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U ANTLIAE / - FACTS ABOUT THE STAR

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U ANTLIAE FACTS

- U Antliae is a Carbon Star.
- U Antliae is not part of the Antlia constellation outline but is within the borders of the constellation.
- Based on the spectral type (C) of the star, the U Antliae colour is carbon red .
- The star can be seen with the naked eye, that is, you don't need a telescope/binoculars to see it.
- Using the most recent figures given by the 2007 Hipparcos data, U Antliae distance from Earth is 874.43 light years.

U ANTLIAE LOCATION

The location of the Carbon star in the night sky is determined by the Right Ascension (R.A.) and Declination (Dec.), these are equivalent to the Longitude and Latitude on the Earth. The Right Ascension is how far expressed in time (hh:mm:ss) the star is along the celestial equator. If the R.A. is positive then its eastwards. The Declination is how far north or south the object is compared to the celestial equator and is expressed in degrees. For U Antliae, the location is 10h 35m 12.88 and -39° 33` 45.3.

U ANTLIAE RADIAL VELOCITY AND PROPER MOTION

U ANTLIAE PROPER MOTION

All stars like planets orbit round a central spot, in the case of planets, its the central star such as the Sun. In the case of a star, its the galactic centre. The constellations that we see today will be different than they were 50,000 years ago or 50,000 years from now. Proper Motion details the movements of these stars and are measured in milliarcseconds. The star is moving 3.50 ± 0.39 milliarcseconds/year towards the north and -31.02 ± 0.54 milliarcseconds/year east if we saw them in the horizon.

U ANTLIAE RADIAL VELOCITY

The Radial Velocity, that is the speed at which the star is moving away/towards the Sun is 41.00000 km/s with an error of about 4.40 km/s. When the value is negative then the star and the Sun are getting closer to one another, likewise, a positive number means that two stars are moving away. Its nothing to fear as the stars are so far apart, they won't collide in our life-time, if ever.

U ANTLIAE PHYSICAL PROPERTIES

U ANTLIAE COLOUR

Based on the star's spectral type of C , U Antliae's colour and type is carbon red Carbon star. Based on the spectral type, we can deduce that the surface temperature of the star is in the order of between below 3,500K based on the notes from <u>Harvard University</u>. To put this in context, the temperature of our Sun is about 5,778 Kelvin as said by <u>Google</u>.

U ANTLIAE APPARENT (BRIGHTNESS) AND ABSOLUTE MAGNITUDES

U Antliae apparent magnitude is 5.50, this is a measure of the brightness of the star as seen from Earth. Apparent Magnitude is also known as Visual Magnitude. If you used the 1997 Parallax value, U Antliae absolute magnitude is -1.54 If you used the 2007 Parallax value, U Antliae absolute magnitude is -1.64.

Absolute Magnitude is the apparent magnitude of the star from a distance of 10 parsecs or 32.6 light years. This assumes that there is nothing in between the object and the viewer such as dust clouds. To really compare the brightness of the star, it is best to use Absolute rather than Apparent Magnitude.

Magnitude, whether it be apparent/visual or absolute magnitude is measured by a number, the smaller the number, the brighter the Star is. Our own Sun is the brightest star and therefore has the lowest of all magnitudes, -26.74. A faint star will have a high number.

U ANTLIAE **DISTANCE FROM EARTH**

Using the original Hipparcos data that was released in 1997, the parallax to the star was given as 3.90000 which means U Antliae distance from Earth is 836.32 light years away from Earth or 256.41 parsecs. If you want that in miles, it is about 4,916,411,972,100,916.72, based on 1 Ly = 5,878,625,373,183.61 miles.

In 2007, Hipparcos data was revised with a new parallax of 3.73000 which puts U Antliae distance from Earth as 874.43 light years or 268.10 parsecs. It should not be taken as though the star is moving closer or further away from Earth. It is purely that the distance was recalculated.

Using the 2007 distance, the star is roughly 55,299,209.22 Astronomical Units from the Earth/Sun give or take a few. An Astronomical Unit is the distance between Earth and the Sun. The number of A.U. is the number of times that the star is from the Earth compared to the Sun. The star's Galacto-Centric Distance is 7,377.00 Parsecs or 24,061.07 Light Years. The Galacto-Centric Distance is the distance from the star to the Centre of the Galaxy which is Sagittarius A*.

ALTERNATIVE NAMES AND MEANINGS

- The Id of the star in the Yale Bright Star Catalogue is HR4153.
- HIP51821 is the reference name for the star in the Hipparcos Star Catalogue.
- The Id of the star in the Henry Draper catalogue is HD91793. The catalogue was started by the American doctor and has been expanded on over the years.
- The star is catalogued in the Tycho-2 star catalogue as TYC-7714-1297-1. The catalogue lists 2 millions stars and its homepage is E.S.A.

U ANTLIAE TRAVEL TIME

The time it will take to travel to this star is dependent on how fast you are going. U.G. has done some calculations as to how long it will take going at differing speeds. A note about the calculations, when I'm talking about years, I'm talking non-leap years only (365 days).

The <u>New Horizons</u> space probe is the fastest probe that we've sent into space at the time of writing. Its primary mission was to visit <u>Pluto</u> which at the time of launch (2006), Pluto was still a planet.

Mach 1 is the speed of sound, Mach 2 is twice the speed of sound. Corncorde before it was retired was the fastest commercial airline across the Atlantic and only one that could do Mach 2.

Description	Speed (m.p.h.)	Time (years)
Walking	4	146,601,824,724.12
Car	120	4,886,727,490.80
Airbus A380	736	796,749,047.41
Mach 1	767.269	764,278,628.35
Mach 2	1,534.54	382,138,816.13
New Horizons	33,000	17,769,918.15
Speed of Light	670,616,629.00	874.43

VARIABLE TYPE

The star is a Slow Irregular variable type which means that its size changes over time. The Variable Type is usually named after the first star of that type to be spotted. U Antliae brightness ranges from a magnitude of 5.699 to a magnitude of 5.261 over its variable period. The smaller the magnitude, the brighter the star. Its variable/pulsating period lasts for 0.4 days (variability).

Source of Information

The source of the information if it has a Hip I.D. is from <u>Simbad</u>, the Hipparcos data library based at the University at Strasbourg, France. Hipparcos was a <u>E.S.A.</u> satellite operation launched in 1989 for four years. The items in red are values that I've calculated so they could well be wrong. Information regarding Metallicity and/or Mass is from the <u>E.U.</u> <u>Exoplanets</u>. The information was obtained as of 12th Feb 2017.

COMPARISON BETWEEN U ANTLIAE AND THE SUN

If you want to see the comparison between U Antliae and our star, the Sun, you will need a screen of at least 800px across. Rotating your screen maybe sufficient to see the Stellar values for comparison.

U Antliae **Primary Name** U Ant, HD 91793, TycId 7714-1297-1, HIP 51821, HR 4153, **Alternative Names** U Ant **Spectral Type** С Star Type Carbon Star Colour Red Galaxy Milky Way Constellation Antlia **Constellation's Main Star** No -1.54 / -1.64 **Absolute Magnitude** Visual / Apparent Magnitude 5.50**Naked Eye Visible** Yes **<u>Right Ascension</u>** (R.A.) 10h 35m 12.88 -39° 33` 45.3 **Declination (Dec.) Galactic Latitude** 16.14193059° **Galactic Longitude** 276.22419281 ° **1997 Distance from Earth** 3.90000 Parallax (milliarcseconds) ODE DD I tobt Var

VISUAL FACTS

838.32 Light Years 256.41 Parsecs

3.73000 Parallax (milliarcseconds)

2007 Distance from Earth

Galacto-Centric Distance <u>Proper Motion</u> Dec. Proper Motion RA.

B-V Index Radial Velocity

Eccentricity

Semi-Major Axis

874.43 Light Years 268.10 Parsecs 55,299,209.22 Astronomical Units 24,061.07 Light Years / 7,377.00 Parsecs 3.50000 ± 0.39000 milliarcseconds/year

 $\begin{array}{r} -31.02000 \pm 0.54000 \text{ milliarcseconds/year} \\ 3.01 \\ 41.00000 \pm 4.40 \text{ km/s} \\ 0.29120 \\ 5490.0000000 \end{array}$

COMPANIONS (MULTI-STAR AND EXOPLANETS) FACTS

Exoplanet Count

None/Unaware

-1.00 - 3,500.00

VARIABLE STAR DETAILS

Variable Star ClassPulsatingVariable Star TypeSlow IrregularMean Variability Period in Days0.419Variable Magnitude Range (Brighter - Dimmer)5.261 - 5.699ESTIMATED CALCULATED FACTSContract of the second sec

Calculated Temperature Range

Sources and Links

SIMBAD Source Link Sun Facts Source

ANTLIA'S 5 BRIGHTEST STARS

- Alpha Antliae
- Epsilon Antliae
- Eta Antliae
- Theta Antliae
- Iota Antliae

Selected Antlia's Stars

- HIP 51838
- AW Antliae
- HIP 51851
- HIP 51854
- HIP 51887

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