caption, ...	Nb occurence	Nb objects in ref	Citations (from ADS)	Title
2011MNRAS.411.1013B	6136	T K A		X C	157	187	143	Study of the **Sextans dwarf s**
2019AJ....157...35V	5789	T K A	D	S X C	134	234	2	The population of **Sextans** dwarf sp
2018A&A...609A..53C	5124	T K A		X C	121	1597	15	Tracing the stella **Sextans**.
2018MNRAS.473.4064C	4724	T K A	D	S X C F	110	12	12	Proper motion of **Sextans dwarf g**
2023ApJ...954...55R	4130	T A		S X C	80	15	~	Abundance Analy **Sextans Dwarf S**
2016MNRAS.460...30R	3900	T K A	D	S X C	94	8	12	Structural analysi **Sextans dwarf s**
2019ApJ...878..152L	3278	A	D	S X C	76	12	~	Cold, old, and me
2022MNRAS.511.4316A	2892	A	D	S X C	61	8	~	Constraining the
2020A&A...642A.176T	2812	T A		S X C	62	118	21	The chemical evo **Sextans**.
2022MNRAS.509.3626M	2752	T A	D	X C	58	18	7	The formation of **Sextans galaxy**.
2011A&A...531A.152L	2631	A	D	S X C	67	15	17	Spectroscopic ver
2018MNRAS.476...71B	2343	T K A	D	S X C F	53	4	9	The star formatio **Sextans dwarf s**
2017MNRAS.467..208O	2224	T K A	D	X C F	52	10	15	Population gradie **Sextans dSph**: c
2018MNRAS.480..251C	2074	T K A		X C	48	7	12	Appearances can **Sextans dSph**.
2013MNRAS.433.2749G	1931	A	D	S X C	48	14	110	Unveiling the cor
2010A&A...524A..58T	1791	T A		X C	45	45	138	Extremely metal-
2009A&A...502..569A	1740	T K A		X C	44	23	88	Chemical compos **Sextans** dwarf sp
2014A&A...564A.112N	1725		D	X C	43	6	12	Gravitational tide
2020ApJS..247....7H	1480	T A	D	X C	33	5	~	Narrowband Ca p **Sextans**, and Car
2012A&A...539A.123B	1404	A	D	S X C	35	23	20	Cleaning spectros
2014ApJ...781...22Z	1374	K A		S X C	33	1393	41	La Silla QUEST R
2011ApJ...727...78K	1358	A	D	S X C	34	28	270	Multi-element abu
2022MNRAS.512.5601Q	1353	A	D	S X C F	27	12	10	Stellar proper mo
2016A&A...588A..21R	1341	A	D	X C	33	14	17	Computational iss
2008MNRAS.387.1481A	1290	A	D	S X C F	32	16	83	Dwarf spheroidal
2013ApJ...779..116M	1260	A	D	X C	32	5	18	Binary population **Sextans** dwarf sp
2015ApJ...799..230H	1125	A	D	X C	28	6	9	A new chemical e
2009ApJ...703..692L	1092	T A		X C F	26	11	29	Star formation his
2009A&A...501..189R	1073	A	D	S X C	27	10	112	The dynamical an
2020A&A...636A.111A	1071	T A		X	24	44	~	Chemical abunda **Sextans dwarf s**

References (825 between 1850 and 2023) (Total 825)

Simbad bibliographic survey began in 1850 for stars (at least bright stars) and in 1983 for all other objects (outside the solar

Follow new references on this object

Reference summaries :

from: 1850 to: $currentYear

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

obj count and obj tags together create a **score** for one object in one article

This score is used to **sort references** of an object by **relevance**

2023ApJ...952L..23K - *Astrophys. J., 952, L23 (2023/July-3)*

SN 2023ixf in Messier 101: A Variable Red Supergiant as the Progenitor Candidate to a T

KILPATRICK C.D., FOLEY R.J., JACOBSON-GALAN W.V., PIRO A.L., SMARTT S.J., DROUT M.R., GAGLIANO A., GALL C., HJORTH J., JONES D.O., M RUIZ E., RANSOME C.L., VILLAR V.A., COULTER D.A., GAO H., MATTHEWS D.J., TAGGART K. and ZENATI Y.

Abstract (from CDS):

We present preexplosion optical and infrared (IR) imaging at the site of the type II supernova (SN II) 2023ixf in Messier 101 at 6.9 Mpc. We astr ground-based image of SN 2023ixf to archival Hubble Space Telescope (HST), Spitzer Space Telescope (Spitzer), and ground-based near-IR ima detected at a position consistent with the SN at wavelengths ranging from HST *R* band to Spitzer 4.5 *μ*m. Fitting with blackbody and red superg distributions (SEDs), we find that the source is anomalously cool with a significant mid-IR excess. We interpret this SED as reprocessed emissio shell of dusty material with a mass ~5 × $10^{-5}M_{\odot}$ surrounding a $\log(L/L_{\odot}) = 4.74 \pm 0.07$ and $T_{\rm eff} = 3920^{+200}_{-160}$ K RSG. This luminosity is consistent v 11 $M_{\odot}$, depending on assumptions of rotation and overshooting. In addition, the counterpart was significantly variable in preexplosion Spitzer 3 exhibiting ~70% variability in both bands correlated across 9 yr and 29 epochs of imaging. The variations appear to have a timescale of 2.8 yr, w *κ*-mechanism pulsations observed in RSGs, albeit with a much larger amplitude than RSGs such as *α* Orionis (Betelgeuse).

Abstract Copyright: © 2023. The Author(s). Published by the American Astronomical Society.

Journal keyword(s): *Stellar evolution - Type II supernovae*

Status at CDS : Large table(s) will be appraised for possible ingestion in VizieR.

Simbad objects: 27

Commentaire privé:
=E= tables 1 et 2 + voir footnote 27 + data behind figure 3 -MN-09.08.23

▸ Full paper

▸ View the references in ADS

Number of rows : 27

Hide Raw id

Show 100 entries

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4	SN 2012ec	x	1	SN 2012ec	SN*	02 45 59.89	-07 34 25.0	0.005	SNIIP
5	SN 2022acko	x	1	SN 2022acko	SN*	03 19 38.990	-19 23 42.68	0.005264	SNIIP
6	SN 2009kr	x	1	SN 2009kr	SN*	05 12 03.30	-15 41 52.2	0.006	SNII
7	NAME LMC	x	2	LMC	G	05 23 34.6	-69 45 22	0.000875	~
8	* alf Ori	acx	10	Betelgeuse;α Orionis	s*r	05 55 10.30536	+07 24 25.4304	0.000073	M1-M2I
9	V* VY CMa	x	2	VY CMa	s*r	07 22 58.3261352189	-25 46 03.194390594	0.000187	M5Iae
10	SN 2012A	x	1	SN 2012A	SN*	10 25 07.39	+17 09 14.6	0.0025	SNIIP
11	SN 2012aw	x	1	SN 2012aw	SN*	10 43 53.735	+11 40 17.63	0.0026	SNIIP
12	SN 2009md	x	1	SN 2009md	SN*	10 48 26.28	+12 32 02.8	0.0044	SNIIP
13	SN 2009hd	x	1	SN 2009hd	SN*	11 20 16.99	+12 58 46.3	~	SNII
14	SN 2016cok	x	2	SN 2016cok	SN*	11 20 19.09	+12 58 57.2	0.00243	SNIIP

DJIN - 2023ApJ...952L..23K

File Name Identifier Search Configuration Help

Journal : ApJ Volume : 952 Bibcode : 2023ApJ...952L..23K

TOC

32 object names (120)
- Betelgeuse (8)
- data behind figure (1)
- LMC (2)
- M101 (9)
- M31 (1)
- M33 (1)
- machine-readable (6)
- Messier 101 (3)
- NGC 6946 (1)
- NML Cyg (1)
- SN 2004A (1)
- SN 2004et (1)
- SN 2005cs (1)
- SN 2006my (1)
- SN 2008bk (1)
- SN 2009hd (1)
- SN 2009kr (1)
- SN 2009md (1)
- SN 2012A (1)
- SN 2012aw (1)
- SN 2012ec (1)
- SN 2016cok (2)
- SN 2017eaw (3)
- SN 2018aoq (1)
- SN 2020jfo (1)
- SN 2022acko (1)
- SN 2023ifx (2)
- SN 2023ixf (59)
- SNe 2003gd (1)
- VV Cephei (2)
- VY CMa (2)
- α Orionis (2)

source=XCDS

SN 2023ixf in Messier 101: A Variable Red Supergiant as the Progenitor Candidate to a Type II Supernova

Charles D. Kilpatrick, Ryan J. Foley, Wynn V. Jacobson-Galán, Anthony L. Piro, Stephen J. Smartt, Maria R. Drout, Alexander Gagliano, Christa Gall, Jens Hjorth, David O. Jones, Kaisey S. Mandel, Raffaella Margutti, Enrico Ramirez-Ruiz, Conor L. Ransome, V. Ashley Villar, David A. Coulter, Hua Gao, David Jacob Matthews, Kirsty Taggart, Yossef Zenati,

Abstract

We present preexplosion optical and infrared (IR) imaging at the site of the type II supernova (SN II) 2023ixf in Messier 101 at 6.9 Mpc. We astrometrically registered a ground-based image of SN 2023ixf to archival Hubble Space Telescope (HST), Spitzer Space Telescope (Spitzer), and ground-based near-IR images. A single point source is detected at a position consistent with the SN at wavelengths ranging from HST R band to Spitzer 4.5 μm. Fitting with blackbody and red supergiant (RSG) spectral energy distributions (SEDs), we find that the source is anomalously cool with a significant mid-IR excess. We interpret this SED as reprocessed emission in a 8600 R⊙ circumstellar shell of dusty material with a mass ~5 × 10-5M⊙ surrounding a log(L/L_⊙)=4.74± 0.07 and T_ eff=3920_-160 +200 K RSG. This luminosity is consistent with RSG models of initial mass 11 M⊙, depending on assumptions of rotation and overshooting. In addition, the counterpart was significantly variable in preexplosion Spitzer 3.6 and 4.5 μm imaging, exhibiting ~70% variability in both bands correlated across 9 yr and 29 epochs of imaging. The variations appear to have a timescale of 2.8 yr, which is consistent with κ-mechanism pulsations observed in RSGs, albeit with a much larger amplitude than RSGs such as α Orionis (Betelgeuse).

Keywords

Stellar evolution
Type II supernovae

Supporting material : data behind figure, machine-readable tables (see Table 1, Table 2, Figure 3.)

1. Introduction

All hydrogen-rich supernovae (SN II) with directly identified progenitor stars have been interpreted to come from systems with initial mass <20 M⊙ (Smartt 2015). With the exception of the blue supergiant progenitor of the peculiar SN II 1987A (Hillebrandt et al. 1987 ; Arnett et al. 1989), the yellow supergiant progenitor stars of hydrogen-poor SNe IIb (e.g., Aldering et al. 1994), and the luminous blue variable (LBV) progenitor stars to SNe IIn (e.g., Gal-Yam & Leonard 2009), all of these systems are red supergiants (RSGs). These stars have massive, extended, hydrogen envelopes and make up the majority of directly identified progenitor stars to core-collapse SNe (SNe 2003gd, 2004A, 2004et, 2005cs, 2006my, 2008bk, 2009hd, 2009kr,

2012-2020

DJiN