

Society News

Festival/Meeting Confusion

First an apology for the confusion over the date of the June meeting in Newport. I forgot to change the date in the NZ calendar although I did mention the possible traffic congestion on the Festival weekend which I hope gave people a clue to the error.

I managed to email all those members who use such things but at such late notice was unable to notify those who receive NZ by post - sorry!

Letters Page?

Requests for member's letters have been printed in NZ for as long as I can remember but only very rarely is anything received. I am hoping that the project plans proposed at last month's meeting (*see page 5*) will start things off.

Could I though please ask that members wait until the sub-group and committee have refined the plan and made their presentation at next month's AGM.

As stated in the main article, the investigation will only proceed with the support of a member's vote.

I really hope you feel you can support the investigation of this project and look forward to your comments and suggestions

Last Chance before the AGM

Again this month, I have attached a Committee Nomination Form to your NZ. This really is your last chance to propose someone, perhaps even yourself for election to the VAS Committee.

To maintain our charitable status we MUST have a Chairman, Treasurer and a Secretary following the AGM. We need people to fill each of these positions this year and, so far, have not received any nominations.

Please consider standing!

Brian Curd
Observatory Director

VAS Website: www.wightastronomy.org

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

The Editor New Zenith
35 Forest Road
Winford
Sandown PO36 0JY

Tel: 01983 864303 or email: editor@wightastronomy.org
Material for the next issue by the 6th of the month please.

VAS Registered Office

35 Forest Road, Winford, Isle of Wight, PO36 0JY

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors.

Registered Charity No 1046091

Observatory Diary

Monday, 19.30hrs	Members Only. Telescope and night sky training. Contact Barry Bates 01983 872979
Thursday, 19.30hrs	Members and Public. Informal meeting and observing.

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Monthly Meeting Calendar 2012

Check the website for up to the minute information.

Travel for our monthly speakers is sponsored by:		
		
Date	Subject	Speaker
27 July	Binoculars for Astronomy	Richard Flux
24 Aug	Observing Galaxies - Faith Jordan AGM Meeting Starts at 19.00hrs	
28 Sep	The future is out of this world	Dr Stuart Eves
26 Oct	TBA	Owen Brazell
23 Nov	TBA	TBA

All details correct at time of publication.

Plans are well underway for 2013

AGM

Please don't forget the Society AGM in August

It's your chance to elect the committee for the next year and perhaps even stand for election yourself

We need your support

An election form is attached to this NZ

VAS Contacts 2012

Chairman	Faith Jordan chairman@wightastronomy.org
Secretary	Rebecca Mitchelmore secretary@wightastronomy.org
Treasurer	Frank Alfrey treasurer@wightastronomy.org
Observatory Director	Brian Curd director@wightastronomy.org
	Barry Bates
Programme Organiser	Elaine Spear progorg@wightastronomy.org
Special Projects	David Kitching projects@wightastronomy.org
NZ Editor	Brian Curd editor@wightastronomy.org
Membership Secretary	Tony Williams membership@wightastronomy.org
NZ Distribution	Brian Bond distribution@wightastronomy.org

Garlic Festival



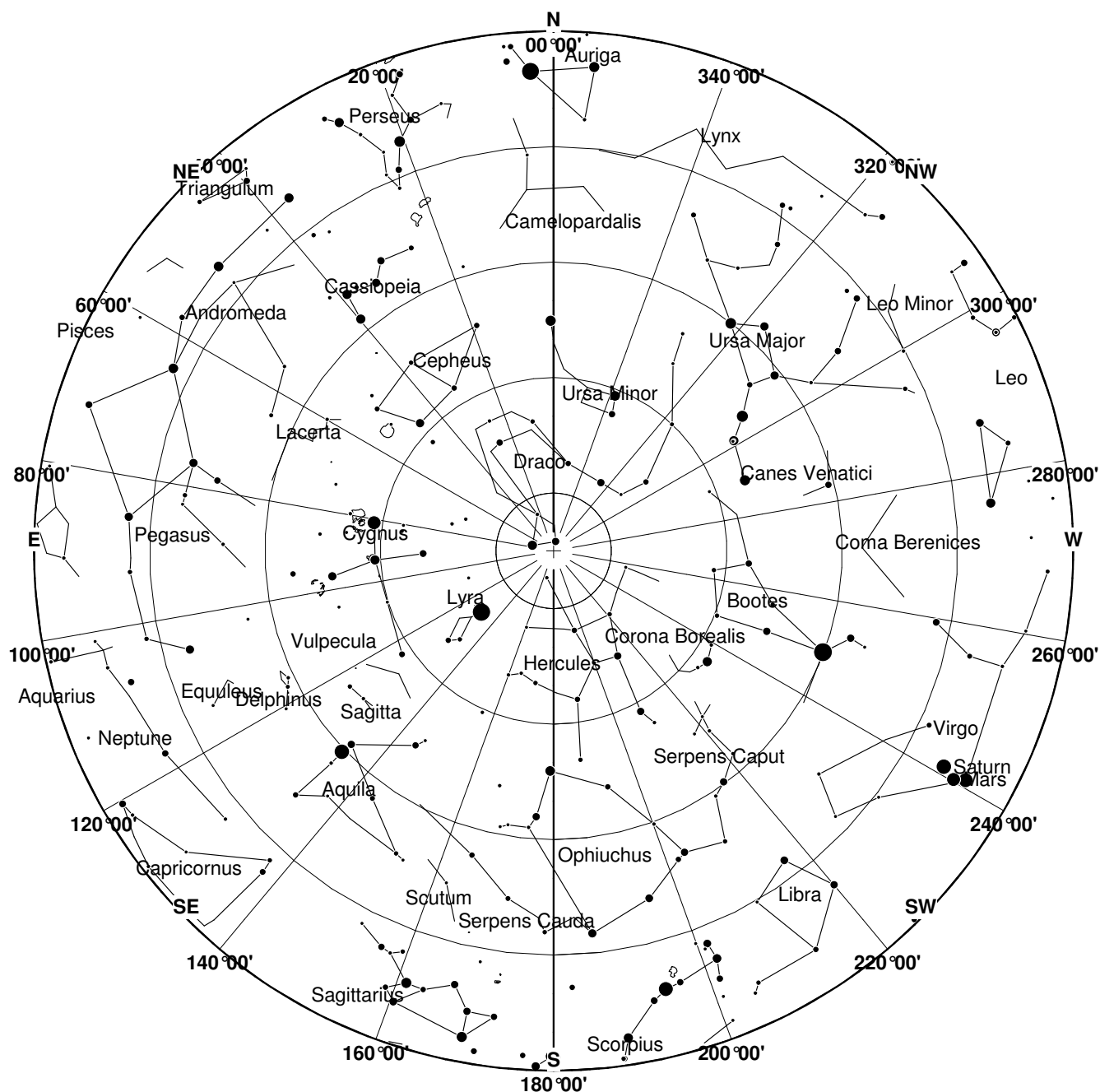
The Garlic Festival this year is to be held on the weekend of 18th-19th August 2012.

I'm sure most VAS members realise this is our single most important fund raising opportunity of the year.

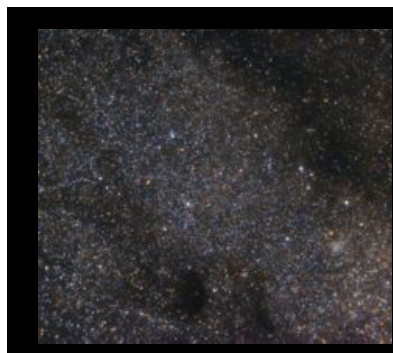
As well as providing marshals for the event. VAS will also have a Society information tent.

Assuming you don't mind being on your feet for most of the day and can help during the weekend, please contact Richard Flux - richard.Flux@iow.nhs.uk

August 2012 Sky Map



View from Newchurch Isle of Wight UK - 2100hrs - 15 August 2012



The **Sagittarius Star Cloud** (also known M24, IC 4715) is a star cluster in Sagittarius, approximately 600 light years wide, which was discovered by Charles Messier in 1764. It is sometimes known as the Small Sagittarius Star Cloud to distinguish it from the Great Sagittarius Star Cloud located to the north of Gamma Sagittarii and Delta Sagittarii.

The objects comprising M24 are part of the Sagittarius or Sagittarius-Carina arms of the Milky Way galaxy. Some sources, improperly, identify M24 as the faint cluster NGC 6603.

*This article is licensed under the [GNU Free Documentation License](https://www.gnu.org/licenses/fdl.html).
It uses material from the Wikipedia article "Sagittarius Star Cloud"*

August 2012 Night Sky

Moon Phases

New	1 st Qtr	Full	Last Qtr
17th	24th	2nd/31st	9th

Planets

Mercury

For early risers Mercury will put on a good show in the pre-dawn sky this month. Follow the line from Jupiter through Venus towards the point where the Sun will rise to help find this elusive little planet.

Altitude & Azimuth For Mercury At 05:00 During August 2012					
Date	Alt	Az	Date	Alt	Az
8	2.5	66.5	18	5.5	68.5
10	4	67.5	20	5	68
12	5	68	22	4	67
14	5.5	68.5	24	3	67
16	6	68.5	26	1.5	66

Venus

Venus is at its greatest western elongation from the Sun on the 15th. This means that the angular separation between it and the Sun is as great as it gets, 46 degrees. It also means that at this time the separation does not change very rapidly. At 05:00 Venus will be at or very close to an azimuth and altitude of 88° and 24° all month.

Mars

Mars, very low down in the south western sky after sunset joins Saturn in the constellation of Virgo. On the 14th it sits between Spica and Saturn, but with the sky still remaining quite bright long after sunset this will not be a brilliant spectacle. Mars is moving quite rapidly eastward against the star background trying to stay in our evening sky. It will succeed for a few more months yet.

Jupiter

From the early hours onward Jupiter can be found between the horns of Taurus. At the end of the month Jupiter rises just before midnight.

Saturn

Although Saturn sets about 3 hours after the Sun at the start of the month the sky remains bright for too long and Saturn is far too close to the horizon for any serious observation.

Neptune

Neptune is at opposition on the 25th and so is ideally placed for observation.

It can be found in the constellation of Aquarius about 3.5 degrees from the fourth magnitude stars Ancha and Iota Aquarii. Aquarius is a rather dim and indistinct constellation so finding Neptune may be a little challenging because there are no bright guide stars nearby. The finder chart shows stars to about the same magnitude as Neptune and labels those stars that on my software have names other than Hyparchos and Tycho catalogue numbers.

Uranus

Uranus, like Neptune is amongst an indistinct group of stars, this time those of Pisces. Although Uranus is brighter than Neptune it is further from any bright guide stars, it is a little over 1 degree from the 5th magnitude 44 Piscium.

Meteors

The reliable Perseid meteor shower reaches a favourable peak of about 80 per hour on the 12/13th.

Deep Sky objects

Stock 1 Open Cluster RA 19h 36m Dec 25° 13' mag 5.3

A little over a fingers width east of Alpha Vulpeculae lays a large misty patch of the Milky Way. This is Stock 1, a rich open cluster where the brighter stars are rather spread out floating over a misty haze of the dimmer cluster members and background Milky Way. Although this cluster is a nice sight in binoculars it does not give its best; a small telescope using magnification up to about 60 gives a much better view. The brighter stars tend to form angular patterns rather than the more 'normal' curved chains.

NGC7207 Planetary Nebula RA 21h 7m Dec 42° 16' Mag 8.5

This is a small rectangular shaped planetary nebula that is more difficult to see than its magnitude would imply. It is a better target for visual observers with larger telescopes or those with CCD cameras.

M24 Sagittarius Star Cloud R.A. 18h 16m Dec -18° 43'

This object is big! Eight times the area of the full moon. It is an object full of objects, open clusters, dark nebulae and even a planetary nebula. Use any optical aid you have, binoculars for wide field views and a telescope for closer examination. This is one of, if not the best star fields in the galaxy; don't miss it.

Peter Burgess



The following slides were presented by me, Brian Curd (Observatory Director) at July's monthly meeting.

The intention being to develop a discussion regarding plans for the future of the Vectis Astronomical Society.

I believe we have reached a stage in the Society's life where change is needed and, if rumours regarding the current observatory site are true, inevitable.

What's this all about..

- Most importantly, the future of VAS
- Possibly, the relocation of the observatory
- Better and updated facilities for the membership
- Encouraging more use of those facilities by members, community groups, schools and tourists
- Providing a long term future for astronomy and possibly research on the Island

A Very Short History

- VAS was Formed in 1976 with approx 24 members
- Work on the Watery Lane Observatory started in 1997
- Observatory opened 25th Sept 1998 On Time and On Budget!
- Inaugural IOW Star Party 2008 – with the 6th now being planned

Charitable Status

- VAS is a Registered Charity and as such:
 - Encourages the study and practice of the science of astronomy and allied sciences, for the advancement of public interest and to provide an astronomical observatory
 - Provides public outreach events
 - Holds educational events for Schools, Scouts, Guides and other clubs

Membership

- VAS started with just 24 (ish) members
- We now have about 110, a level which fluctuates a bit but is relatively stable
- We average about 8-10 members at each Thursday "club night"
- There is a need to provide more activities for members at the observatory

Equipment

- VAS has a wide range of astronomical equipment ranging from the Meade LX200 (the dome telescope) through to smaller telescopes and binoculars.
- More recent acquisitions include:
 - 42inch monitor for lectures etc.
 - HD digital projector
 - 2 x PCs (due in the next few days!)

Lots of equipment is all very well but without people to use it, suitable premises, a steady stream of visitors, schools and other organisations we just have a small club with, probably, better than average facilities.

We do our best to engage with the public with open evenings and star-gazing events and during the last year we have introduced approximately 400 people to astronomy.

What else do we have?

- Some of the best skies in the South of England
(although not so far this year!)
- Astronomy is being enjoyed by many as part of the National Curriculum
- The IOW Star Party has raised our profile among the astro-community
- The general public is interested

... Where to Next?

- Much of our equipment is getting dated and is incompatible with modern imaging devices and software
- Dome is in need of a major overhaul
- LX200 telescope is showing signs of wear
- We have a lease on the observatory until about 2028 but there is much talk of the Watery Lane site being used as an all-weather sports facility *(possibly floodlights and a lot more users!)*

As anyone who has visited the observatory recently will have noticed, the pavilion and the field seem to have been rather neglected. We have tried (and continue) to contact the recently change management committee of the NPS&CA, but so far have made no headway.

The thought of an unusable observatory is real problem.

... Where to Next?

If we take all these points together, it appears we may have reached a point where it would make sense to investigate options for the future....

To avoid any confusion at this point, there is no proposal to raise/spend large sums of money on the existing facility unless we can be completely sure that site development is not going to happen.

A Plan?

- Fully update facilities at the observatory
 - Dome
 - IT
 - Remote control
 - Disabled access
- Consider moving to another site
 - If the rumours of site development are true the current location will probably become untenable

Estimates

- Replace the main telescope and mount with something like this:



PlaneWave 20 inch CDK Optical Tube Assembly
\$32,500

Ascension 200HR Mount
\$23,500

Total \$56,000!

... Estimates

- Add a camera like this:



Between
\$5,000 and \$10,000!

... Estimates

- And a new dome, something like this:



About
\$15,000!

Conclusions

- That little lot adds up to about \$80,000! and it doesn't include:
 - Electrical changes
 - Computer networking
 - Building changes for disabled access or
 - Maybe having to move to a new location
- This would be a serious project BUT it is one which would set VAS on a new course for the future

Can we afford to do this?

- VAS is not rich although it is solvent
- We would need to raise substantial funds to make the suggested changes
 - Grants, Lottery or Community Funding or Sponsorship
- It will take time, and needs the support and involvement of the full membership

... Can we afford to do this?

I guess the real question is:

**Can we afford
not to do this?**
(or at least something like it)

So, What Next?

Following the presentation, I summed up and then asked those in attendance if there were any questions or concerns. A fairly lively session followed but I am pleased to report that the majority of those in the room expressed an interest in the "skeleton" project and in the committee (or sub-committee) taking the ideas further and reporting back to the membership.

I then asked members for a quick show of hands of those interested in helping - to my great relief some 8 members responded. Email addresses were gathered and an informal sub-group has been formed to discuss things further.

A couple of meetings of that group will have been held by the time you read this and we have agreed to produce a better outline of the proposal for presentation at the AGM. Following that we will be asking members to support further exploration of funding and the real structure of the plans.

I must stress, at this point there is no cost to the membership - apart from any volunteer time - and that no expenditure will be made unless we have a fully funded solution.

Of course individual members will have their chance to comment on the findings of the sub-group, in fact, any comments/concerns are welcome as soon as the AGM presentation has been made. I anticipate this will cause quite a stir among the members but assure you that no steps along the road outlined will be made without the agreement of the membership.

It is the intention of the committee/sub-group to report back to the membership with a special presentation later in 2012 or early 2013.

Brian Curd - Observatory Director

Satellites See Unprecedented Greenland Ice Sheet Surface Melt

July 24, 2012: For several days this month, Greenland's surface ice cover melted over a larger area than at any time in more than 30 years of satellite observations. Nearly the entire ice cover of Greenland, from its thin, low-lying coastal edges to its two-mile-thick center, experienced some degree of melting at its surface, according to measurements from three independent satellites analyzed by NASA and university scientists.

On average in the summer, about half of the surface of Greenland's ice sheet naturally melts. At high elevations, most of that melt water quickly refreezes in place. Near the coast, some of the melt water is retained by the ice sheet and the rest is lost to the ocean. But this year the extent of ice melting at or near the surface jumped dramatically. According to satellite data, an estimated 97 percent of the ice sheet surface thawed at some point in mid-July.

Researchers have not yet determined whether this extensive melt event will affect the overall volume of ice loss this summer and contribute to sea level rise.

Read More at [NASA](#)

The Hunt for Planet X: New Worlds and the Fate of Pluto

by **Govert Schilling** 2009,
Copernicus Books

The demotion of Pluto was a wonderful kerfuffle. Arguably the world of astronomy had been building up to it for more than two centuries, ever since Herschel put planet-hunting on the agenda, and this is the story Schilling tells.

He begins with the discoveries made by the self-constituted Himmelpolizei (Celestial Police!) who found Ceres, Pallas, Juno and Vesta, so that for some forty years the solar system had 11 planets. Numbers fluctuated, with the discovery of more asteroids leading to their reclassification, but Neptune and Pluto filled up the list again. Then we are into the meat of the book: the detection of large objects in the outer solar system, which led to Pluto being bounced from the planetary club.

The book has a glossary and you may need it. How are you with centaurs, plutinos, ice dwarfs, minor planets, Kuiper Belt objects, the scattered disk, the Oort cloud, cubewanos, plutoids, vulcanoids, long- and short-period comets, trojans, Earth-grazers, planetesimals?

There are diversions in the narrative to take in obsessive and competitive astronomers, nutters who cash in on such discoveries, and the inner workings of the IAU (I'll be thinking of them as the Himmelpolizei for evermore).

The science underlying the discoveries is explained quite nicely for the interested-but-not-a-scientist reader. It was enlightening to consider the parallel between the classification of biological species (which was a prerequisite to the development of zoology and the theory of evolution), and the classification of solar system bodies (necessary before astronomers can theorise adequately about the origins and development of our solar system). The book is no doubt already out of date, of course, as anything in print is, but not catastrophically so.

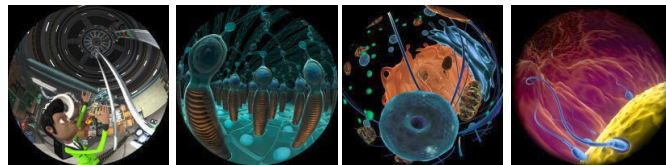
The Hunt for Planet X is about 300 pages long, but is heavily illustrated throughout, so it is not a long text to read. There are hardback and paperback versions - the same edition - but at the moment the hard cover is slightly cheaper on Amazon than the paperback. (Bear in mind the colour illustrations when considering electronic - standard Kindle wouldn't give you these).

Recommended? Definitely. And reading this one would lay a good foundation for any news from Pluto which may be sent back by New Horizons in 2015 - if only the technology works!

Rebecca Mitchelmore

Island Planetarium, Fort Victoria invites you to come to an amazing full-dome show.

Cell! Cell! Cell!



You are made of 70 trillion living cells. They work. They talk. They think. They are what make you alive. This is the story of how they do it.

The show is aimed primarily at KS3/4 level Biology students with hands-on activities that build upon the material covered in the show. The characters and the fast-paced action will hold anyone's attention but it is best for age's 13yr+.

The show contains reference to conception and shows sperm cells.

We shall preview the show on the evening of Wednesday 18th July at 6.30pm and we shall show the available support material. Booking is required, only 30 seats in each showing.

To book, please call 761555 to book a place. If you cannot make this dates but want to come, call us. The show will run twice daily through the summer holidays and we shall send you complementary tickets.

From September it will be available to bring to Island schools with our mobile planetarium and hands-on activities. We are already negotiating bookings from schools and mainland education authorities.

EVERYONE 13+ SHOULD SEE THIS MIND BLOWING SHOW

This INTECH-led project has been generously funded by the Wellcome Trust, in collaboration with the Wellcome Trust Centre for Human Genetics and it has been produced by NSC Creative.

Nasa's Enterprise Space Shuttle has a New Home

It has flown over Manhattan on a jumbo jet, floated down the Hudson river on a barge and even had a close up view of the Statue of Liberty.

From 19th July, the space shuttle Enterprise, a prototype created in 1976, is finally becoming a New York attraction itself.

The Intrepid Sea, Air & Space Museum has installed the space shuttle on the runway of the aircraft carrier "Intrepid", a museum facility docked at a pier on Manhattan's West Side.

Now, the public will finally be able to see Nasa's prototype shuttle up close for the first time inside a specially constructed inflatable dome.

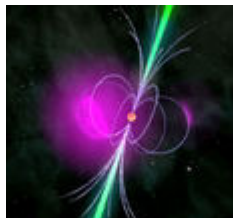
Visit the link for some spectacular pictures.

Read More at DailyMail.co.uk

A Pulsar with a Tremendous Hiccup

Scientists discover a young and energetic neutron star that experienced the strongest rotation glitch ever observed for a gamma-ray-only pulsar.

By Max Planck Institute for Gravitational Physics, Hanover, Germany
— Published: July 24, 2012



Pulsars are superlative cosmic beacons. These compact neutron stars rotate about their axes many times per second, emitting radio waves and gamma radiation into space. Using ingenious data analysis methods, researchers from the Max Planck institutes for Gravitational Physics (MPG) and for Radio Astronomy (MPIfR), in an international collaboration, dug a special gamma-ray pulsar out of data from the Fermi Gamma-ray Space Telescope. The pulsar J1838-0537 is radio-quiet, young, and, during the observation period, experienced the strongest rotation glitch ever observed for a gamma-ray-only pulsar.

Pure gamma-ray pulsars are difficult to identify because their characteristics, such as sky position, the period of rotation, and change in time, are unknown. And astronomers can only determine their approximate position in the sky from the original Fermi observations. They must, therefore, check many combinations of these characteristics in a blind search, which requires a great deal of computing time. This is the only way of finding a hidden periodicity in the arrival times of the gamma-ray photons.

Read More at Astronomy.com

Telescope Captures Sharpest Images of Sun's Corona

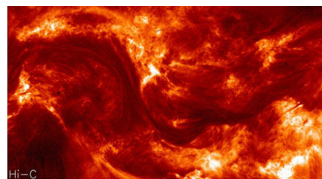


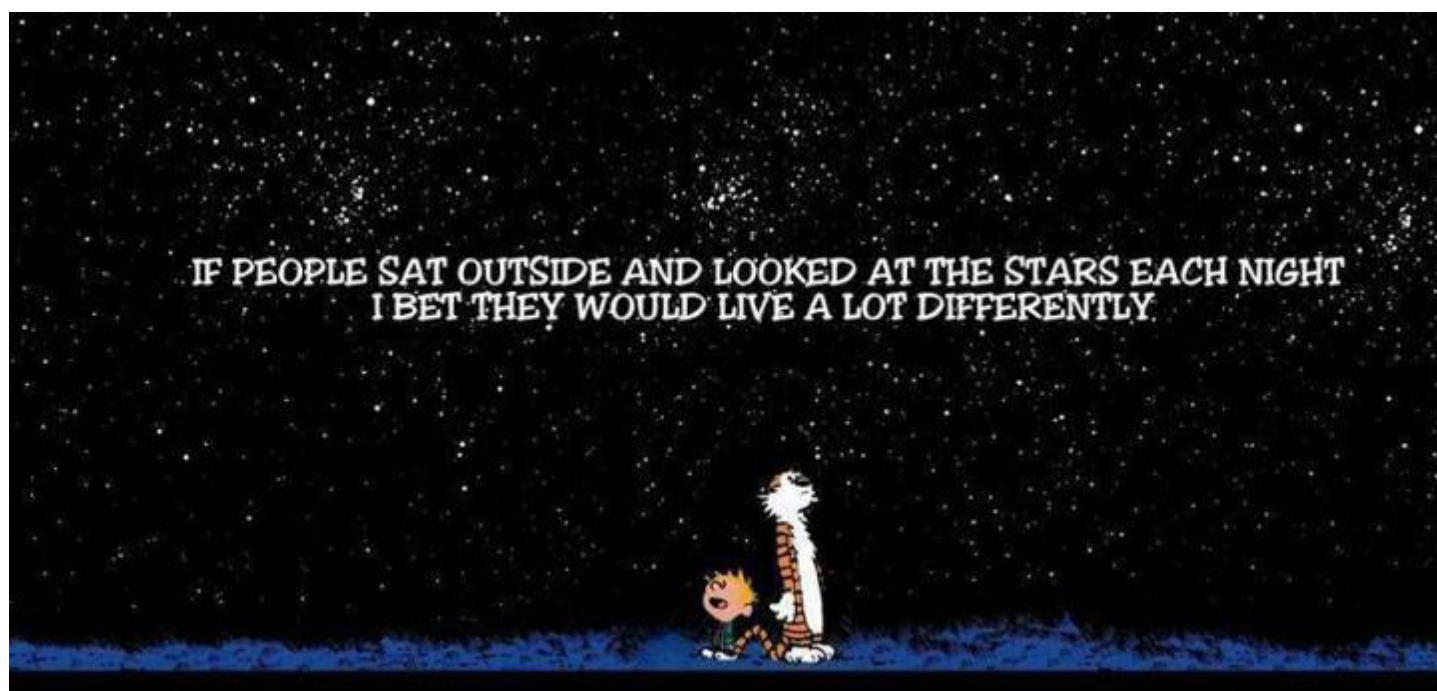
Image: NASA

A telescope launched July 11 aboard a NASA sounding rocket has captured the highest-resolution images ever taken of the Sun's million-degree atmosphere called the corona. The clarity of the images can help scientists better understand the behavior of the solar atmosphere and its impacts on Earth's space environment.

“These revolutionary images of the Sun demonstrate the key aspects of NASA’s sounding rocket program, namely the training of the next generation of principal investigators, the development of new space technologies, and scientific advancements,” said Barbara Giles, director for NASA’s Heliophysics Division at NASA Headquarters in Washington.

Launched from White Sands Missile Range in New Mexico, the 58-foot-tall sounding rocket carried NASA’s High Resolution Coronal Imager (Hi-C) telescope. Weighing 464 pounds, the 10-foot-long payload took 165 images during its brief 620-second flight. The telescope focused on a large active region on the Sun with some images revealing the dynamic structure of the solar atmosphere in fine detail. These images were taken in the extreme ultraviolet wavelength. This higher energy wavelength of light is optimal for viewing the hot solar corona.

Read More at AstronomyNow.com



THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

Father/son team goes big with backyard observatory



Oh that? It's just the backyard observatory we built last summer. You know, for fun. This is a conversation Kakon24 and his dad are having quite often these days. They're astronomy interests just got a big equipment upgrade when they built a huge observatory on their homestead. Now we don't proclaim to know a lot about observatory quality, but this is head and shoulders above what most people manage to acquire.

It isn't a simple build either. It's a full-fledged building of its own, starting with a poured foundation, then stick framing which was covered in stone work. The images tell the story of the build, but for information on the hardware you'll want to read through the comments over on the Reddit Astronomy thread. Sounds like the scope itself cost over 100 grand so having a proper building to protect it is a must.

Read More at [Hackaday](#)

First Spiral Galaxy in Early Universe Stuns Astronomers

Astronomers have spotted the earliest known spiral galaxy, dating to just three billion years after the Big Bang.

Theories of galaxy formation held that the Universe was still too chaotic a place to allow such a perfectly formed or "grand-design" spiral to form.

It should take far longer for gravity to bring matter into thin, neat discs.

But a team reporting in Nature says the galaxy BX442 got the gravitational "kick" it needed to form a spiral from a smaller "dwarf galaxy" orbiting it.

They first spotted BX442 as the one and only spiral-looking object in a survey of 300 galaxies carried out by the Hubble space telescope, when they were shocked to see what looked to be a spiral galaxy.

"What we've learned when we look at galaxies at that epoch is that they're very dynamically hot," explained lead author of the study David Law from the University of Toronto's Dunlap Institute for Astronomy and Astrophysics.

Read More at [BBC](#)

Observatory

For your own safety, when visiting the VAS observatory, please bring a torch. Also, please 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

New Zenith welcomes letters, articles or pictures related to all aspects of astronomy. Contributions to the Editor at the email or postal address on the front page.

*"The meek
shall inherit
the Earth, but
not its mineral
rights"
JP Getty*

Quotations

*"Maybe this world is another
planet's Hell"
Aldous Huxley*

*"A time will come when men
will stretch out their eyes.
They should see planets
like our Earth"
Christopher Wren*

*"The universe seems neither
benign nor hostile,
merely indifferent"
Carl Sagan*

VAS Officers and Committee Nominations 2012/13

For those wishing to stand for election at the AGM of the Society to be held on Friday 24th August 2012 at 7.00pm.

Name and Address of Nominee:

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Standing for

- Chairman
- Treasurer
- Secretary
- Observatory Director
- Membership Secretary
- Program Organiser
- Observatory Outreach Co-ordinator
- Committee

Proposed by:

Seconded by:

Signature of Nominee:.....

Notes

1. No person can be elected to more than one position.
2. Only adult fully paid-up members may stand for election (or propose or second).
3. All completed nomination forms to be received by the Secretary in writing at least 7 days before the AGM.
4. The Committee consists of not less than six members.