= Altair =

Altair (? Aquilae , ? Aql) is the brightest star in the constellation Aquila and the twelfth brightest star in the night sky . It is currently in the G @-@ cloud ? a nearby accumulation of gas and dust known as an interstellar cloud . Altair is an A @-@ type main sequence star with an apparent visual magnitude of 0 @.@ 77 and is one of the vertices of the Summer Triangle (the other two vertices are marked by Deneb and Vega) . It is 16 @.@ 7 light @-@ years (5 @.@ 13 parsecs) from Earth and is one of the closest stars visible to the naked eye .

Altair rotates rapidly , with a velocity at the equator of approximately 286 km / s . This is a significant fraction of the star 's estimated breakup speed of 400 km / s . A study with the Palomar Testbed Interferometer revealed that Altair is not spherical , but is flattened at the poles due to its high rate of rotation . Other interferometric studies with multiple telescopes , operating in the infrared , have imaged and confirmed this phenomenon .

= = Characteristics = =

Altair is located 16 @.@ 7 light @-@ years (5 @.@ 13 parsecs) from Earth and is one of the closest stars visible to the naked eye . Along with Beta Aquilae and Gamma Aquilae , it forms the well @-@ known line of stars sometimes referred to as the Family of Aquila or Shaft of Aquila .

Altair is a type @-@ A main sequence star with approximately 1 @.@ 8 times the mass of the Sun and 11 times its luminosity . Altair possesses an extremely rapid rate of rotation ; it has a rotational period of approximately 9 hours . For comparison , the equator of the Sun requires a little more than 25 days for a complete rotation . This rapid rotation forces Altair to be oblate ; its equatorial diameter is over 20 percent greater than its polar diameter .

Satellite measurements made in 1999 with the Wide Field Infrared Explorer showed that the brightness of Altair fluctuates slightly , varying by just a few thousandths of a magnitude with several different periods less than 2 hours . As a result , it was identified in 2005 as a Delta Scuti variable star . Its light curve can be approximated by adding together a number of sine waves , with periods that range between 0 @.@ 8 and 1 @.@ 5 hours . It is a weak source of coronal X @-@ ray emission , with the most active sources of emission being located near the star 's equator . This activity may be due to convection cells forming at the cooler equator .

= = = Oblateness and surface temperature = = =

The angular diameter of Altair was measured interferometrically by R. Hanbury Brown and his co @-@ workers at Narrabri Observatory in the 1960s . They found a diameter of 3 milliarcseconds . Although Hanbury Brown et al. realized that Altair would be rotationally flattened , they had insufficient data to experimentally observe its oblateness . Altair was later observed to be flattened by infrared interferometric measurements made by the Palomar Testbed Interferometer in 1999 and 2000 . This work was published by G. T. van Belle , David R. Ciardi and their co @-@ authors in 2001 .

Theory predicts that , owing to Altair 's rapid rotation , its surface gravity and effective temperature should be lower at the equator , making the equator less luminous than the poles . This phenomenon , known as gravity darkening or the von Zeipel effect , was confirmed for Altair by measurements made by the Navy Prototype Optical Interferometer in 2001 , and analyzed by Ohishi et al . (2004) and Peterson et al . (2006) . Also , A. Domiciano de Souza et al . (2005) verified gravity darkening using the measurements made by the Palomar and Navy interferometers , together with new measurements made by the VINCI instrument at the VLTI .

Altair is one of the few stars for which a direct image has been obtained . In 2006 and 2007 , J. D. Monnier and his coworkers produced an image of Altair 's surface from 2006 infrared observations made with the MIRC instrument on the CHARA array interferometer ; this was the first time the surface of any main @-@ sequence star , apart from the Sun , had been imaged . The false @-@ color image was published in 2007 . The equatorial radius of the star was estimated to be 2 @.@ 03

solar radii , and the polar radius 1 @.@ 63 solar radii ? a 25 % increase of the stellar radius from pole to equator . The polar axis is inclined by about 60 ° to the line of sight from the Earth .

= = Etymology , mythology , and culture = =

The name Altair has been used since medieval times . It is an abbreviation of the Arabic phrase ????? ?????? , al @-@ nesr al @-@ ?? ? ir (" English : the flying eagle ") . The term Al Nesr Al Tair appeared in Al Achsasi al Mouakket 's catalogue , which was translated into Latin as Vultur Volans . This name was applied by the Arabs to the asterism of ? , ? , and ? Aquilae and probably goes back to the ancient Babylonians and Sumerians , who called ? Aquilae the eagle star . The spelling Atair has also been used . Medieval astrolabes of England and Western Europe depicted Altair and Vega as birds .

The Koori people of Victoria also knew Altair as Bunjil , the wedge @-@ tailed eagle , and ? and ? Aquilae are his two wives the black swans . The people of the Murray River knew the star as Totyerguil . The Murray River was formed when Totyerguil the hunter speared Otjout , a giant Murray cod , who , when wounded , churned a channel across southern Australia before entering the sky as the constellation Delphinus .

In Chinese , the asterism consisting of ? , ? , and ? Aquilae is known as hegu (?? ; lit . " river drum ") . Altair is thus known as hegu er (??? ; lit . " river drum two " , meaning the " second star of the drum at the river ") .

However , Altair is better known by its other names : qianniu xing (???) or niulang xing (???) , translated as the cowherd star . These names are an allusion to a love story , The Weaver Girl and the Cowherd , in which Niulang (represented by Altair) and his two children (represented by ? and ? Aquilae) are separated from respectively their wife and mother Zhinu (represented by Vega) by the Milky Way . They are only permitted to meet once a year , when magpies form a bridge to allow them to cross the Milky Way .

The people of Micronesia called Altair as Mai @-@ lapa , " big / old breadfruit " , while the M?ori people called this star as Poutu @-@ te @-@ rangi , " pillar of heaven " .

In Western astrology , the star Altair was ill @-@ omened , portending danger from reptiles .

Japan Airlines 's Starjet 777 @-@ 200 JA8983 was named Altair .

Altair Airlines was a regional airline that operated out of Philadelphia from 1966 to 1982 .

The NASA Constellation Program announced Altair as the name of the Lunar Surface Access Module (LSAM) on December 13 , 2007 . The Russian @-@ made Beriev Be @-@ 200 Altair seaplane is also named after the star .

The Altair 8800 was one of the first microcomputers intended for home use .

Altair is the name of three United States navy ships : USS Altair (AD @-@ 11) , USS Altair (AK @-@ 257) and USNS Altair (T @-@ AKR @-@ 291) .

Altair is the name of a 1919 poem by Karle Wilson Baker .

Altaïr Ibn @-@ La 'Ahad is named after the star itself , who would become Master Assassin , then Mentor and become a legend in the history of the Assassins in the Assassin 's Creed series .

= = Visual companions = =

The bright primary star has the multiple star designation WDS 19508 + 0852A and has three faint visual companion stars , WDS 19508 + 0852B , C , and D. Component B is not physically close to A but merely appears close to it in the sky .