



NEWSLETTER AUGUST 2020

Next meeting

Date: Wednesday 26 August 2020.

Internet meeting. * The meeting will be divided in two sessions.

Programme:

- ◆ 19h00: Talk by Michael Poll.
- ◆ 20h00: “Mars: formation, statistics and Mars moons” – by Danie Barnardo.
- ◆ Chairman: Percy Jacobs.

* Johan Smit will email the link to join the meeting at 19:00. Please join as quickly as possible. The meeting will be locked at 19:10.

NO OBSERVING EVENING THIS MONTH

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Astronomy-related articles on the Internet

When the sky exploded: Remembering Tunguska. https://earthsky.org/space/what-is-the-tunguska-explosion?utm_source=EarthSky+News&utm_campaign=868f0bb18e-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-868f0bb18e-395448106

NASA announces Venus rover challenge winners. NASA launched a public competition to seek ideas for a mechanical obstacle-avoidance sensor that could be incorporated into a novel rover's design.

https://earthsky.org/space/nasas-venus-rover-challenge-winners-announced?utm_source=EarthSky+News&utm_campaign=9ef3a6d0e4-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-9ef3a6d0e4-394671529

"Clyde's spot" on Jupiter. A new storm on Jupiter was discovered by amateur astronomer Clyde Foster of Centurion, South Africa.

<https://www.missionjuno.swri.edu/junocam/think-tank?id=44>

Vega and its constellation Lyra. Now visible.

https://earthsky.org/tonight/summer-triangle-vega-and-its-constellation-lyra-2?utm_source=EarthSky+News&utm_campaign=df74b79ea5-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-df74b79ea5-394671529

Deneb and its constellation Cygnus the Swan. Cygnus will become visible on the NE horizon in August. https://earthsky.org/tonight/summer-triangle-deneb-and-its-constellation-cygnus-2?utm_source=EarthSky+News&utm_campaign=df74b79ea5-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-df74b79ea5-394671529

Altair and Aquila the Eagle. Now visible. https://earthsky.org/tonight/summer-triangle-altair-and-its-constellation-aquila-2?utm_source=EarthSky+News&utm_campaign=df74b79ea5-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-df74b79ea5-394671529

https://earthsky.org/tonight/summer-triangle-altair-and-its-constellation-aquila-2?utm_source=EarthSky+News&utm_campaign=df74b79ea5-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-df74b79ea5-394671529

5 years after New Horizons flyby, 10 cool things about Pluto.

https://earthsky.org/space/new-horizons-flyby-10-cool-things-about-pluto?utm_source=EarthSky+News&utm_campaign=04f8e83dbd-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-04f8e83dbd-394671529

Solar Orbiter's 1st views of the Sun. Solar Orbiter's new views are the closest images of the Sun taken so far. https://earthsky.org/space/solar-orbiters-first-views-of-the-sun?utm_source=EarthSky+News&utm_campaign=2a8b707c41-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-2a8b707c41-394671529

A nova, briefly visible in southern skies. Astronomers have spotted a classical nova outburst in a type of variable star that involves a white dwarf orbiting a main sequence star. https://earthsky.org/space/nova-reticuli-2020-southern-hemisphere?utm_source=EarthSky+News&utm_campaign=f54c99d3ba-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-f54c99d3ba-394671529

https://earthsky.org/space/nova-reticuli-2020-southern-hemisphere?utm_source=EarthSky+News&utm_campaign=f54c99d3ba-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-f54c99d3ba-394671529

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Looks like Venus has dozens of active volcanoes. A new 3D model of cloud-covered Venus provides evidence that it has active volcanoes.

https://earthsky.org/space/venus-3d-model-evidence-active-volcanoes?utm_source=EarthSky+News&utm_campaign=d49f9e4dc3-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-d49f9e4dc3-394671529

Epsilon Lyrae is the famous Double Double star. To the unaided eye, Epsilon Lyrae, in the constellation Lyra, appears as one star. But it's actually a star system with at least five stars.

https://earthsky.org/brightest-stars/epsilon-lyrae-the-famous-double-double-star?utm_source=EarthSky+News&utm_campaign=d49f9e4dc3-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-d49f9e4dc3-394671529

Astronomers ponder Odd Radio Circles in space. Astronomers have discovered four Odd Radio Circles (ORCs). Their distances are unknown and they are unexplained.

https://earthsky.org/space/astronomers-ponder-odd-radio-circles-in-space?utm_source=EarthSky+News&utm_campaign=f5f8151acf-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-f5f8151acf-394671529

First direct image of 2 giant exoplanets orbiting a sunlike star.

https://earthsky.org/space/1st-photos-gas-giant-exoplanets-tyc-8998-760-1?utm_source=EarthSky+News&utm_campaign=022845eec2-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-022845eec2-394671529

The 8-year cycle and 5 'petals' of Venus. A highly noticeable rhythm in the motion of Venus as viewed from an Earth-centered perspective.

https://earthsky.org/astronomy-essentials/five-petals-of-venus?utm_source=EarthSky+News&utm_campaign=67c433b794-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-67c433b794-394671529

Feature of the month: Quasar tsunamis

Quasars are super massive black holes at the centres of galaxies. A quasar accretes matter via an accretion disk around its equator. As the matter spirals inward, it rotates ever faster and there is friction between the layers. This generates heat and huge amounts of heat radiation is emitted. The radiation pressure pushes material away from the galaxy's centre. These outflows accelerate to breathtaking speeds that are a few percent of the speed of light and contain enormous amounts of energy. As this cosmic tsunami slams into interstellar material, the temperature at the shock front spikes to billions of degrees centigrade. Ω

https://earthsky.org/space/quasar-tsunamis-rip-across-galaxies?utm_source=EarthSky+News&utm_campaign=15194e3adb-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-15194e3adb-394671529

Observing: NGC 1068 - by Magda Streicher

Among all the deep-sky objects to be seen against a dark starry night through a telescope there are some that are outstandingly special. Why use the word “outstanding” if one is talking about a faint deep sky object barely seen in this light polluted world we live in. It is all too easy to look at faint objects like that and think, yes, just another galaxy, and then hop away to another deep sky object. But one has to look deeper, try to discover all of its character and all the surprises that such an object could be hiding.

NGC 1068, also known as Messier 77, is one such object. And not only is it one of my “dear to my heart” galaxies, but when Dale Liebenberg sent me a picture which he had taken of this galaxy just a few days earlier, it was easy to get into its heart, so to speak. The galaxy displays a slight north-east to south-west direction and is situated in the constellation Cetus. It is a peculiar Seyfert galaxy displaying a misty appearance with an irregular shape and a very bright star-like nucleus. With a mottled brightness of about magnitude 8.2 one gets the impression of a faint globular cluster rather than a galaxy. Higher magnification, however, reveals soft, barely visible, wisps of nebulosity around the edge.

What a surprise when I had an in-depth look at Dale’s picture. Towards the west of the bright core, inside the soft halo, there is a trace of a darker area in the nebulosity. The spiral arms gave the appearance of having been lifted out, with dark voids between them. What an eye-opener to trace and spot the soft arm sections which we do not suspect at first glance. But, as always be sure to be in a very dark pristine starry sky to appreciate this galaxy to its full. This Seyfert system, which exhibits unusually intense and variable ultraviolet emissions from a tiny star-like nucleus, is probably the sign of gas spinning into a super-massive black hole. It was also one of the first galaxies found to have a large red shift, thus implying that it was receding rapidly along our line of vision. The spiral structure in NGC 1068 (M77) was first noted by the Earl of Rosse. Ω

| Object | Type | RA | DEC | MAG | SIZE |
|------------------------|--------|-------------|--------------|-----|-------------|
| NGC 1068 Messier 77 | Galaxy | 02 h 42.7 m | - 00° 01' 0" | 8.9 | 8.2' x 7.3' |



NOTICE BOARD

◆ **A message from Zooniverse:**

Hi there!

As part of a partnership between Zooniverse and NASA (see [this link](#) for details), we've created a new email list to communicate updates and news regarding broader NASA citizen science projects and efforts. If interested in signing up for this list, please follow these instructions:

1. Log in to your Zooniverse account. *
2. Visit <https://www.zooniverse.org/settings/email>
3. Click the check box under "Zooniverse partner email preferences" to sign up for periodic email updates from NASA.

Thanks for your interest and participation in NASA-Zooniverse projects. There are exciting new projects and discoveries on the horizon -- stay tuned!

Thanks!

Cliff and the Zooniverse Team

* You have to create a Zooniverse account first.

◆ **Beanies:** Beanies will be offered for sale @ R40.00 each at every monthly meeting, until they are sold out.

◆ **Old newsletters:** All old newsletters from January 2004 onward are on our website. They contain a record of our Centre's activities as well as astronomical information.

◆ **Data base:** Members are reminded that a data base of the books in our library is to be found on our website.

A bit of entertainment during the lockdown period

"**Alien planet**" - an SF film about exploration of an exoplanet by floating intelligent robots, sent from Earth. Bizarre lifeforms are encountered. (Recall Haldane's Law: "The Universe is not only stranger than we imagine, it is stranger than we CAN imagine.") Ω

<https://www.youtube.com/watch?v=fJlGcihiw2Y>

Astronomy basics: The Milky Way

A documentary about the structure of the Milky Way.

<https://www.youtube.com/watch?v=uVxrsJ5IZIQ>

Web links for the astronomy enthusiast

The website for all information about the ASSA and the ASSA Centres:

<https://assa.sao.ac.za/>

ASSA Specialist Sections:

ASSA has various areas of interest. Join and participate!

<https://assa.sao.ac.za/sections/>

ASSA Publications to download and enjoy:

MNASSA: <https://www.mnassa.org.za/>

Nightfall: <http://assa.sao.ac.za/sections/deep-sky/nightfall/>

To receive as part of ASSA membership benefits - *Sky Guide*, the astronomical handbook for Southern Africa: <http://assa.sao.ac.za/about/publications/sky-guide/>

Mail Groups to join:

For general ASSA related information: <https://groups.io/g/ASSA-announce>

For posting general items and discussion: <https://groups.io/g/ASSA-discussion>

Social Media to join and share:

Facebook: https://www.facebook.com/Astrosocsa/?_rdc=1&_rdr

Youtube: https://www.youtube.com/channel/UCJ4b1fhmPvYTOsy15YP-_JA

Twitter: <https://twitter.com/AstroSocSA>

More web links can be found on page 118 of “2020 Sky Guide Africa South”. Ω

Astronomy-related images, video clips and documentaries on the Internet

Is anybody out there? (Alien life documentary.) It is 50 minutes long.

<https://www.youtube.com/watch?v=EVBCLAaflaw>

The awesome beauty of the Eagle Nebula. [https://earthsky.org/clusters-nebulae-galaxies/the-awesome-beauty-of-m16-the-eagle-nebula?](https://earthsky.org/clusters-nebulae-galaxies/the-awesome-beauty-of-m16-the-eagle-nebula?utm_source=EarthSky+News&utm_campaign=ac022d77b4-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-ac022d77b4-394671529)

[utm_source=EarthSky+News&utm_campaign=ac022d77b4-](https://earthsky.org/clusters-nebulae-galaxies/the-awesome-beauty-of-m16-the-eagle-nebula?utm_source=EarthSky+News&utm_campaign=ac022d77b4-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-ac022d77b4-394671529)

[EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-ac022d77b4-394671529](https://earthsky.org/clusters-nebulae-galaxies/the-awesome-beauty-of-m16-the-eagle-nebula?utm_source=EarthSky+News&utm_campaign=ac022d77b4-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-ac022d77b4-394671529)

New NASA Venus mission. A documentary 12 minutes long.

<https://www.youtube.com/watch?v=wkMoVxM0qMM>

The stunning images of Mars: Curiosity Rover. A documentary 7 minutes long.

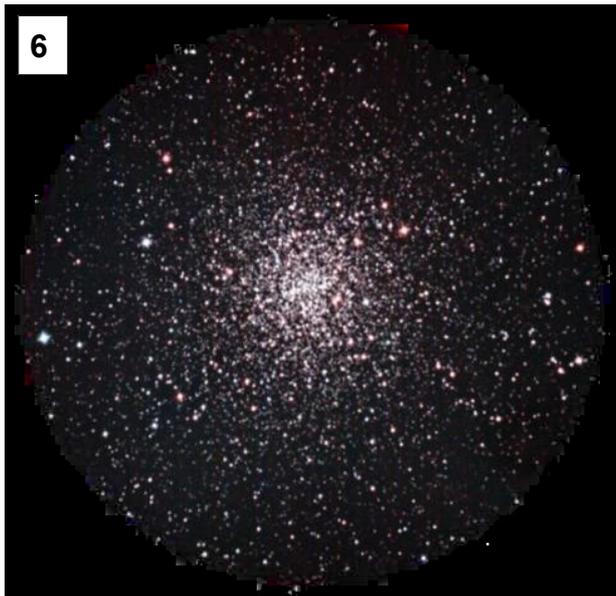
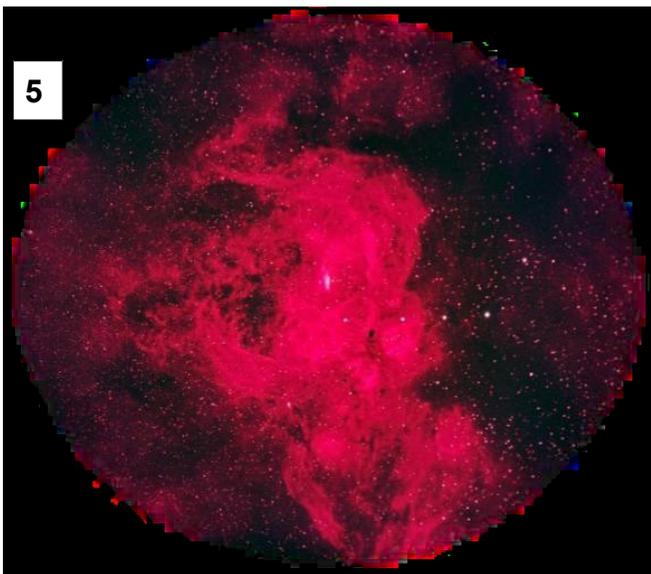
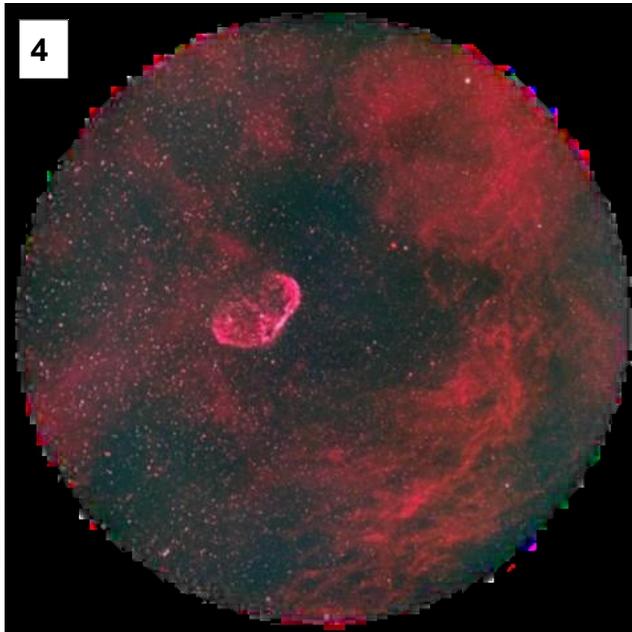
<https://www.youtube.com/watch?v=D0VFPAZ50Yk>

What did NASA's Opportunity Rover find on Mars? A documentary 7 minutes long.

<https://www.youtube.com/watch?v=oZBHHXDUSI8>

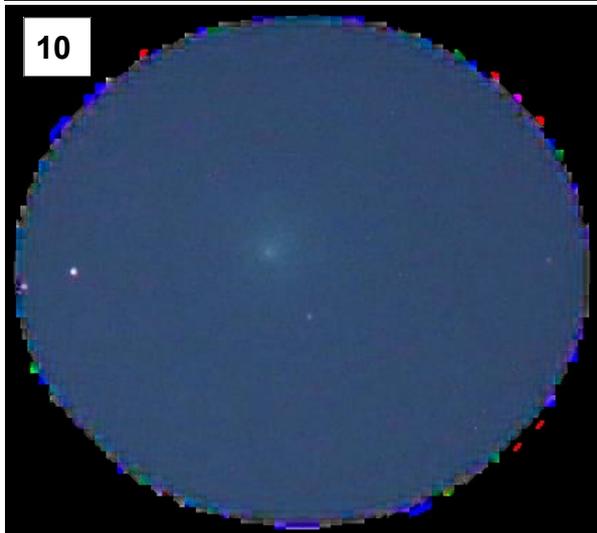
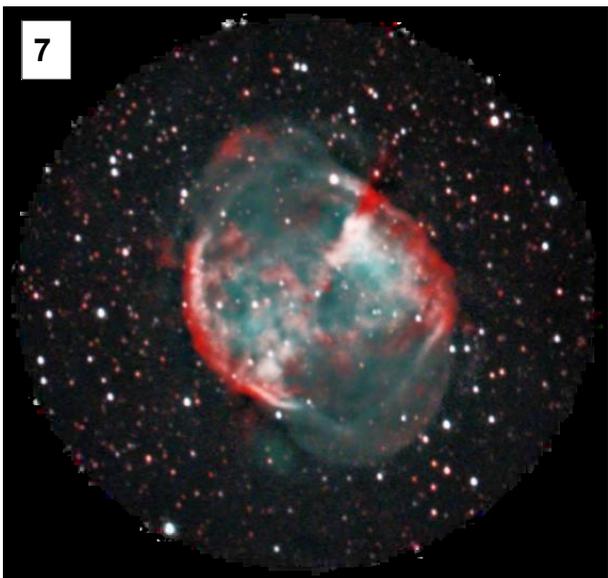
Ion propulsion for spacecraft. This 10-minute documentary is for those of you who are interested in space technology. <https://www.youtube.com/watch?v=logf-W1nInI>

Our “WINTER WhatsApp STAR PARTY” 2020 – by Johan Moolman



Continued on next page.

1. Traditional toast on the annual star party; **2.** Light polluted street scene; **3.** Midnight sustenance: Coffee and “beskuit”; **4.** Crescent nebula in Cygnus; **5.** Lobster nebula – Scorpius; **6.** M4 – globular – Scorpius.



7. Dumbbell, planetary nebula – Vulpecula
8. Open cluster – “Northern Pleiades” –
 ½ degree north of Zeta Scorpii
9. Silver dollar – Sculptor galaxy
10. Comet C/2019 U6 (Lemmon).

Pretoria Centre committee

| | | | |
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