



Galloway Forest Astronomical Society

Newsletter #63, July 2026

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Two more Zoom meetings

Learning from the JWST with Dr Caroline Harper

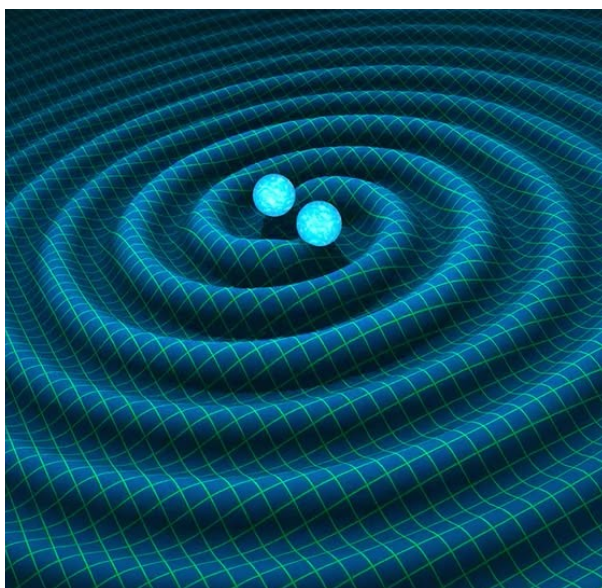
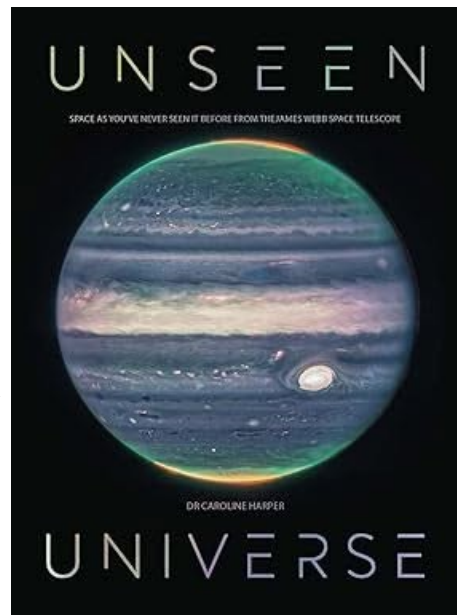
We humans don't *see* infrared radiation (although we can feel it on our skin) but the James Webb Space telescope does! Dr Harper took GFAS members through the development, launching and operation of the JWST at Newton Stewart Golf Club in May.

The JWST has two infrared cameras, NIRCam (near IR) and MIRI (medium IR). Although the JWST is located at the L2 point of the Earth's orbit around the sun and is protected from the Sun's radiation by a large multilayer heat shield, MIRI still needs to be cooled further by a refrigeration system to let it record the images we have seen. The technology involved is mind-boggling and it had to be reliable before the telescope was launched - no second chances with this one. Years of development and testing were needed.

For example, the primary mirror was built from 18 hexagonal beryllium segments on a structure which folds up, like the leaves of a drop-leaf table, to fit into a rocket. The mirror was then unfolded on arrival at Lagrange point L2, 1.5 million kilometres away.

Both cameras record IR images and IR spectra from planets, stars and galaxies and have opened new windows on the cosmos for us,

This was another recorded Zoom session and we will email GFAS members a link to the recording for those who couldn't get to the meeting. We can't give non-members access to the recording, sorry about that. Email members@gf-astro.org for the link.



Gravitational waves with Dr Christopher Berry

Dr Berry joined us from Glasgow University to let us know how gravitational wave astronomy had developed since the early unsuccessful attempts to detect gravitational waves in the 1960s. This was tough stuff for most of us! By and large, GFAS members are more used to ordinary telescopes than they are to vacuum-tube laser interferometers made of two 4-kilometer-long laser-light storage arms at right angles to each other. Laser interferometers don't produce pictures, so the image on the left is an artist's impression of gravitational waves produced by merging neutron stars...

Dr Berry did a good job of convincing us that, just as Einstein had predicted in 1916, gravitational waves do exist and can be detected. Indeed, as the interferometers improve and the numbers of detections increases it has become possible to locate and identify the sources of these cosmic disturbances. It appears that the ones we can detect so far come from mergers of black holes, or mergers of neutron stars, or other unimaginably violent events that happened "long long ago in a galaxy far far away".

The interferometers actually measure the stretching and squeezing of spacetime. So, if you're feeling a bit crushed or a bit stretched out sometimes, just be glad it wasn't a gravitational wave to blame - or was it?

Newsletter Articles Please send us your astro news! We consider all contributions to our newsletters and we always acknowledge the source of anything we use. Please email us any original astronomy items for consideration.

GFAS Membership: We always welcome new and returning members, especially juniors who join for free. Subs remain at £15.00 Adult, £25.00 Family, £0.00 Juniors or Students in full-time education. Just email members@gf-astro.org for a form or download a form from the website.



Galloway Forest Astronomical Society

Registered Scottish Charity SC035033.

Chair: Andy Sawers FRAS Secretary: Jayne Davis

W: www.gf-astro.org E: members@gf-astro.org

Fb page: [@GallowayForestAstronomicalSociety](https://www.facebook.com/GallowayForestAstronomicalSociety) / Fb Group: [@gfas chat](https://www.facebook.com/gfas.chat)

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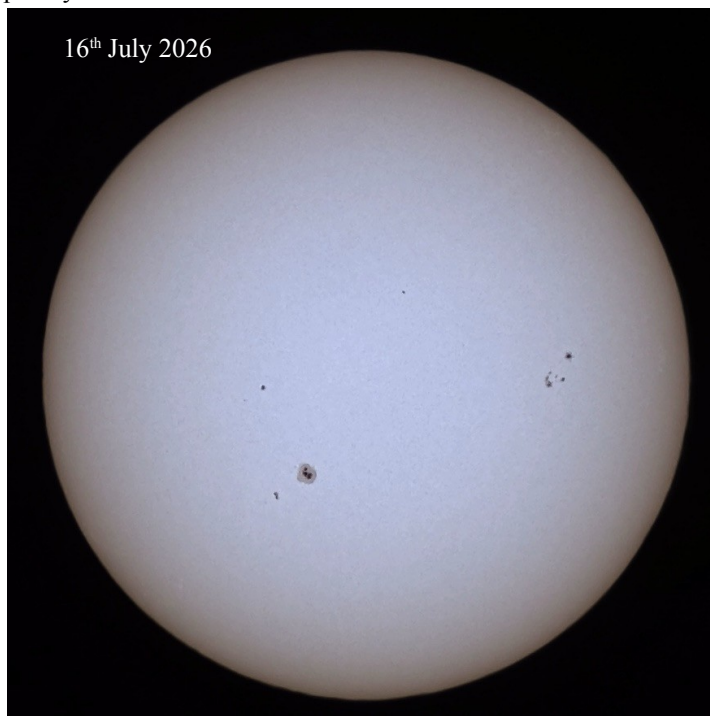
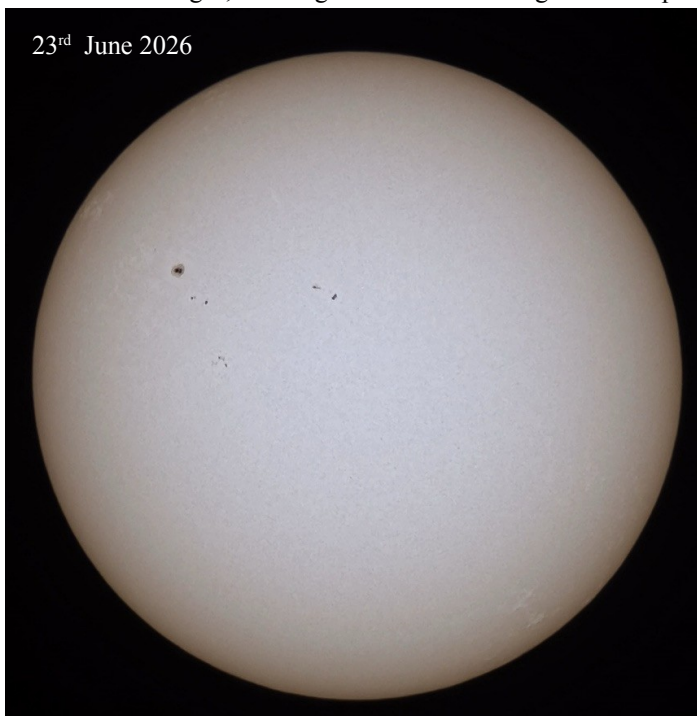




Solar observing session, 20th June

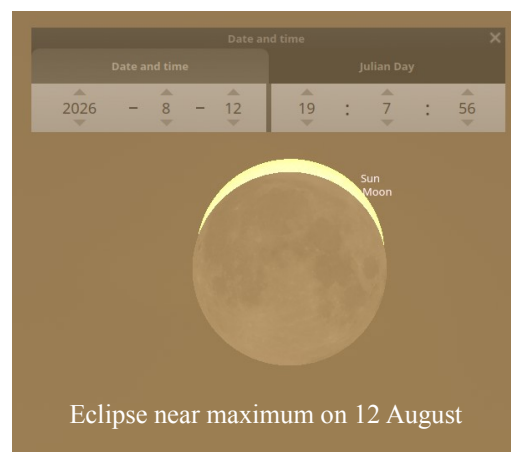
We held a small solar observing session in the Belted Galloway Visitor Centre car park ahead of the summer solstice. The morning was cloudy but the sun appeared from time to time and we got some shots at it. There were very few sunspots, quite unlike last year when the sun was still very active near the end of the last solar activity cycle. A few visitors stopped by and most took away free solar specs with which they should be able to watch the near-total solar eclipse on **Wednesday 12 August** - see below.

GFAS member Dane Carty has been using his Seestar S50 from his back yard in Newton Stewart to follow this event up and he has sent us these images, showing that the sun hasn't gone to sleep completely.



Upcoming Events

- **Partial Solar Eclipse in August** Weather permitting, we plan to have a number of telescopes trained on the solar eclipse of **Wednesday 12th August**.
- The image on the right is a Stellarium screenshot of the maximum extent of the eclipse as seen looking WNW from Port William, at about 8 minutes past 7 pm.
- Although the eclipse happens in full daylight, the moon's face might be faintly visible during the eclipse because it could be lit up by "Earthshine", sunlight reflected by the Earth onto the Moon. Hopefully we'll see that in images.
- As with any eclipse of the sun, safe observing is essential. Safety spectacles will be available free at the event and guidance offered on their safe use.
- First contact will be about 6:10 pm, maximum (95% coverage) about 7:10 pm and last contact about 8:05 pm.
- The venue will be near **Port William** (DG8 9QF) with a very clear westerly view across Luce Bay. Exact details will be advised as soon as possible.
- **Quiz Night in September** Watch out for details of our September quiz night! Don't worry if your astronomy knowledge isn't astronomical, as general knowledge and logical thinking will be just as important! Date and venue will be announced soon.
- **Thursday 22 October, 7pm, by Zoom** Royal Observatory Greenwich senior curator and author **Dr Louise Devoy** will talk about the **history of the ROG**. Her recently-published book is quite marvellous! After the talk, weather permitting, we will be outdoors observing the Moon, Saturn and other targets. – Venue: **Newton Stewart Golf Club**



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