

How to query SIMBAD

EAS
June 2021



□ SIMBAD

Set of
Identifiers
Measurements
and **B**ibliography
for **A**stronomical
Data

□ SIMBAD

- Bibliography
- Objects types
- Identifiers = cross-identifications + links to data in VizieR
- Astrometry : coordinates (ICRS J2000), proper motions, parallax
- HRV, cz, or redshift; + recently added Vlsr
- Spectral type for stars
- Morphological type for galaxies
- Angular size
- Magnitudes : UBVRI G JHK ugriz
- Hierarchical links with % of membership
 - Collections of measurements
 - Parallaxes (PLX), distances (distance), proper motions (PM)
 - Spectral types (SpT or formerly MK)
 - Teff, logg, [Fe/H] (fe_h) + rotational velocities (ROT)
 - Velocities (HRV, z , cz, Vlsr)

□ SIMBAD

- 12 M of objects
- 41 M of identifiers
 - eg : « Mrk 421 » has 137 different names
- 390 K references



SIMBAD

Basic data :

BD+36 4308 -- Star

Other object types:

ICRS coord. ($ep=J2000$) : 20 54 05.6874530732 +37 01 17.318792862 (Optical) [0.0295 0.0371 90] A 2018yCat.1345....06

FK5 coord. ($ep=J2000$ eq=2000) : 313.5236977211383 +37.0214774424617 [0.0295 0.0371 90]

ICRS coord. ($ep=J2000$) : 313.5236977211383 +37.0214774424617 [0.0295 0.0371 90]

Gal coord. ($ep=J2000$) : 079.3465903283306 -05.0395371296560 [0.0295 0.0371 90]

Proper motions mas/yr : 0.268 -6.884 [0.064 0.069 90] A 2018yCat.1345....06

Parallaxes (mas) : 0.6232 [0.0462] A 2018yCat.1345....06

Spectral type: OB-e E 1960LS....C02....0S

Fluxes (7) : U 9.11 [-] D 2003AJ....125.2531R

B 9.84 [-] E ~

V 9.81 [-] E ~

G 9.8144 [0.0005] C 2018yCat.1345....06

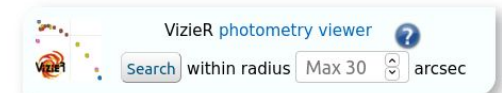
J 9.776 [0.024] C 2003yCat.2246....0C

H 9.829 [0.018] C 2003yCat.2246....0C

K 9.864 [0.017] C 2003yCat.2246....0C

* (BD,ALS,...), IR (2MASS), UV (CEL)

SIMBAD [query around](#) with radius arcmin



Identifiers (11) :

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

BD+36 4308

GEN# +0.03604308

2MASS J20540569+3701173

uvby98 003604308

ALS 11608

GSC 02700-02200

TYC 2700-2200-1

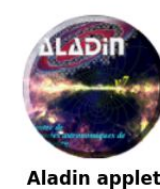
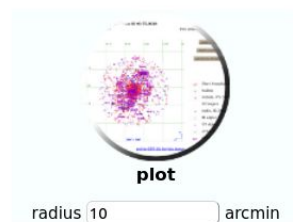
Gaia DR2 1870117138241890432

CEL 5197

LS II +36 85

UBV M 2716

Plots and Images





SIMBAD

Number of rows : 41



Want to see more from a catalogue
for in

Show entries

N ^o ▼	Identifier	dist(asec)	Otype	ICRS (J2000) RA	ICRS (J2000) DEC	Proper motions	Parallaxes	Red.
1	* sig Sgr	0.00	**	18 55 15.92650	-26 17 48.2068	15.14 -53.43	14.32	-0.000
2	TYC 6868-846-1	103.95	*	18 55 21.945	-26 18 53.45	22.1 23.9		~
3	CD-26 13591	348.60	*	18 54 53.6353545161	-26 20 46.258721418	5.279 -11.410	2.1623	-0.000
4	UCAC2 21188488	371.78	*	18 55 35.4909355331	-26 13 25.614909866	1.103 2.064	0.7000	-0.000
5	TYC 6868-815-1	378.08	*	18 55 40.8316657096	-26 20 43.776971634	1.464 -14.739	0.6817	~
6	TXS 1852-263	415.43	Rad	18 55 46.8	-26 17 34			~
7	V* V1224 Sgr	468.24	Mi?	18 55 29.1372741561	-26 25 01.469833226	-0.474 -3.888	0.2181	~
8	IRAS 18523-2614	477.46	*	18 55 28.8522567204	-26 10 23.550104921	-3.159 -5.374	1.2300	~
9	LEDA 209120	494.26	G	18 54 41.8	-26 20 52			~
10	IRAS 18518-2629	509.81	*	18 55 01.2358598801	-26 25 38.235160157	-1.926 -0.811	0.4231	~
11	1RXS J185456.7-260956	537.94	X	18 54 56.705	-26 09 56.52			~
12	1RXS J185550.7-261154	586.47	X	18 55 50.698	-26 11 54.49			~
13	[SHM2017] J283.83488-26.11425	659.61	RR*	18 55 20.3730439690	-26 06 51.318019663	-0.773 -2.189		~
14	TYC 6864-1363-1	693.59	*	18 54 42.2407162189	-26 09 03.229367116	19.004 2.985	1.1835	-0.000
15	ASAS J185513-2605.4	744.47	Mi*	18 55 12.4691872786	-26 05 25.191338529	-1.827 -4.095		~
16	2MASX J18542066-2614532	763.63	G	18 54 20.6744775562	-26 14 52.604753726	4.112 -17.878	1.0881	~
17	[SHM2017] J283.64873-26.14470	769.71	RR*	18 54 35.7026489895	-26 08 40.958294564	-3.012 -1.490		~
18	[SHM2017] J283.54311-26.34317	897.33	RR*	18 54 10.3547930958	-26 20 35.429082797	-3.163 -1.126	0.3149	~



SIMBAD Queries



Portal Simbad Vizier Aladin X-Match Other Help



SIMBAD Astronomical Database - CDS (Strasbourg)

What is SIMBAD ?

Queries
basic search
by identifier
by coordinates
by criteria
reference query
scripts
TAP queries
options
Display all user annotations

Documentation
User's guide
Query by urls
Nomenclature Dictionary
Object types
List of journals
Measurement description
Spectral type coding
User annotations documentation
Acknowledgment

Information
Presentation
Image thumbnails
BETA - Mobile version
SimWatch
Release:
SIMBAD4 1.7 - May-2018
Release history

Content
The SIMBAD astronomical database provides basic data, cross-identifications, bibliography and measurements for astronomical objects outside the solar system.
SIMBAD can be queried by object name, coordinates and various criteria. Lists of objects and scripts can be submitted.
Links to some other on-line services are also provided.

Basic search
<input type="text"/>
<small>identifier, coordinates (radius=10 arcmin), or bibcode</small>

All modes of queries, documentation

Web :

- Output options (fields shown)

- Limited

SIMBAD Queries

Query an identifier

Identifier :

M 21

Examples

sirius, M31, MCG+02-60-010

How to write an identifier can be found in the [dictionary of nomenclature](#)
IAU format can also be used, with the following format:

`iau [J|B]1230+08 [* enlarging-factor] [= Object-type]`

you can choose to query :

only this object

around the object, define a radius :

2

arc min

submit id

clear

One of different names, user friendly

Options : wildcards, around web output (limited)

Query a list of identifiers

Enter the name of an ASCII file
produced by a text editor containing
one identifier per line:

Browse... No file selected.

☒ list display ☐ full display

submit file

clear

☐ query around the objects with radius :

2

arc min

Only i

□ SIMBAD Queries

Enter coordinates:

Coordinates: *The following writing is in J2000 equinox*
20 54 05.689 +37 6
10:12:45.3-45:17:5
15h17m-11d10m
15h17+89d15
275d11m15.6954s+17
12.34567h-17.87654
350.123456d-17.333

define the input : system : epoch : equinox
or choose :

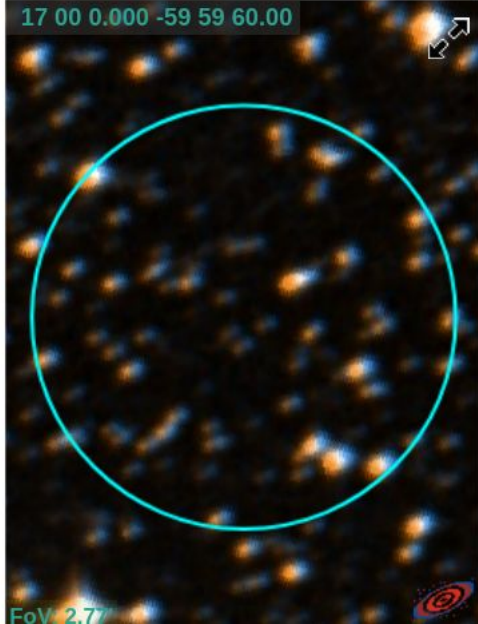
define a radius :

~ 2 objects

Query a list of coordinates

Enter the name of an ASCII file If you

Interactive AladinLite view


FoV 2.77

*From position(s)
web output (limited)*

SIMBAD Queries

Enter search criteria: Reference

Journals :

Example: A

year limits : from to Simbad bibliographic survey began in 1850 for stars (at least bright stars) and in **\$currentYear** can be used to specify dynamically the current year.

authors : ☐ first *Example: JASCHEK & ('egret d'|Acker)*
[Find an author](#)

title words : *Example: supernova & ('crab nebula' | cygnus*

or Enter a bibcode or a DOI :

bibcode or DOI : *Example: 2000A&A...353..322A*

☐ display objects in the reference (for regular bibcode only)

or reference items: year: [journal abbrev:](#) volume: page:

Publications criteria

*Access to reference, and objects linked
web output (limited)*

SIMBAD Queries

Enter a search expression:

Bmag<4 & maintypes='**'

submit query

clear

Criteria queries may require some time, especially if they are complex or involve a large number of objects. Limited to 5 criteria. Please, wait for their completion if it is the case.

Example:

*ra > 15 & ra < 30 & dec > 7
(cat = 'PPM' | cat = 'HIP')
Rot.vsinl > 10.0*

Return :

- ☒ object count
- ☐ display maximum 10000
- ☐ get references from the s

Enter the name of an ASCII file containing a search expression:

Browse... No file selected.

submit file

clear

Description of the queriable fields:

Criteria on basic data

creationdate	creation date of the object (format 'MM/DD/YYYY')	= / != / < / <= / > / >= / in	rvqual
modifdate	last modification date of the object (format 'MM/DD/YYYY')	= / != / < / <= / > / >= / in	sptype

*Many data criteria, simple
combination*

web output (limited)

□ SIMBAD Queries

Type your script in:
 ☐ file output ☐ compressed

```
echo My first Simbad4 script
format object form1 "%IDLIST(1) : %COO(D)"
query id hd 1
query id hd 2
```

Short reminder of the script commands. A more complete description can be found

control:	
# comment	a comment line must have a '#' as its first char
output outfile=action...	output definition. 'outfile' can be 'console', 'erro 'action' can be 'off' or 'merge[(line header)]' (m
result type	define the kind of result [full oid ident count]
votable [name] {fieldlist}	define a votable output with a fieldlist
votable open [name]	use the defined votable output for the next que
votable close	close the current votable
format {obj ref} [name] "..."	define the output formats for objects or referen
format name	set the named output format as current
format {obj ref} default	reset the output formats for obj or ref to the de
format display [name]	display all format or the one defined by its nam
set limit #rows	limits the number of returned rows (0 removes
set radius val{d m s}	radius for coordinates and around queries (Ex:
set frame name	input frame for coord. queries (ICRS,FK5,FK4,G

*All others forms, by **scripts**
Customize ASCII output
(limited)*

□ SIMBAD Queries

TAP Table Access Protocol

▼ Execution options

Query name:

Format:
CSV ▼

Max records:
1000 ▼

☐ Batch mode
☒ Check before start

► Upload(0)

► TAP resources

▼ Help

- [What is TAP ?](#)
- [ADQL cheat sheet](#)
- [Simbad tables](#)

► More links

ADQL QUERY TO EXECUTE (or choose an example: -- None --)

```
SELECT main_id, ra, dec
FROM allfluxes
JOIN basic ON oid=oidref
WHERE B<4
AND otype='**..'
```

*Customize output formats, size,
fields*

Every single field could be filtered
SQL-like

Check !

Start !

Clear

Learn more about TAP resources