

SIMBAD Alderbaran Page Definitions

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1 SIMBAD Table Definitions

We will include a glossary of terms with their reference in the SIMBAD page, the physical term, and the meaning of the term, this is based on the SIMBAD page for Alderbaran. The terms are organized by the section they are found in the SIMBAD page.

Table 1: Summary of Terms and the Sections in a SIMBAD Star Page

SIMBAD TERM	Physics Term	Definition
ICRS coord	Stellar Coordinates	Reference location coordinate
FK4 coord	Stellar Coordinates	Reference location coordinate(alternate coordinate system).
GAL coord	Stellar Coordinates	Reference location coordinate(alternate coordinate system).
Proper Motions(mas/yr)	Stellar Motion	Motion of star from earth in milliarcseconds per year.
Radial velocity/Redshift/cz	Apparent velocity of star is moving from Earth	Velocity of star from earth in km/s, this is the doppler effect causing redshift.
Parallax(mas)	Parallax distance of the star in milliarcseconds	Using this value, the stellar distance to the star can be determined.
Spectral type	Stellar Class	The class of the star, refer to above for details.
Fluxes	Luminosity	Luminosity of the star in various wavelengths starting from U - UV light to K - infared light
Hierarchy	Objects in the stars orbit or vice versa	Can be planets, other stars, generally organizes with orbiting bodies being children of larger bodies.
Identifier	Acronym Information	Due to the amount of data, there are many different nomenclature used, so clicking one of thes can give insight.
References	Academic Observations	Allows for historical review of past observational data and the read on the methodology used.
Collections of Measurements	Measurements	Direct link to measurements made by scientist with a reference to the academic article. See Section 5.
Observing logs	Observational Data	Link to raw observational data, this could be unformatted.
External Archives	External Databases	Links to other databases that may have more information on the star.

Table 2: Velocity Table Definitions

SIMBAD TERM	Physcs/Unit	Definition
typ	Velocity type	Can be raw km/s(v), redshift(z), or a product of the speed of light and red shift(cz). Measure of Velocity from the earth, either as a velocity or a proportion of the redshift.
value	Velocity	The value of the velocity based on type above
R	Single character(?)	This indicates if there is potential systemic error in velocity.
m.e.	Error in Velocity	The error in the velocity measurement measured as a value of σ .
Acc	Letter Grade	Quality of measurement based on study, ranging from A-E.
Nmes	Number of Measurements	The number of measurements taken to determine the velocity.
nat	Measurement Type(p,s,se,sa)	Nature of measurement, refers to the sensor used to derive the velocity.
Q	Letter Grade	The quality of the measurement, duplicate value as Acc.
dom	Domain	Wavelength domain of measurement(Radio,mm,Infared,Optical,UV,X-Ray,Gamma)
res	Resolution	Refers to error or resolution of the tool to measure the incoming light.
D	Placeholder	Placeholder for data validation.
Obs.data	Julian Days	Date of observation given in Julian days
Or	2 Character code	Note of origin on the radial velocity measurement.
reference	Bibcode	Reference to the academic article where the data was published.

Table 3: Rotational Velocity Table Definitions

SIMBAD TERM	Physcs/Unit	Definition
upVsini	Boolean Flag	Flag to indicate if the rotational velocity is the upper limit(max values).
Vsini	Rotational Velocity(km/s)	The rotational velocity of the star in km/s.
err	Error in Rotational Velocity(km/s)	The error in the rotational velocity measurement.
Q	Letter Grade	The quality of the measurement(A-E)
reference	Bibcode	Reference to the academic article where the data was published.

Table 4: Variability Table Definitions

SIMBAD TERM	Physcs/Unit	Definition
vartyp	Type of Variability	The type of variability the star exhibits(refer to Variability Definitions)
Lomax	Single character	Flag to indicate the maximum brightness
max	$\frac{W}{m^2}$	The maximum brightness of the star in watts per square meter.
R_max	Single character	Flag to indicate the maximum brightness error.
band	Wavelength Band	The wavelength band of measurement(Radio,mm,Infared,Optical,UV,X-Ray,Gamma)
Upmin	Single character	Flag to indicate the minimum brightness
UpPeriod	Single character	Flag to indicate the lower limit in a period.
period	Days	The period of the variability in Julian days.
R_period	Single character	Flag to indicate the period error.
epoch	Julian Days	The time of variability measurement.
R_epoch	Single character	Flag to indicate the epoch error.
D/rt	Julian Days	Special measurement for Algol type systems(special case).
%	Single Character	Flag to indicate error or uncertainty on raising time.
reference	Bibcode	Reference to the academic article where the data was published.

Table 5: Fe/H Table Definitions

SIMBAD TERM	Phyiscs/Unit	Definition
Teff	Kelvin	The effective temperature of the star in Kelvin.
log.g	Gravity $frac{ms^2}{cm}$	Effective gravity of the star
Fe_H	Iron to Hydrogen Ratio	Also known as metallicity index in a log scale: -1 = 10x less metal than sun, +0.3 = 2x more metal than sun. Indicator for the age of the star.
c	Single Letter	Flag indicating the method of calculating the ratio.
CompStar	Name or Identifier	Names a comparable star.
CatNo	Number	Catalog number of the star in a certain study(Cayrel Et Al).
Reference	Bibcode	Reference to the academic article where the data was published.

Table 6: Parallax(Plx) Table Definitions

SIMBAD TERM	Phyiscs/Unit	Definition
plx	mas	Parallax distance of the star in milliarcseconds.
m.e	mas	Error in the parallax distance of the star in milliarcseconds.
R	2 Character Code	Code of observatory that measured the parallax.
reference	Bibcode	Reference to the academic article where the data was published.

Table 7: Proper Motion(PM) Table Definitions

SIMBAD TERM	Physcs/Unit	Definition
pm-ra	mas/yr	Proper motion in right ascension in milliarcseconds per year.
m.e.	mas/yr	Error in the proper motion in right ascension in milliarcseconds per year.
pm-de	mas/yr	Proper motion in declination in milliarcseconds per year.
m.e.	mas/yr	Error in the proper motion in declination in milliarcseconds per year.
syst	FK4,FK5,ICRS Coordinates	Coordinate system used when measuring proper motion.
reference	Bibcode	Reference to the academic article where the data was published.

Table 8: Spectral Type(SpT) Table Definitions

SIMBAD TERM	Physcs/Unit	Definition
ds/mss	single character with notes	Indicates the system used to make the classification.
SpType	Spectral Type	The spectral type of the star, refer to other tutorial for info
Reference	Bibcode	Reference to the academic article where the data was published.

2 Observational Logs

The observation logs are custodial and show us the raw data from the telescope, This data is organized chronologically and can be difficult to read. The data is in the form of a table including some of the following information:

- Size of region of space covered in arcmin.
- Observatory Code.
- Minimum and Maximum wavelength searching.
- Target the observatory was aiming for.
- Julian Date and time of the observation.
- Duration of the observation.

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- FOV of the lens used.
 - The stellar coordinates of the telescope at the target.

3 External Archives

The external archives are databases that contain more information on the star, these databases are not SIMBAD but are linked to SIMBAD. These databases can contain more information on the star and nearby objects around them, these should be avoided if you are not familiar with the data you're looking at.