



NEWSLETTER OCTOBER 2021

NEXT MEETING

Internet meeting. *

Date and time: Wednesday 27 October 2021 at 19h00.

Programme:

" Life and Times of Edmund Halley " by Michael Poll. **

Chairman: Pierre Lourens.

* You will receive an e-mail invite from Johan Smit around 18:30 to join the meeting.

Please join as quickly as possible.

** See a summary on page 3.

Virtual observing evening chat Friday 22 October 2021

Like last month, this will start at 18h30. Johan Smit will open the meeting at around 18h15 and anyone who wishes to join the chat is welcome to join in the fun. Be seated in front of your computer at 18h15 with a glass of wine/beer/coffee.

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Astronomy-related articles on the Internet

[EarthSky | Impact on Jupiter surprises skywatchers](#)

[EarthSky | Success! 1st Martian rock cored by Perseverance](#)

NASA's rover Perseverance has successfully cored a Martian rock for return to Earth by a future Mars mission.

[EarthSky | Sex in space: Time to talk about it?](#)

National agencies and private space companies – such as NASA and SpaceX – aim to colonize Mars and send humans into space for long-term missions, but they still have to address this issue!

[EarthSky | Bible story of Sodom revisited. Was it a meteor strike?](#)

[Milky-Way Worlds May Harbor Lifeforms With Alien DNA | The Daily Galaxy](#)

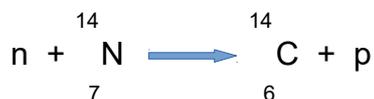
[EarthSky | Ceres at opposition, coming up November 27](#)

You can start watching Ceres.

[EarthSky | Landsat: 5 decades of imagery and data](#)

[EarthSky | Solar superflares hit Earth multiple times](#)

Cosmic rays are high-energy protons, atomic nuclei and electrons that move through space at nearly the speed of light. They originate from the Sun, from outside the solar system in our own galaxy, and from distant galaxies. Upon impact with Earth's atmosphere, cosmic rays produce showers of secondary particles, among them neutrons. This flux of cosmic rays and secondary neutrons is mostly constant. Carbon-14, which is radioactive, is produced by the following nuclear reaction in our atmosphere:



During a solar superflare, a large flux of cosmic rays is produced by the Sun. This results in a spike of carbon-14 in the atmosphere. This spike is found in tree rings.

[EarthSky | 2 old open star clusters merging in the Milky Way](#)

[EarthSky | Photosynthesis in Venus' atmosphere?](#)

Photosynthesis in Venus' atmosphere may be possible, according to a new study.

[EarthSky | Weird radio waves from the heart of the Milky Way](#)

An international team of astronomers has detected weird radio waves coming from the heart of the Milky Way. They are unlike any found before, and may originate from a new type of cosmic object.

[Will We Image Planet Nine Within the Next Decade? | The Daily Galaxy](#)

Astronomy basics: What are red giants?

Read about red giant stars. The Sun will become one 5 billion years from now, where after it will become a white dwarf.

[EarthSky | What are red giants?](#)

NOTICE BOARD

Another Zooniverse project: Help find solar jets. In this project, you'll dive into Solar Dynamics Observatory (SDO) data to hunt down jets on the Sun.

[Solar Jet Hunter » About — Zooniverse](#)

Another Zooniverse project: Help find transiting exoplanets. You will use data from the ground-based Next-Generation Transit Survey (NGTS) to do this.

[Planet Hunters NGTS » About — Zooniverse](#)

Sky Guide Africa South 2021: Contact Michael Poll to collect yours if you are entitled to one and haven't collected it yet.

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.

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

Virtual reality universe unveiled. Researchers associated with the [Virtual Reality Universe Project](#) created 3D panoramic landscapes of space that you can fly through. See a a 20-minute movie.

[EarthSky | Virtual reality universe unveiled](#)

Sounds Of Space: Jingle, pluck and hum. A team associated with Chandra, the space-based X-ray telescope, has mastered the art of turning science data into sound. In this case, the team has turned data from astronomical images into sound. The videos on this page will let you listen to a stellar nursery, a supernova remnant and a super massive black hole.

[EarthSky | Sounds of space: Jingle, pluck and hum](#)

Summary of the talk titled " Life and times of Edmund Halley " to be presented by Michael Poll on 27 October

Edmund Halley is best remembered for the comet that bears his name, but as quoted by David Hughes in the BAA Journal in 1985 "*The fame of his comet detracts from his other scientific work*".

Halley was a man of many parts. To name but a few : he was an astronomer, geophysicist, mathematician, meteorologist and physicist, and amongst many other things he improved our knowledge of trade winds (he produced the first world map), tides, cartography, naval navigation (he was the first to map the Earth's magnetic field), mortality tables (he was a pioneer of actuarial science,) underwater exploration (he improved the diving bell, such that he could spend up to four hours under water) and stellar proper motions. This presentation looks at these and other aspects of his life, and also mentions some of his illustrious contemporaries such as Isaac Newton, Christopher Wren and Robert Hooke, and his interaction with them. The presentation ends on a personal note of this writer following in Halley's footsteps. **Ω**

Observing: A strange nebula - by Magda Streicher

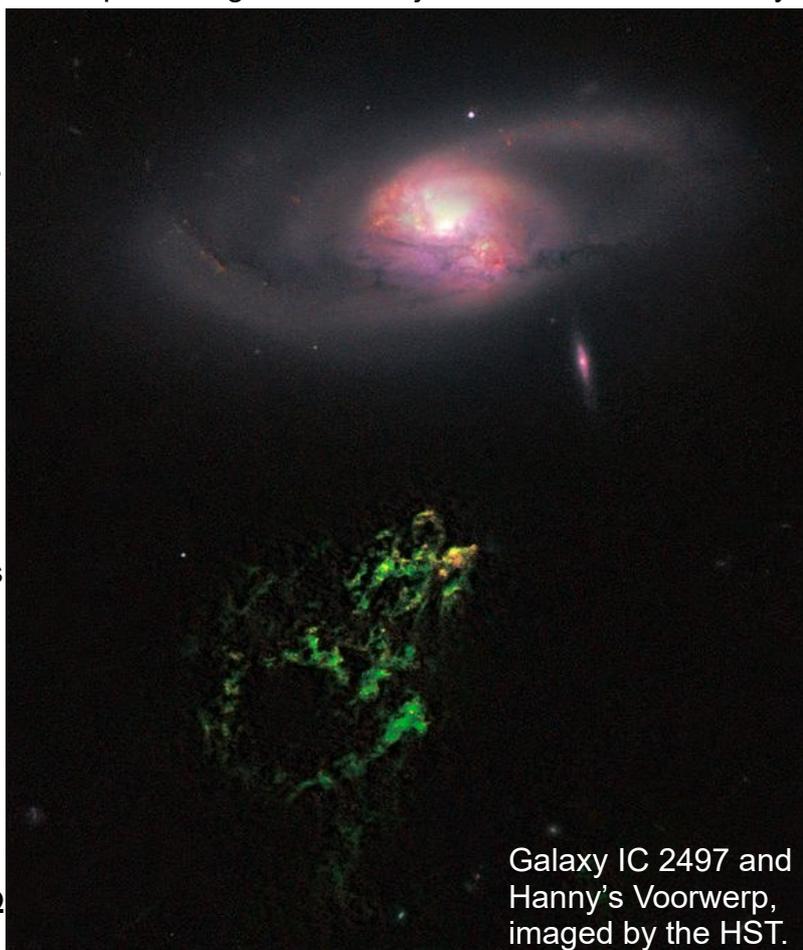
The constellation Leo Minor is situated north of the constellation Leo as seen from our southern viewpoint. Leo Minor was named Petit Lion by the French, the Germans call it Kleine Löwe, and the Italians Leoncino – such beautiful names for the Lioness constellation.

The brightest star in Leo Minor is the most eastern star known by the name Praecipua, a lovely yellow 3.7 magnitude star which probably has three companions. Towards the far western part of the constellation the faint galaxy IC 2497 is situated just 2° south-east of the 4.2 magnitude star HD82635. To observe IC 2497, with a magnitude of nearly 14.7, is virtually out of the question. I have tried to observe the galaxy on several occasions, and thought I could see what was only a slight haze with averted vision, and was not always even sure of that.

The Dutch school teacher Hanny van Arkel discovered an unusual bluish gas object close to the galaxy IC 2497 during 2007 when she was a participant of the Galaxy Zoo Screening project. Photographically it appears to be a giant patch of emission centred only 24" south of IC 2497. Brian Skiff noticed that the SDSS images of IC 2497 show that the galaxy is absorbing a companion object whose nucleus lies a few arc-seconds south of the main galaxy's centre. Perhaps something related to that interaction has produced the disrupted or isolated patch of gas in this object, now known as Hanny's Voorwerp (Dutch for "Hanny's Object").

Colleagues from the UK and California obtained light measurements that showed this to be a large cloud of gas illuminated by an unseen quasar. Current data allows two possibilities: Either the quasar lies behind so much obscuring gas and dust that even X-ray surveys or radio wavelengths have failed to find it. Giant ionised gas clouds are occasionally seen on the outskirts of active radio galaxies where powerful ultraviolet radiation encounters unusually dense gas.

To glimpse IC 2497 with ordinary telescopes seems impossible, but we can think of this galaxy now as one with a strange nebula in its heavenly neighbourhood to be proud of. Ω



Galaxy IC 2497 and Hanny's Voorwerp, imaged by the HST.

NAME	TYPE	RA	DEC	MAG	SIZE
IC 2497	Galaxy	09 h 41.4 m	+34° 43' 59"	14.7	0.6' x 0.3'

Feature of the month: Lucy – by Pierre Lourens

Lucy, NASA's mission to asteroids, was launched on 16 October 2021 and, with boosts from Earth's gravity, will complete a 12-year journey to do fly-bys of eight different asteroids — a Main Belt asteroid and seven Trojan asteroids, four of which are members of “two-for-the-price-of-one” binary systems. Ω

[Lucy: The First Mission to Jupiter's Trojans | NASA](#)

[5 cool things to know about NASA's Lucy mission | Science News](#)

THE GALAXY REPORT

discover beyond

The Galaxy Report is a new daily email bringing you news of space and science that has the capacity to provide clues to the mystery of our existence and adds a much needed cosmic perspective in our current Anthropocene Epoch.

[Yes, Sign Me Up for “The Galaxy Report”](#)

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 “2021 Sky Guide Africa South”. Ω**

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