

WEYMOUTH ASTRONOMY

Trips / Events

Ideas for trips and events
always welcome!

events@weymouthastronomy.co.uk

Nov 20 CADAS— Pseudoastronomy: Hollow Moons and Flat Earths by Steve Tonkin

Dec 3 WAS—Lesser Known Winter Sky Wonders by Bob Mizon

Dec 18—Christmas social and members' images/short talks

The events for the British Astronomical Society (BAA) can be found at <https://britastro.org/meetings/2019>

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.

WEYMOUTH ASTRONOMY

2019 – 2020 Subscriptions are now due
£15 Annual Membership
£3 per night for visitors

WAC Upcoming Events:

13 Dec Winter Social /
Viewing Evening

Why don't you volunteer to give a short talk? What part of astronomy inspires you?

Pick a favourite object to speak on perhaps.

More to come in 2020!!

Sky Watcher



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8 November 2019



The Art and Science of the Moon

To mark the fiftieth anniversary of humanity's first footsteps on another world, Royal Museums Greenwich (RMG) is hosting a major exhibition exploring our evolving relationship with the Moon across times and cultures. The Moon (19 July 2019 – 5 January 2020) presents a scientific and cultural history of our nearest celestial neighbour, exploring its role as a mirror for humanity's dreams, obsessions and endeavours.

With contributions from academics, artists and curators exploring the interface between art, in its widest sense, and science, this conference will interrogate the collision of science, history and art to consider various creative responses to our cosmic companion. The programme will include a keynote lecture by Professor Paul Murdin; a guest lecture by author and broadcaster Dallas Campbell; and an in-conversation between Curator of Art Melanie Vandenbrouck and RMG's artist in residence and NASA's Space-Artist co-investigator on the FOSSIL mission, Katie Paterson

<https://www.rmg.co.uk/see-do/exhibitions-events/conference-art-science-moon>

Until next time...SLK



The Messenger Crosses the Sun: Mercury Transit 2019

by David Proper

Did you know that there are two other objects in our skies that have phases like the Moon? They're the inner planets, found between Earth and the Sun: Mercury and Venus. You can see their phases if you observe them through a telescope. Like our Moon, you can't see the planets in their "new" phase, unless they are lined up perfectly between us Earthlings and the Sun. In the case of the Moon, this alignment results in a **solar eclipse**; in the case of Mercury and Venus, this results in a **transit**, where the small disc of the planet travels across the face of the Sun. Skywatchers are in for a treat this month, as Mercury transits the Sun the morning of **November 11!**

You may have seen the transit of Venus in 2012; you may have even watched it through eclipse glasses! However, this time you'll need a solar telescope to see anything, since eclipse glasses will only reveal the Sun's blank face. Why is that? Mercury is the smallest planet in our solar system, and closer to the Sun (and further away from Earth) during its transit than Venus was in its 2012 transit. This makes Mercury's disc too small to see without the extra power of a telescope. Make absolutely certain that you view the transit via a telescope equipped with a safe solar filter or

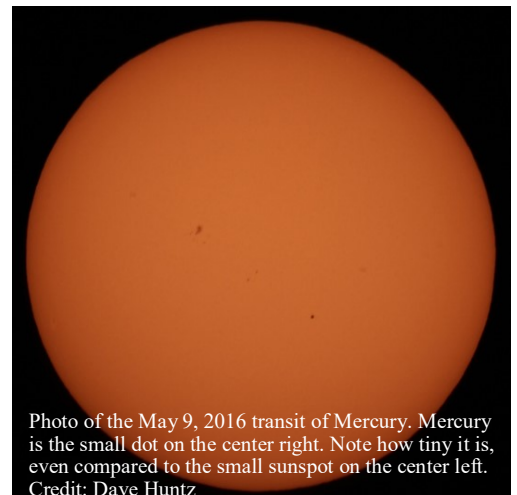
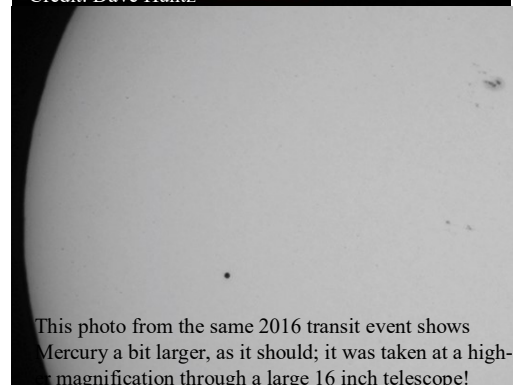


Photo of the May 9, 2016 transit of Mercury. Mercury is the small dot on the center right. Note how tiny it is, even compared to the small sunspot on the center left. Credit: Dave Huntz



This photo from the same 2016 transit event shows Mercury a bit larger, as it should; it was taken at a high-magnification through a large 16 inch telescope!

Credit: J. A. Blackwell

projection setup. Do NOT combine binoculars with your eclipse glasses; this will instantly burn a hole through

Transit (more!)

the glasses – and your eyes! While most people don't have solar telescopes handy, many astronomy clubs do! Look for clubs hosting Mercury transit observing events near you at bit.ly/findnsn (USA) or at bit.ly/awbtransit (worldwide).

What a fun opportunity to see another planet during the day! This transit is expected to last over five hours. Folks on the East Coast will be able to watch the entire transit, weather permitting, from approximately 7:35 am EST until around approximately 1:04 pm EST. Folks located in the middle of North America to the west coast will see the transit already in progress at sunrise. The transit takes hours, so if your weather is cloudy, don't despair; there will be plenty of time for skies to clear! You can find timing details and charts via eclipse guru Fred Espenak's website: bit.ly/mercurytransit2019

Mercury's orbit is small and swift, and so its position in our skies quickly changes; that's why it was named after the fleet-footed messenger god of Roman mythology. In fact, if you have a clear view of the eastern horizon, you'll be able to catch Mercury again this month! Look for it before dawn during the last week of November, just above the eastern horizon and below red Mars. Wake up early the morning of November 24th to see Mars, the Moon, and Mercury form a loose triangle right before sunrise.

Discover more about Mercury and the rest of our solar system at nasa.gov



Interesting Finds of the Month

This month, several interesting articles were found on the web regarding a variety of topics. Thought it would be worth sharing a selection here for the WAC members to enjoy. If you find any interesting articles, please share them with the group! Email the link to sherikar@rocketmail.com.

Amateur Filmmaker Captured Solar Eclipse — in 1900

On May 28, 1900, amateur filmmaker John Nevil Maskelyne captured the first-ever movie of a solar eclipse from the small town of Wadesboro, North Carolina.

<https://www.skyandtelescope.com/astronomy-news/amateur-filmed-1900-solar-eclipse/>

Galactic Center: Scientists Take Viewers to the Center of the Milky Way

A new visualization allows viewers to control their own exploration of the center of the Milky Way galaxy. This 360-degree movie is based on data from NASA's Chandra X-ray Observatory and other telescopes.

<https://chandra.cfa.harvard.edu/photo/2018/gcenter360/>

NASA Space Telescopes Provide a 3-D Journey Through the Orion Nebula

Astronomers and visualization specialists from NASA's Universe of Learning program have combined visible and infrared vision of the Hubble and Spitzer space telescopes to create an unprecedented, three-dimensional, fly-through view of the picturesque Orion Nebula, a nearby star-forming region.

<https://www.jpl.nasa.gov/news/news.php?feature=7035>

Map of The Moon: 50th Anniversary Edition Map

A highly-detailed map of the lunar surface shown at 1:1 470 000 scale, centred on the Apollo 11 landing site, created from NASA height data by Ordnance Survey to commemorate the 50th anniversary of the first humans on the moon. £15.99

<https://www.ordnancesurvey.co.uk/shop/moon-50th-anniversary-map.html>

Nature and physics

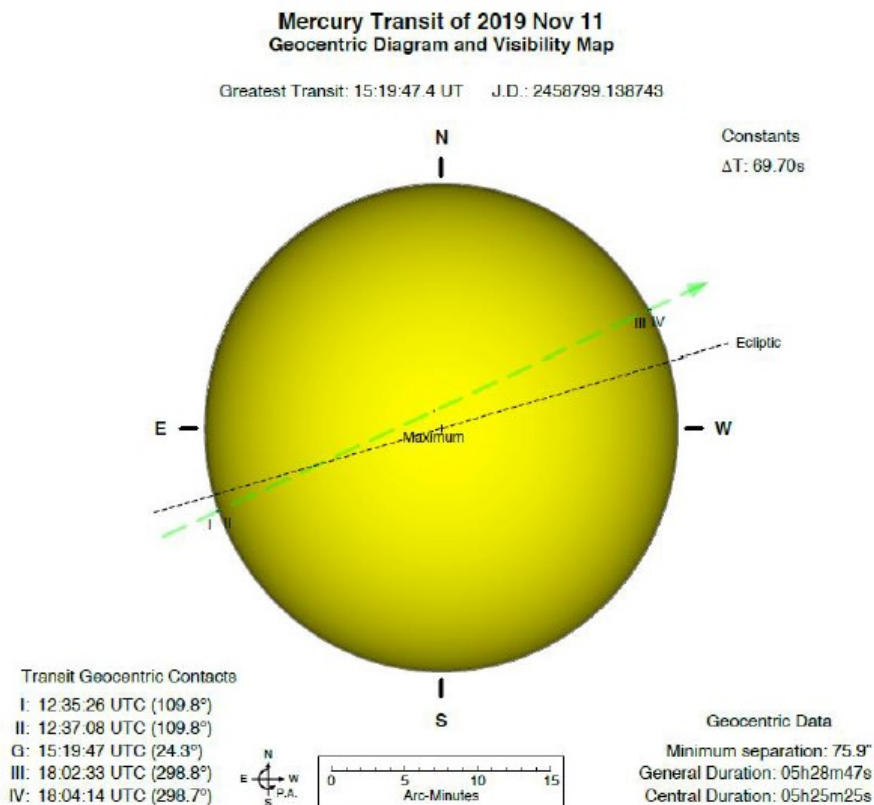
Despite the prominence of the London-based journal, which celebrates its 150th year of publication next week, it has not always been a favorite among physicists.

<https://physicstoday.scitation.org/doi/10.1063/PT.6.4.20191029a/full/>

BAA FLYER — The Transit of Mercury 2019 November 11

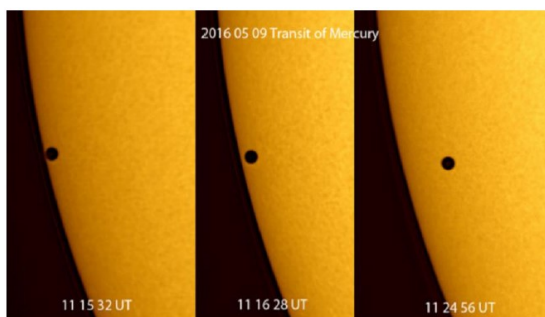
On Monday 11th November there will be a relatively rare transit of Mercury. For UK observers, the transit will occur during the afternoon with the transit still in progress at sunset. The geocentric contact timings can be seen in the following diagram when ingress occurs between 12:35 and 12:37 UT, greatest transit at 15:19 UT and egress occurs between 18:02 and 18:04 UT. Local timings are slightly different as also given below for various locations around the UK.

Observing the transit, whether visually or via imaging in white light, Hydrogen Alpha or Calcium K is very similar to that for sunspots or filaments. Given the small size of Mercury (10"), the planet will not be visible by the protected naked eye.

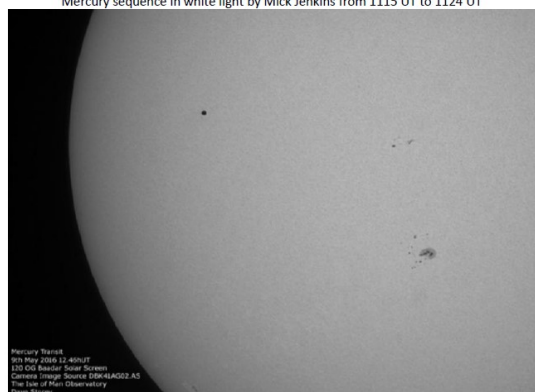


Location	I	II	G	III	IV	Duration
London	12:35:35	12:37:16	15:19:44	16:34*		3h 58m 25s
Glasgow	12:35:38	12:37:19	14:56:22	16:14*		3h 38m 22s
Belfast	12:35:38	12:37:19	15:19:47	16:25*		3h 49m 22s
Cardiff	12:35:36	12:37:17	15:19:44	16:26*		3h 50m 24s

* Sunset (from BAA 2019 Handbook)



Mercury sequence in white light by Mick Jenkins from 1115 UT to 1124 UT



Mercury imaged at 1246 UT by Dave Storey, together with sunspot groups AR2542 and AR2543

A tutorial on solar observing written by the Director Lyn Smith can be found on the BAA web site at <https://britastro.org/node/10604>.

For imaging, the main consideration is to ensure the duration of any webcam AVI files used to generate a processed image is sufficiently short to avoid any detectable motion of Mercury. The motion of the planet across the solar disk is approximately 5.8" per minute or 0.1" per second. If the allowed motion to avoid blurring is say 10% of Mercury's diameter this gives a maximum AVI imaging time of 10 seconds. Mercury may also be observed just before ingress in Hydrogen Alpha, especially if the planet appears in front of a prominence. Your observations should be submitted to Lyn Smith (solar@britastro.org) and to the Mercury and Venus Section's Director Paul Abel (paul.abel@yahoo.co.uk) and Mercury Coordinator Chris Hooker (chrishooker1@virginmedia.com). Image filenames should ideally be in the format MERCURY_YYYY-MM-DD_HHMMUT_Filter_NAME where Filter is the name of any filter used (I suggest using WL for white light and Ha for hydrogen alpha).

The next transit of Mercury will not be for another thirteen years on 2032 Nov 13, and so every opportunity should be made to observe this transit (clouds permitting).