

Trips / Events

Ideas for trips and events
always welcome!

events@weymouthastronomy.co.uk

Society Meetings cancelled until further notice—Please check their websites for the latest schedule

In the meantime, the British Astronomical Association has moved their meetings to an online format. Live streamed on release and 'catch-up' on Youtube available. These webinars are Open to All.

<https://britastro.org/>


BAA live webinars, 7pm every Wednesday

<https://www.youtube.com/user/britishastronomical>

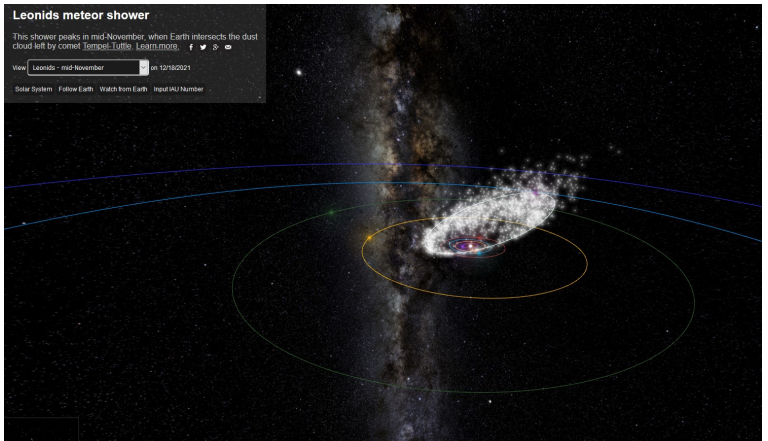
If you are interested in giving a talk or workshop, let the organisers know. They like to offer new titles in their programme line-up.

WAC Upcoming Events:

	Watch website for online options.
9 Oct	Online 'Zoom' Meeting - David Bacon - The Dark Energy Survey
11 Nov	Online 'Zoom' Meeting - Sheri Karl—Solar Observing on a Budget
11 Dec	TBA

 This month has been quite a busy one with many parts of life getting back to some normality. Apologies for the delayed Newsletter release. Must admit it had to take a bit of a back seat with planning for a trip to the Scottish west coast and finally a climb of Ben Nevis! An amazing experience and

luckily completed it before the snow came on the 12th Sept! Winter is coming.... With that are darker nights and several metooer showers! Worth checking on the skies to glimpse these beautiful events on the astronomical calendar of quick moving objects which are always worthy of a few oos and ahhs! A typical meteor fragment is the size of a dust grain, or tiny pebble. Many times the fragments come from a specific known comet as it approached the sun. The heat of the sun melts the ices on comets as they approach, leaving a trail of dust and debris. Check out <https://www.meteorshowers.org/view/Leonids> Until next time...SLK

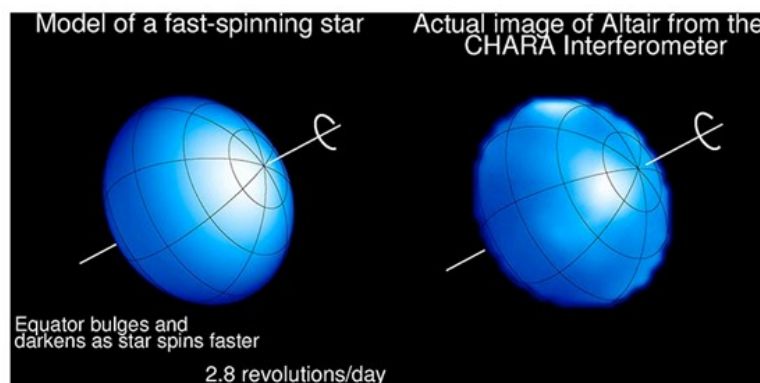


Summer Triangle Corner: Altair

by David Prosper

Altair is the final stop on our trip around the Summer Triangle! The last star in the asterism to rise for Northern Hemisphere observers before summer begins, brilliant Altair is high overhead at sunset at the end of the season in September. Altair might be the most unusual of the three stars of the Triangle, due to its great speed: this star spins so rapidly that it appears "squished."

A very bright star, Altair has its own notable place in the mythologies of cultures around the world. As discussed in our previous edition, Altair represents the cowherd Niulang in the ancient Chinese tale of the "Cowherd and the Weaver Girl." Altair is the brightest star in the constellation of Aquila the Eagle; while described as part of an eagle by ancient peoples around the Mediterranean, it was also seen as part of an eagle by the Koori people in Australia! They saw the star itself as representing a wedge-tailed eagle, and two nearby stars as his wives, a pair of black swans. More recently one of the first home computers was named after the star: the



The image on the right was created using optical interferometry: the light from four telescopes was combined to produce this image of Altair's surface. Image credit: Ming Zhao. More info: bit.ly/altairvsmode

Altair (more!)

Altair is up high in the early evening in September. Note Altair's two bright "companions" on either side of the star. Can you imagine them as a formation of an eagle and two swans, like the Koori?

Altair 8800.

Altair's rapid spinning was first detected in the 1960s. The close observations that followed tested the limits of technology available to astronomers, eventually resulting in direct images of the star's shape and surface by using a technique called *interferometry*, which combines the light from two or more instruments to produce a single image. Predictions about how the surface of a rapidly spinning massive star would appear held true to the observations; models predicted a squashed, almost "pumpkin-like" shape instead of a round sphere, along with a dimming effect along the widened equator,

and the observations confirmed this! This equatorial dimming is due to a phenomenon called *gravity darkening*. Altair is wider at the equator than it is at the poles due to centrifugal force, resulting in the star's mass bulging outwards at the equator. This results in the denser poles of the star being hotter and brighter, and the less dense equator being cooler and therefore dimmer. This doesn't mean that the equator of Altair or other rapidly spinning stars are actually dark, but rather that the equator is dark in comparison to the poles; this is similar in a sense to sunspots. If you were to observe a sunspot on its own, it would appear blindingly bright, but it is cooler than the surrounding plasma in the Sun and so appears dark in contrast.

As summer winds down, you can still take a Trip Around the Summer Triangle with this activity from the Night Sky Network. Mark some of the sights in and around the Summer Triangle at: bit.ly/TriangleTrip. You can discover more about NASA's observations of Altair and other fast and furious stars at nasa.gov

**Poor Perseid performance? Patience! Try the Leonids by Bob Mizon**

August's meteors lived up to their reputation – unpredictable! Reports from members who observed agreed that it was a disappointing show this year, and never began to live up to the usual media hype (i-news: "...reaches its peak on 12 August when you'll be able to see as many as 100 per hour").

In 1980, I lived in Corfe Mullen in a small block of flats and the only observing area I had that didn't involve driving several miles was a concrete yard surrounded by garages. Light pollution there was quite bad, so I didn't expect much. I had decided to make a chart of the tracks of the Perseids and from the beginning I was unable to keep up with the flow – 180 in the first hour. The rate must have been over 200 as I was missing some while logging the flashes. Sadly, such exceptional displays are rare. The word 'shower' should never be used when discussing shooting stars! One thing astronomy teaches us is patience, so look forward to the Leonids in mid-November. They sometimes produce bright fireballs – keep binoculars handy to watch any high-altitude gas trails these bright meteoroids leave. They can persist for several minutes. There'll be little interference from moonlight this year, since the thin crescent Moon will have set early in the evening on the nights of November 16th-18th, when the shower (oops, sorry – the event) peaks. The radiant, within the Sickle of Leo, is low in the north-east.

The Leonids' parent body, Comet Tempel-Tuttle, is known for the varying density of the clumps of debris it leaves behind, so it's usually anybody's guess on how rich the stream will be.

Leonids...

<https://earthsky.org/astronomy-essentials/earthskys-meteor-shower-guide#leonids>



Meteor shower dates 2020

Shower Name	Date of Maximum	Rate/Hour
Orionids	21-22 October	25
Taurids	Southern: 9-10 Oct Northern: 10-11 Nov	10
Leonids	17-18 November	15
Geminids	14-15 December	100+



Possible Life on Venus? Breakthrough Initiatives funds study of possible biosignature detection By Mike Wall



The detection of a [possible sign of life in Venus' clouds](#) is just the beginning.

On Monday (Sept. 14), researchers announced that they'd spotted the [fingerprint of phosphine in Venus' atmosphere](#), at an altitude where temperatures and pressures are similar to those here on Earth at sea level.

On our planet, phosphine is produced only by microbes and by human industrial activity, as far as we can tell. So, finding the gas on another world, in an environment that astrobiologists had [already flagged as potentially habitable](#), is exciting news indeed.

But it's unclear at the moment what the new results actually mean, discovery team members stressed. Venusian microbes may be emitting the phosphine, but it's also possible that the stuff is being generated by exotic chemical reactions that we don't understand, and that have nothing to do with life.

"We have what could be a biosignature, and a plausible story about how it got there," Pete Worden, executive director of the nonprofit Breakthrough Initiatives, said in a statement. "The next step is to do the basic science needed to thoroughly investigate the evidence and consider how best to confirm and expand on the possibility of life."

The Breakthrough Initiatives will help scientists take that next step, by funding a team to study the phosphine find and its potential implications in detail. The researchers will be led by MIT planetary scientist Sara Seager, an expert on [exoplanet](#) atmospheres and potential biosignatures who's also a member of the phosphine discovery team.



Read the rest of the article at:

<https://www.space.com/venus-phosphine-alien-life-breakthrough-initiatives-study.html>

Japan's Akatsuki spacecraft captured this false-color image of Venus' dayside on March 30, 2018. (Image: © JAXA/PLANET-C Project Team)