New Zenith

The Monthly Newsletter of the Vectis Astronomical Society

Vol 27 Issue 5 — June 2019

When Printed, this Newsletter costs VAS at least £1

Society News

Our Outreach Events

So far 2019 has been our busiest year for holding and planning Outreach Events. What with the ongoing Space Camps and the up and coming Young Astro & Science Fest in July the VAs committee and members have done a fantastic job - Elaine Spear deserves a special mention as without her efforts none of it would have happened.

Please take a look at Page 6 and 10/11 as there are still spaces for more members to get involved.

Dark Skies Update

A draft version of our Dark Sky Park application has been sent to the International Dark Sky Association (IDA) in the last week or so.

Those of us involved in the project can't wait for the response - the submission may need some more work, but I suspect we are pretty close now.

Watery Lane Car Parking Changes

Anyone who has visited the observatory this year may have noticed the increased use of the playing field and thus the car park at the Pavilion. There have been several occasions when the car park has been so full that parking has been almost impossible for VAS members and visitors.

Hopefully an end to the problem is in sight! The NPS&CA (owners of the entire site at Watery Lane) are making enquiries to use the land adjoining the car park, (owned by Thompson's) on busy nights. In addition, the car park may be divided so that pavilion users (and VAS) have sole access to about half of the existing space.

This may mean parking access for VAS is via the gate nearest the pavilion, so please be aware of this change when visiting

Brian Curd
Observatory Director and NZ Editor

VAS Website: wightastronomy.org

Submissions or letters to New Zenith are always welcome and should be sent to:

The Editor, New Zenith
Carpenter's Cottage
Dennett Road
Bembridge
Isle of Wight PO35 5XF
Tel: **01983 872875** or email: **editor@wightastronomy.org**

Material for the next issue by the 6th of the month please.

Registered Charity No 1046091

Observatory Diary

Monday, 19.30hrs	Members Only and by arrangement Telescope and night sky training. Please contact Martyn Weaver 07855 116490
Thursday	Members (19.30hrs) and Public (20.00hrs). Informal meeting and observing

VAS Website: wightastronomy.org

Contents this Month

2019 Monthly Meetings

Date	Subject	Speaker
Check *http://www.wightastronomy.org/meetings/* for the latest information		
28 June	Time and Calendars	Stephen Tonkin
Sat 27 July	"Young Astro & Science Fest" Young Astronomers' Event	
23 Aug	AGM and Social Evening	
27 Sept	A transportable/deployable radio telescope for hydrogen line observation	Alan and Martin Thompson
25 Oct	Dark Skies Event	
22 Nov	TBA	TBA

Observatory Visits Booked

No bookings so far

Please phone me for the current situation (number on the front page)

It would be appreciated if members could avoid using the observatory at these times.

Important

Could all VAS members please ensure they notify the Membership Secretary of any change of address.

To ensure our compliance with GDPR rules, we must maintain accurate membership records.

This applies to all information held but is especially important for email and physical addresses.

VAS Contacts 2018/19

President	Barry Bates president@wightastronomy.org
Chairman	Bryn Davis chairman@wightastronomy.org
Secretary	Richard Flux secretary@wightastronomy.org
Treasurer	Simon Plumley treasurer@wightastronomy.org
Observatory Director	Brian Curd director@wightastronomy.org
Programme Organiser	**Vacant Position** progorg@wightastronomy.org
Astro Photography	Simon Plumley ap@wightastronomy.org
Outreach	Elaine Spear outreach@wightastronomy.org
NZ Editor	Brian Curd editor@wightastronomy.org
Membership Secretary	Norman Osborn members@wightastronomy.org
NZ Distribution	Graham Osborne distribution@wightastronomy.org
Others	Mark Williams, Nigel Lee, Stewart Chambers, Elaine Spear

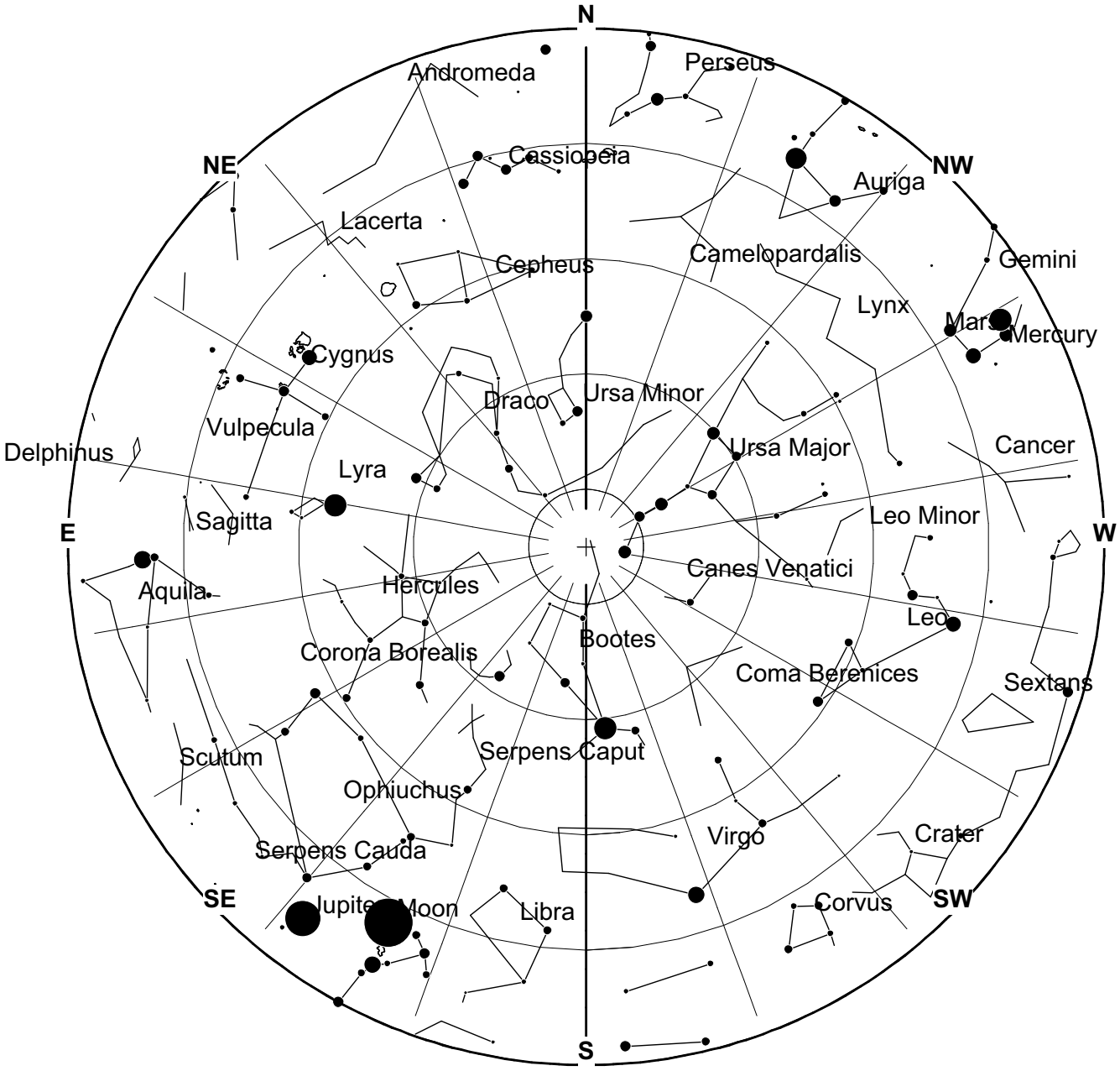
Important

Members using the observatory MUST enter a line or two in the Observatory Log Book.

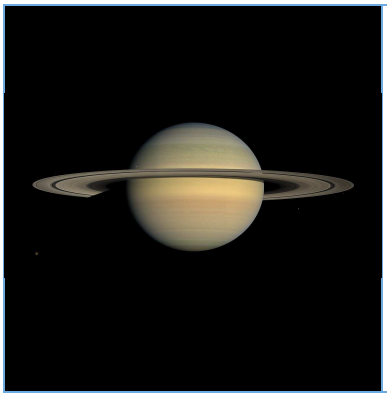
On several occasions, lights, heaters and the Meade LX200 have been left on!

When leaving, please ensure all is secure and all lights, heaters and telescopes are TURNED OFF.

June 2019 Sky Map



View from Newchurch Isle of Wight UK - 2200hrs - 15 June 2019



Saturn is the sixth planet from the Sun and the second-largest in the Solar System, after Jupiter. It is a gas giant with an average radius about nine times that of Earth. It has only one-eighth the average density of Earth, but with its larger volume Saturn is over 95 times more massive. Saturn is named after the Roman god of agriculture; its astronomical symbol represents the god's sickle.

The planet's most famous feature is its prominent ring system that is composed mostly of ice particles, with a smaller amount of rocky debris and dust. At least 62 moons are known to orbit Saturn, of which 53 are officially named. This does not include the hundreds of moonlets in the rings. Titan, Saturn's largest moon, and the second-largest in the Solar System, is larger than the planet Mercury, although less massive, and is the only moon in the Solar System to have a substantial atmosphere.

June 2019 Night Sky

Summer Solstice

The summer solstice occurs on June 21st at 16:55UT. At this time the Sun is at its most northerly point and starts its journey back tot the south. Days are at their longest and will be getting shorter from now on.

Moon Phases

New	First Qtr	Full	Last Qtr
			
3rd	10th	17th	25th

Planets

Mercury

During the last few days of May Mercury starts the best evening apparition of the year. It can be seen low in the northwest after sunset for most of the month.

Date	Az	Alt
1	303	6
3	301	7
5	300	9
7	298	10
9	297	10
11	295	11

Date	Az	Alt
13	294	11
15	293	12
17	292	12
19	291	12
21	290	11
23	290	11

Mercury azimuth and altitude at 21:30

Venus

Venus is unfavourably placed in the morning sky while overtaking the Earth on the inside of its orbit. It will re-appear again, though not particularly well placed for observation in September.

Mars

Mars may be glimpsed very low in the northwest after sunset. It is now not a bright object and it will be very challenging to see against the still bright sky. On the 18th it is in close conjunction with Mercury.

Jupiter

Mid month sees Jupiter at opposition and is visible from sunset until sunrise. It is best observed at around midnight when it will be found low in the south.

Saturn

Saturn can best be observed in the southern sky from about 2am until daybreak.

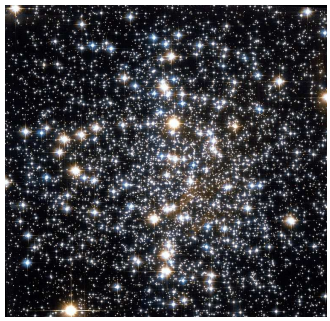
Uranus

Uranus is currently lost in the morning twighlight.

Neptune

Neptune is a difficult object low in the south eastern sky about 1 degree east of the star Phi Aquarii from about 2 hours before sunrise.

Deep Sky



M4 The Cat's Eye, Globular Cluster RA 16h 24m Dec -26° 33' mag 7.5

At about 7200 light years this 10,000 million year old cluster may be the closest globular cluster to our solar system. The core of this cluster is rather looser than most globulars with a distinct chain of stars running across its centre.

M5 Globular Cluster RA 15h 19' Dec 2° 5' mag 5.6

This globular cluster contains what are believed to be some of the oldest stars in the universe at about 13,000,000,000 years old.

To find this group of old timers look the width of a good hand span from the bright yellow star Arcturus towards the red Antares. It is in an area of sky rather devoid of bright guide stars but can be picked out in binoculars as a fuzzy star. Although Messier was certain that the nebula contained no stars any reasonably good modern telescope should be able to resolve about 200 stars surrounding the tightly packed core.

M12 Globular Cluster
RA 16h 47' Dec -1° 57'
mag 8.0

M12 is located in the centre of the constellation of Ophiuchus a rather large constellation next to the summer Milky way who's outline is made up from 2nd and 3rd magnitude stars. In most clusters the smaller stars are those with the greatest numbers, they live longer and outlast the larger members that either explode as supernovae or become white dwarves at the end of their lives. M12 appears to have a surplus of large stars and has lost it's smaller members through interactions with the Milky way. By the time the Sun comes to the end of it's life this globular will have been completely shredded.

Peter Burgess

Don't Forget, Curiosity's Sister Rover is Flying to Mars in 2020

Next summer, NASA will be sending it's Mars 2020 rover to the Red Planet. In addition to being the second rover to go as part of the Mars Exploration Program, it will be one of eight functioning missions exploring the atmosphere and surface of the planet. These include the recently-arrived InSight lander, the Curiosity rover – Mars 2020s sister-mission – and the Opportunity rover (which NASA recently lost contact with and retired).

As the launch date gets closer and closer, NASA is busily making all the final preparations for this latest member of the Mars exploration team. In addition to selecting a name (which will be selected from an essay contest), this includes finalizing the spacecraft that will take the rover on its seven-month journey to Mars. Recently, NASA posted images of the spacecraft being inspected at NASA JPL's Space Simulator Facility (SFF) in Pasadena, California.

The image was taken on May 9th, 2019, and shows the spacecraft being loaded into the SSF (aka. the Twenty-Five-Foot Space Simulator). As the name would suggest, the entrance to this testing chamber measures 7.6 m (25 ft) high and 4.6 m (15 ft) wide while the interior measures 26 m (85 ft) in height and 8.2 m (27 ft) in diameter.

Built in 1961, this chamber is designed for testing spacecraft in space-like conditions, which includes extremely cold temperatures, high radiation, and near-vacuum pressure. Visible in the photo above is the complete Mars 2020 spacecraft, which is similar in configuration to those that delivered the Spirit, Opportunity, and Curiosity rovers as well as the InSight lander.

From top to bottom, this consists of the cruise stage (suspended by cables) that will be responsible for powering and guiding the spacecraft once it is launched to space. Directly below that is the aeroshell that comes in two parts, the white backshell and the black heat shield underneath. These will protect the vehicle during the cruise phase of its mission as well as during its fiery descent into the Martian atmosphere.

What is not visible in this photo is the completed rocket-powered descent stage (aka. "Sky Crane"), which is similar to what was used to land Curiosity in the Gale Crater on Mars in 2012. The same is true of the surrogate rover (a stand-in for the real one that is currently undergoing final assembly in JPL's High Bay 1 cleanroom), which like the Sky Crane is housed within the aeroshell.

Like all those that came before, the Mars 2020 spacecraft was tested in the SFF in the same configuration as when it would be traveling to Mars. Once the JPL is finished prepping and testing all of the mission systems, the spacecraft and rover will be integrated and shipped to Cape Canaveral Air Force Station, where it will launch in July of 2020.

Much more at: https://www.universetoday.com/

Isle of Wight Space Camps - Volunteers needed

A very innovative Island teacher who won, Science Teacher of the Year 2018, is working hard at promoting science and astronomy to all Isle of Wight school children.

She is in contact with many primary schools around the Island, and in the process of organising 'Space Camps' in conjunction with the Stephen Hawking Foundation.

She has been sent 5 celestron telescopes from the foundation and plans to run observing sessions in the evenings of all the Space Camps. She needs help to operate the telescopes - ***that's where you come in***. Please consider giving up some of your time to support this endeavour.

Times are to be confirmed, but I'm guessing around 7-9pm, maybe later in the summer months of darker skies.

Please let me know which Camps you can attend. I hope to get three members for each camp.

Attending as many schools as possible will have a dual affect, as it gets the VAS name spread around, and we can promote the Young Astronomers event we are organising in July.

Contact me at elainespear1@gmail.com

Elaine Spear

Date	Venue	Address	Vas Members	Solar Scope	Talk
Thursday 27th June	Broadlea Primary School	Newport Road, Lake, PO36 9PE	Elaine Spear, Dudley Johnson, John Slinn, Bert Paice	Yes John Slinn	John Slinn "All about The Sun"
Thursday 4th July	All Saints Primary School	79 School Green Road, Freshwater, PO40 9AX	Simon Plumley, John Slinn, Bert Paice	Yes John Slinn	John Slinn "All about The Sun"
Tuesday 9th July	St Helens Primary School	Broomlands Close, St Helens, Ryde, PO33 1XH	Elaine Spear, Bert Paice?, Brian Curd	No	Yes Brian Curd

Isle of Wight Scouts - Space Camp - Volunteers needed

Is anyone available Saturday 22nd June to come along to the Scouts Space Camp at Corf campsite near Shalfleet to operate telescopes for a viewing session at 9pm?

http://www.isleofwightscouts.org.uk/camping/corf-campsite/

The session would last about 30mins, as it's the last session before they go off to bed.

We would need to arrive about 8pm to set up any telescopes we take along.

Hope you can help

Elaine Spear
elainespear1@gmail.com

Free Astronomy Magazines

Our project for an astronomy magazine in digital format dates back to the summer of 2008 and became a reality in December of that same year with the first issue in Italian of l'Astrofilo (the amateur astronomer)

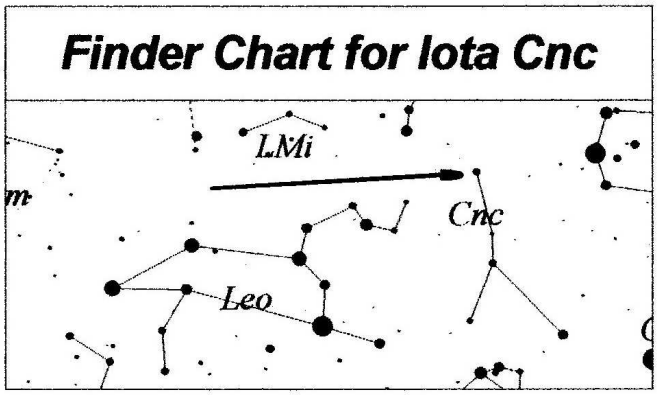
Thanks to being completely free, our magazines are today known by more than 1000 amateur astronomers associations around the world and are followed by countless readers who can freely browse all issues published since December 2011. Our primary goal for the future is to continue to freely spread high-quality astronomical culture while continuing to do better what nobody has ever done before.

https://www.astropublishing.com/all_FAM.htm

My 100 Best Night Sky Sights

Double Star

Coordinates: RA 08h 46m 42s, Dec +28° 46'



You should now be about to experience a feeling of deja vue. Last month I mentioned the major attraction of Hercules that tends to cause people to overlook a superbly colourful double star in the same neighbourhood. The justly famous Beehive Cluster (also discussed last month) that entices people to Cancer the Crab does exactly the same for visitors to this rather small and unimpressive constellation. Having enjoyed the magnificent spectacle, most then leave to seek other splendours elsewhere and in doing so miss out on one of the most colourful visions the late winter/early spring night sky has to offer

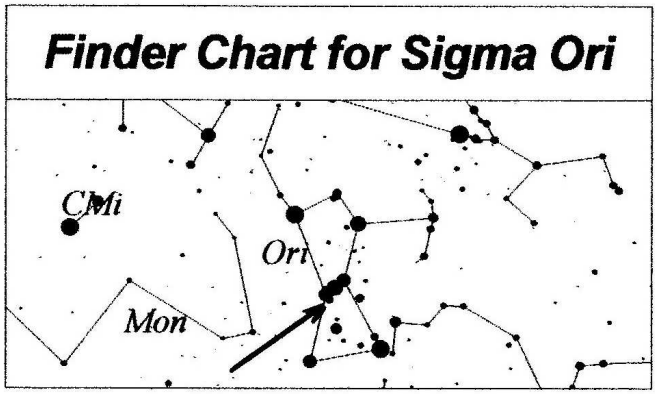
Of the five most prominent stars in the constellation that form an upside down figure 'Y', the northernmost one, Iota Cancri, is a beautiful sight in any telescope. The primary shines with a bright golden light whilst some 31 arc seconds away its companion displays the most delicate shade of light blue. The two are easily resolvable at even the lowest magnification but as with most non-white stars, higher powers tend to emphasise the colours so try different eyepieces on iota.

Multiple Star

Coordinates: RA 05h 38m 42s, Dec -02° 36'

In mid-winter, when all the mercury in the thermometer is trying to squeeze itself into the little bulb at the bottom of the tube, it takes something really special to entice one away from the comfort of the living room to the rigor of the night air outside. Fortunately the magnificent constellation of Orion the Hunter provides just such an incentive and will warm your heart with the splendid attractions it has to offer. One of the best is the multiple star Sigma Orionis, a quintuple system of which four are displayed in all their glory nestling close to the SW of Alnitak, the left hand star of Orion's belt.

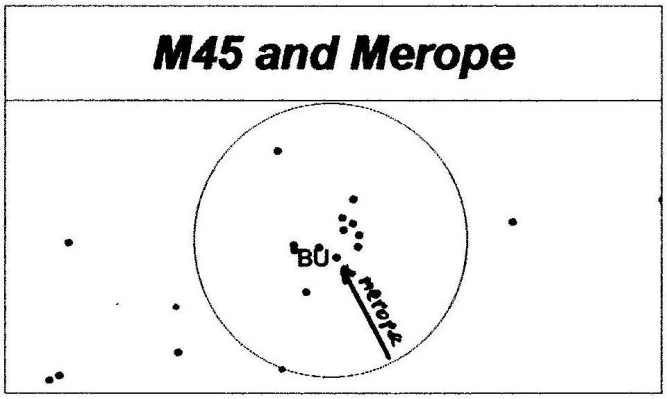
Two bright blue mag 7 stars on one side, and a less bright mag 9 star on the other flank the brilliant mag 4 blue-white primary, the whole group contriving to look remarkably like a planet with its retinue of moons. Enhancing this already superb sight three other stars unrelated to Sigma straddle the quartet. Just 40" NE lies another mag7 star, Struve (S) 762, itself a double but with members too close to separate and, some 3' NW is S761, again a multiple, two of whose members are well separated by 68" in a NNE/SSW alignment.



The whole grouping is one beautiful sight in any telescope and at any power – make sure you don't miss out on it when tasting the other delights of this exciting constellation.

Galactic Cluster

Coordinates: RA 03h 47m, Dec +24° 07'



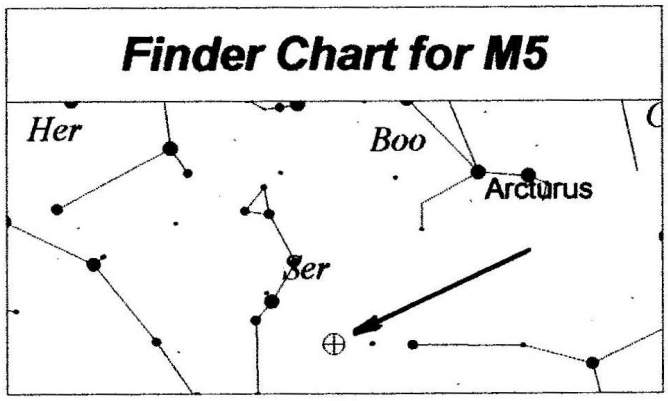
Is there anyone who doesn't know the Pleiades, Seven Sisters or Sickle to give the enchanting open cluster M45 in Taurus but three of it's names? Perched on the back of the celestial bull this little group of bright stars has entranced people since the dawn of humanity. Clearly visible to the naked eye at least six of its 100 or so members can be seen easily even with less than average eyesight, many can see seven or eight without difficulty and the really keen-eyed can spot nine. (Don't try to beat any records for the most number of stars you can see without optical aid – you're unlikely to succeed – one 19th century observer saw 13!). But look through your

binoculars and this number leaps to around 50 with yet another 70 to 80 unrelated stars popping into the field of view surrounding the cluster making the whole scene absolutely delightful.

By all means train your telescope on the Pleiades but when you do, don't bother looking through it. Instead look through the finder scope, which will provide much the same view as through your binoculars but a steadier one. However if you have a really BIG instrument see if you can detect the very faint nebulosity surrounding Merope (yet another target for the 18"). Come to that, try it with any instrument – you may just have one of those rare squeaky-clean winter skies.

Globular Cluster

Coordinates: RA 15h 18m 36s, Dec +02° 05'



I don't subscribe to the adage that the best things in life are free – for astronomers at least they always come at a price. In winter evenings it's the cold, in summer it's lack of sleep but who can complain when the rewards for staying up into the small hours includes spectacles like M5 in Serpens Caput, the head of the snake separated from the rest of the serpent by Ophiuchus the Serpent Holder.

Undoubtedly one of the very best globular clusters in the whole sky, M5 is easily visible in binoculars looking like a bright, fuzzy star and completely fills the field of a high power eyepiece with a myriad of sparkling points of light like a ball covered in diamond dust. Beyond the outer regions of the cluster many individual bright stars appear to congregate as if trying to join the party. These are of course 'local' stars, much closer to us than the cluster which is further from our sun than the sun is from the centre of the galaxy. Think on this as you feast your eyes on this glowing globe – 25000 light years away yet you can make out countless individual stars from the hundreds of thousands that comprise this incredible object.

A 6" telescope will resolve the outer edges and give the cluster the appearance of a bright sphere with speckled fringes and a 10" will resolve M5 clear across the face making this one of the most unforgettable of sights. Don't miss it.

A Unique Experience

The first time I saw M5 one of the outlying stars did wander right into its centre. By an incredible coincidence a Global Positioning Satellite happened to be in the same tiny area of sky as I gazed at the cluster. Artificial satellites not infrequently whip across the field of view so fast, if you blink you miss them, but GPSs are geo-stationary so only the rotation of the earth on its axis 'moved' the satellite relative to the cluster. This movement is very slow and again by remarkable chance its position and direction of drift took it right across the centre of the cluster where it was lost against the brightness of M5. The 'star' had indeed joined the party! Has anyone else witnessed such an incident or am I, like Tigger, 'the only one'?

Originally published November 1999

Bert Paice

A Letter to the Editor

Dear Editor

Re Last month's article about spin and conservation of angular momentum: do try this at home!

Apparatus needed

1. One office chair with rotating seat.
2. Two full 2 litre bottles of water

Method

- Sit on chair in comfortable upright position,
- Hold one bottle of water in each hand.
- Extend arms sideways.
- Spin yourself using feet on floor.
- Bring feet under seat, bringing both arms inwards and hold bottles on lap;
- Observe conservation of Angular Momentum in practice!

Hint: *Do try to remain upright in chair during experiment!*

Alternatively

Take a group of kids into local playground and get them to stand equally spaced around periphery of a smooth running roundabout. Instruct victims (kids) to lean outwards but holding on tight to handrail. Spin the roundabout with kids hanging outwards. On a suitable signal, get kids to now swing inwards, still holding tight to the handrail.

Conclusion

Collecting kids from surrounding trees/bushes, etc should be undertaken carefully to avoid further damage to broken limbs, dislocated necks, etc! Such fun...

Don't blame me if this all goes haywire!

John Langley

Why the Universe's Ancient Galaxies were Extra Bright

New research based on observational data from the Spitzer telescope provides clues as to how the universe first emerged from its dark age.

- Researchers using the Spitzer telescope were able to analyze some of the most distant and ancient galaxies in the universe.
- They discovered that these galaxies were far brighter than anticipated, shedding clues into how the universe first emerged from the "dark ages" that lasted until about a billion years after the Big Bang.
- This research serves as a stepping stone for future work to be conducted with the James Webb Space Telescope, scheduled to be launched in early 2021.

One might imagine that history of the universe is a gradual fading out, that the Big Bang was incredibly bright and dense and gradually everything dispersed and dimmed until the small pinpricks of distant stars and galaxies distributed to where we see them in our sky today. This idea, however, isn't entirely accurate. The universe has gone through several dramatic changes. For example, after the Big Bang, the universe was a very dark place until the first stars "turned on" during a period called the Epoch of Reionization. Now, new research published in the Monthly Notices of the Royal Astronomical Society shows that the early galaxies during this period were extraordinarily bright, providing clues to how we came to find stars in our sky.

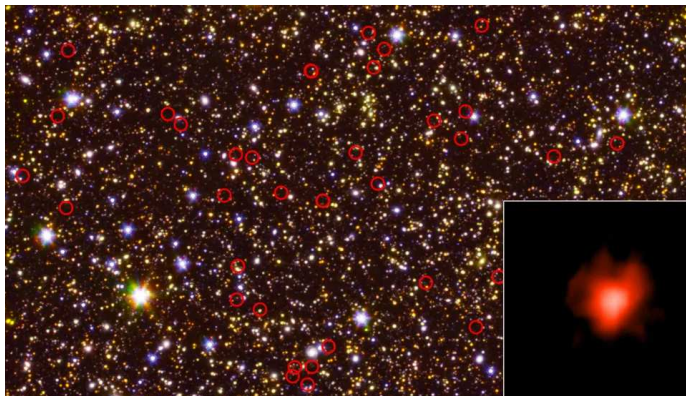
What was the Epoch of Reionization?

Soon after the Big Bang, there were no stars, galaxies, or really anything you could refer to as an object. Instead, there was a miasma of hydrogen gas. It took a long time for gravity to gather enough gas together to form stars — about 200 million years after the Big Bang — but even once that happened, the universe was still relatively dark.

One would think that once stars had formed, the universe would have emerged from its so-called dark age, but much of the light spectrum was blocked by the omnipresent hydrogen gas that existed in the universe at this time. Forms of light with long wavelengths like radio waves and visible light could pass through this gas unencumbered, but shorter, more energetic forms of light like UV light, X-rays, and gamma waves were blocked. This is because the hydrogen gas was neutral, meaning it carried no electrical charge. High-energy waves of light would strike the neutral hydrogen atoms and be blocked by them, stripping them of their electrons in the process. This is known as ionization.

Ionized hydrogen allows much more light to pass through it. Today, the universe is filled with ionized hydrogen, though it is much less dense than it used to be. But this transition is still something of a mystery. What could have produced all of this ionizing radiation? Lead study author Stephane De Barros called this "one of the biggest open questions in observational cosmology. We know it happened, but what caused it? These new findings could be a big clue."

What did the researchers discover?



NASA/JPL-Caltech/ESA/Spitzer/P. Oesch/S. De Barros

This deep-field view of the sky (center) taken by NASA's Hubble and Spitzer space telescopes is dominated by galaxies — including some very faint, very distant ones — circled in red. The bottom right inset shows the light collected from one during a long-duration observation.

Using the Spitzer telescope, the research team collected data from two regions in the sky for over 400 hours. Because light can only go so fast, looking at very distant objects is the same as looking at those objects in the past: What we see in our telescopes is the result of light that has taken, in some cases, billions of years to reach us. Through Spitzer, the research team was able to observe very distant galaxies from 13 billion years ago, right at the end of the Epoch of Reionization.

Specifically, the team observed 135 galaxies, and they found specific wavelengths of infrared light that are produced when ionizing radiation interacts with hydrogen and oxygen gas, the kind of activity that would be going on during the Epoch of Reionization. Surprisingly, this light was far brighter than expected; these early galaxies were spewing out an astounding amount of ionizing radiation, contributing to the transformation of the universe to how it appears today. This study suggests that these extra-bright galaxies (which outshine current galaxies by far) were the norm during this period.

The James Webb Space Telescope is scheduled for launch on March 30th, 2021, and its capabilities will blow Spitzer out of the water. Similar to this work, Webb's job will be to look at some of the most distant and ancient objects in the universe. While Webb will be tuned to observe many of the same wavelengths as Spitzer, it will be about 7.5 times larger. Using research such as this, scientists hope to gain insight into how these super-bright galaxies formed and even how the first galaxies ever came to be.

More with Links: https://bigthink.com/

HELP!

We need about 15 more members to come along to our Young Astro and Science Fest on Saturday 27th July, at the observatory 6.30-9.30pm (arriving earlier and staying later to help set up and clear away).

You don't need any science or astronomy knowledge, so please ask friends and family to help. If you do have the science knowledge, we could use your help in the Physics tent to run simple demonstrations.

This fun event is essential for VAS to reach out to young people and show them the joys and excitement of science and astronomy. ***Please help if you can.***

We are expecting about 100 children, so need plenty of help. There will be a full briefing on the various activities, so don't worry, you won't be left not knowing what to do. The whole event is divided into activity zones:

Zone 1 - Telescope City

- Observatory hard standing
- Normal, Solar and photographic telescopes
- Richard Flux, John Slinn, Bert Paice, Simon Plumley, **Helpers needed**

Zone 2 - Tech Central

- Observatory
- Ohbot robot, Monitors and raspberry pi, Radio astronomy
- Mark Taylor, Dudley Johnson, **Helpers needed**

Zone 3 - Amazing Stargazing

- Pavilion
- Inflatable planetarium, Story telling, What Planet symbol?, Name that constellation? (Upon exit)
- Paul England, Bryn Davis, Stuart Chambers, Peta Rainford, **Helpers needed**

Zone 4 - Fun Physics

- VAS Gazebo
- Science demonstrations, Spectrometer making
- IOP Volunteers, Mark Williams, **Helpers needed**

Zone 5 - Astro Art

- 2 Gazebo alongside observatory
- Make a planet mask, Make a Star finder, Make a sundial
- **Helpers Needed**

Zone 6 - Field Activities

- Playing Field
- Solar system scale model, Pump rocket game
- Brian Curd, **Helpers needed**

Zone 7 - Astronaut Haven

- Scout Tent?
- Adventure to Mars game, Dress like an astronaut, Astronomy Training, Astronaut gloves activity
- Elaine Spear, Madeline Paterson, Claire Loizos, **Helpers needed**

Entrance/Exit

- Car Park
- Check tickets on arrival, Hand out site maps, Hand out quiz sheets, Give exit instructions, Supervise putting tickets in feedback boxes on exit
- Norman Osborn? **Helpers Needed**

Refreshments

- Pavilion Kitchen
- Teas, coffees, biscuits etc
- **Helpers needed**

Marshals and Car Park

- Site wide roaming, Entrance to Thompson's and road crossing
- Scouts?

Contact any committee member for more details


Vectis Astronomical Society presents
VAS
YOUNG ASTRO & SCIENCE FEST
TELESCOPE CITY, TECH CENTRAL, AMAZING STARGAZING,
FUN PHYSICS, ALL ABOUT SPACE & FIELD ACTIVITIES
Science and Astronomy event for children aged 7-11. Younger and older children welcome too!
£2.50 entry per child.
Grownups and infants go free
Saturday 27th July 2019
6:30 - 9:30 PM
WHERE
The Observatory, Watery Lane,
Newchurch, closest postcode PO36 OLX
(almost opposite Amazon World)
Please email progorg@wightastronomy.org to book tickets

THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

More Stuff!

100 Proofs that the Earth is Not Flat

http://www.mezzacotta.net/100proofs/index-of-articles

Moon Quakes

https://www.eurekalert.org/pub_releases/2019-05/uom-tmi051019.php

What Happens Our Sun Runs out of Fuel?

https://www.theregister.co.uk/2019/05/15/sun_goes_boom/

Richard Feynman: 9 Easy Lessons on Video

https://bigthink.com/surprising-science/richard-feynman

The Importance of the Moon Landing

https://www.fastcompany.com/90357346/why-the-moon-landing-matters-50-years-later?partner=rss&utm_source=feedburner&utm_medium=feed&utm_campaign=feedburner+fastcompany&utm_content=feedburner

Catalogue of Music and Astronomy

http://www.fraknoi.com/wp-content/uploads/2018/06/Fraknoi-Music-and-Astronomy-Article.pdf

Researchers Successfully Sent a Simulated Elementary Particle Back in Time

https://bigthink.com/surprising-science/particle-time-travel

A Link Between Fast Radio Bursts, Magnetars, and Supernovae?

https://www.skyandtelescope.com/astronomy-news/a-link-between-fast-radio-bursts-magnetars-and-supernovae/

Scientists Gear Up to Look for Fossils on Mars

http://www.astronomy.com/news/2019/05/scientists-gear-up-to-look-for-fossils-on-mars

Huge Amount of Water Ice Is Spotted on Mars (It Could Be Long-Lost Polar Ice Caps)

https://www.space.com/ancient-water-icecaps-discovered-on-mars.html

The Giant Magellan Telescope

https://www.space.com/giant-magellan-telescope-construction-chile.html

At The Observatory

For your own safety, please bring a torch.
Make sure you close and lock the car park gate if you are the last to leave (if you need the combination to the lock, please contact a member of the committee)

Articles Needed

NZ needs letters, articles, reviews or pictures related to astronomy.

"Quality is never an accident. It is always the result of intelligent effort"
John Ruskin

"Some people get rich studying artificial intelligence. Me, I make money studying natural stupidity"
Carl Icahn

"It is not clear that intelligence has any long-term survival value"
Stephen Hawking

"Humour is by far the most significant activity of the human brain"
Edward de Bono

"As you get older three things happen. The first is your memory goes, and I can't remember the other two"
Norman Wisdom

"You can observe a lot by just watching"
Yogi Berra