



## Society News

### From the Chairman

**Wow!** What luck - the IOW Star Party had four clear nights and astronomers were out until 4a.m. every morning. The Isle of Wight has definitely been put on the map for dark southern skies. For more details about the party, read "Isle of Wight Star Party Report" on page 8.



*Stars and Chalets in Red Light Credit Stephen J Griffiths*

There was an International Year of Astronomy (IYA) event at Osborne Middle School in Cowes at the beginning of April. The school was awarded one of the Society for Popular Astronomy's free telescopes, and were keen to take part in the IYA Moonwatch week.

### VAS Website: [www.wightastronomy.org](http://www.wightastronomy.org)

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

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35 Forest Road  
Winford  
Sandown PO36 0JY

Tel: 01983 864303 or email: [editor@wightastronomy.org](mailto:editor@wightastronomy.org)

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

### VAS Registered Office

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Isle of Wight, PO38 2ND

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

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About 50 pupils and parents attended, and many thanks to the Vectis members who helped out.

Moving on to future events - it's a good month for spotting the inner planets - Mercury passes through the Pleiades cluster as they set in the north west just after sunset on May 2nd and Mars and Venus are visible in the dawn sky, and make a striking pair near the waning moon on 21st.

Finally, please do fill in the Survey Forms (from the back of last month's NZ). If you put your name on it, you will be entered into an astronomical prize draw! It is YOUR society, and the committee would like to know your thoughts and views. After all, you voted us onto the committee to represent you. Forms can be left at the observatory, on the desk at a Friday meeting, or posted to the VAS registered address, *see below left*. They need to be in by June 1st, 2009.

*Dr Lucy Rogers*  
*Chairman, Vectis Astronomical Society*

*Posted on the website the day after the Star Party:*

*"The sky was clear in Walsall last night  
but I didn't bother to get the scope out  
as someone seems to have stolen  
most of the stars!"*

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**Monthly Meeting Calendar 2009**

Date	Subject	Speaker
May 22	Members' Night <i>Whatever you wanted to know about astronomy and were afraid to ask. Ask those nagging questions that you always wondered about and we will discuss and try to answer them.</i>	
Jun 26	The Distant Future of the Earth	Dr. Robert Smith Sussex University
Jul 24	Exploring Titan	Dr. Axel Hagermann Open University
Aug 28	Astro Imaging	Richie Jarvis
Sep 25	The Search for Novae and Supernovae	Guy Hurst
Oct 23	TBA	TBA
Nov 27	The Radial Velocity Experiment, the Gaia satellite & an historic coincidence	Dr. George Seabroke Open University

*All details correct at time of publication.*

**New Members**

A very warm welcome to our latest new members,

- John Gilliard
- Vivien Gilliard
- David Brodie
- Elaine Spear
- Madeline Paterson
- Laura Boyle
- Michael Fairall
- Albert Fairall
- Dudley Johnson.

**Tony Plucknett**  
Membership Secretary

**International Year of Astronomy**

VAS are planning events throughout 2009 and welcome any suggestions for suitable locations and partnerships with other interested clubs and organisations. We have a working group tasked with promoting astronomy during 2009 and would appreciate the help of members during the year. If you think you can help with this project in any way, please contact either

**Brian Curd** - editor@wightastronomy.org or  
**Bill Johnston** - bill.johnston@onwight.net

For details of events elsewhere in the UK, please visit the IYA UK Website at <http://www.astronomy2009.co.uk/>

Below are the events organised so far and will be updated as we add to it. All events are free of charge unless stated. Information is correct at time of publication.

Date/time	Subject	Venue
Sat 25th July Provisional	Observing the night sky	Nettlestone Scout Camp <b>(Private Group)</b>
October	Observing the night sky	St Thomas Pri Sch <b>(Private Group)</b>
Sat 21st November	Observing the night sky	Wellow (Public)

For the latest IYA event list, visit the new VAS website  
[www.wightastronomy.org](http://www.wightastronomy.org)

**SAGAS Summer Event**


**Nightlife**  
**Summer Astronomy Event**  
**4th July 2009**

**Royal Maritime Club**  
**Queen St, Portsmouth PO1 3HS**

Tickets Available From Graham Bryant - 023.9224 1764  
graham.bryant@hantsastro.org.uk

Tickets £12 Concession to SAGAS Society Members £10  
[www.nightlife.demon.co.uk](http://www.nightlife.demon.co.uk)

Nightlife in conjunction with SAGAS have organised a Summer meeting to take place on the 4th of July in Portsmouth. Tickets for members of SAGAS societies are available at £10.00. Vectis Astronomical Society is a SAGAS society

## A Sight for Sore Eyes

*I bought myself a telescope  
So I could view the stars,  
To watch the storm on Jupiter,  
The red canals on Mars,  
But it had got a defect.  
It would only view one spot.  
I could not seem to shift it,  
Not a teeny, weeny jot.  
Perhaps I'm just unlucky,  
Or an utter ignoramus.  
But every time I used it,  
I could only see Uranus.*

*I telephoned Sir Patrick Moore,  
Him of The Sky at Night.  
He said I should adjust it  
To a more conductive sight,  
He offered to assist me,  
Show me what it's all about.  
But when he squinted down the lens,  
His monocle fell out!  
We had to have a brandy,  
Well, you really couldn't blame us.  
For, when he looked, you guessed it,  
He could only see Uranus.*

*I returned it to the shop  
And told them of its little error,  
And how his recent viewing  
Had filled Patrick Moore with terror.  
They packed it up in bubblewrap  
And sent it off for testing.  
But when I got it back, it was  
A darn sight worse. No jesting!  
They had fiddled with the zoom.  
And it was out of control  
And I fainted at the sight of a  
Gargantuan black hole!*

© Ruth Twyman Lockyer March 2009

## NASA's Kepler Captures First Views of Planet-Hunting Territory

PASADENA, Calif. - NASA's Kepler mission has taken its first images of the star-rich sky where it will soon begin hunting for planets like Earth.

The new "first light" images show the mission's target patch of sky, a vast starry field in the Cygnus-Lyra region of our Milky Way galaxy. One image shows millions of stars in Kepler's full field of view, while two others zoom in on portions of the larger region. The images can be seen online at:

[http://www.nasa.gov/mission\\_pages/kepler/multimedia/20090416.html](http://www.nasa.gov/mission_pages/kepler/multimedia/20090416.html)

## Hants Astro Directory

Our new electronic Directory AstroSouth was launched last month, and is distributed quarterly to over 60 astronomy groups across the South (from Kent to Cornwall). Now it's reloaded with 40 pages it's available for free from our website [www.hantsastro.org](http://www.hantsastro.org), so readers can find an Astronomy Group in their area.

The next issue due out end of May 2009 will be even bigger as we had the majority of Astronomy Groups respond with a big thumbs up. The next issue will be expanding coverage to include East Anglia. Imagine a line from Kings Lynn to Bristol, and everything South.

The new online version of the magazine is something you can literally flick-through: [http://issuu.com/lookup/docs/astrosouth\\_ed01online](http://issuu.com/lookup/docs/astrosouth_ed01online). You can use the link and the AstroSouth front page image if you like if you haven't so already. It looks great Full Screen! It should make it even more appealing.

I guess you may want to know about figures. With nearly 2000 downloads in it's first month alone, the AstroSouth Directory is starting to match Look Up! on monthly downloads, as many astronomy Groups are linking to it and distributing it within their own membership.

HantsAstro is funded by sponsored events (check out our MoonFest Roadshow) and by the advertising revenue from our magazines. I hope you enjoy the read.

**David Woods**

**Publisher: Look Up! eZine**

**AstroSouth Directory [www.hantsastro.org](http://www.hantsastro.org)**

## Island Planetarium @ Fort Victoria

The Island's Telescope Professionals

New Celestron & Meade Scopes and Accessories.  
Other makes also available, just ask!

At least 10% discount on SRP for VAS Members

In stock demo and used scopes,  
Celestron GOTO Starters and up to 8" SCTs

Call 761555, leave number if not there,  
and we'll call you back.

**[enquiry@islandastronomy.co.uk](mailto:enquiry@islandastronomy.co.uk)**

## This Month's Night Sky

The pace of change in the evening sky will have dramatically slowed by the end of the month when it will hardly have time to get dark before brightening again in the east. In the first week at midnight **Auriga** and **Gemini** are setting in the northwest while in the **Altair** the most southerly member of the summer triangle is just peaking above the horizon. The stars are showing us that winter is now on the way out and summer is on is fast approaching.

For the deep sky galaxy hunters now is the time to be observing, both the **Coma** and **Virgo** galaxies are well clear of the haze while the sky is dark enough to be able to pick out the feeble light form these distant objects.

### Moon Phases

New	1 <sup>st</sup> Qtr	Full Moon	Last Qtr
24th	1st & 31st	9th	17th

### Planets

For the first few days of the month **Mercury** can be found low in the northwest just after sunset as it finishes the evening apparition started last month.

**Venus** is still low down, but being bright is easily seen on the eastern horizon before sunrise. At this time of year the ecliptic at dawn sky is low on the horizon so Venus' orbital motion shows more as a horizontal rather than vertical movement.

Like Venus, **Mars**' orbital motion is just moving it along the horizon rather than above it. It remains a difficult object.

**Jupiter** is conspicuous low down in the early morning sky. On the 28<sup>th</sup> it makes a close conjunction with Neptune. None of the event is visible from here, the closest approach occurs about two hours before they rise, and even after they enter our sky it is too bright and **Neptune** is too low down to be seen.

**Saturn** still makes a superb evening object well placed from dark until after midnight. The rings are just over 4° open.

Both **Uranus** and **Neptune** are lost in the bright morning sky and are still unobservable.

### Meteors

The **Eta Aquirids**, associated with Halley's Comet make a fairly favourable peak on the 5<sup>th</sup>.

The second peak of the **Alpha Scorpids** is on the 13<sup>th</sup>. The light from the gibbous Moon will wash out the 5 meteors per hour expected from this shower.

### Occultations

1<sup>st</sup> - 23:26 Disappearance of 63 Cancri

1<sup>st</sup> - 23:50 Disappearance of Omicron Cancri

### Deep Sky Objects

**M53 Globular Cluster** RA 13h 13m Dec 18° 7' mag 8.5 - Lying some 60,000 light years away very few stars can be resolved in this cluster without the use of a large telescope. Through smaller instruments and binoculars it looks like a tailless comet.

**M3 Globular Cluster** RA 13h 42m Dec 28° 22' mag 7 - Messier's first original discovery, this is a showpiece globular cluster with stars extending across an area greater than that of the full Moon. M3 contains more variable stars than any other globular.

**M63 Sunflower Galaxy** RA 13 16m Dec 41° 58' mag 8.5 - This is a barred spiral galaxy 37 million light years away. It was originally discovered by Pierre Mechain, a friend of Charles Messier and who went on to discover over 25 more objects that were subsequently added to Messier's catalogue. Through a small telescope it is visible as an elongated smudge, but with larger apertures and a dark sky some hint of detail in the spiral arms may be seen.

*Peter Burgess*

### Astronomers Discover Local Star's Cool Companion

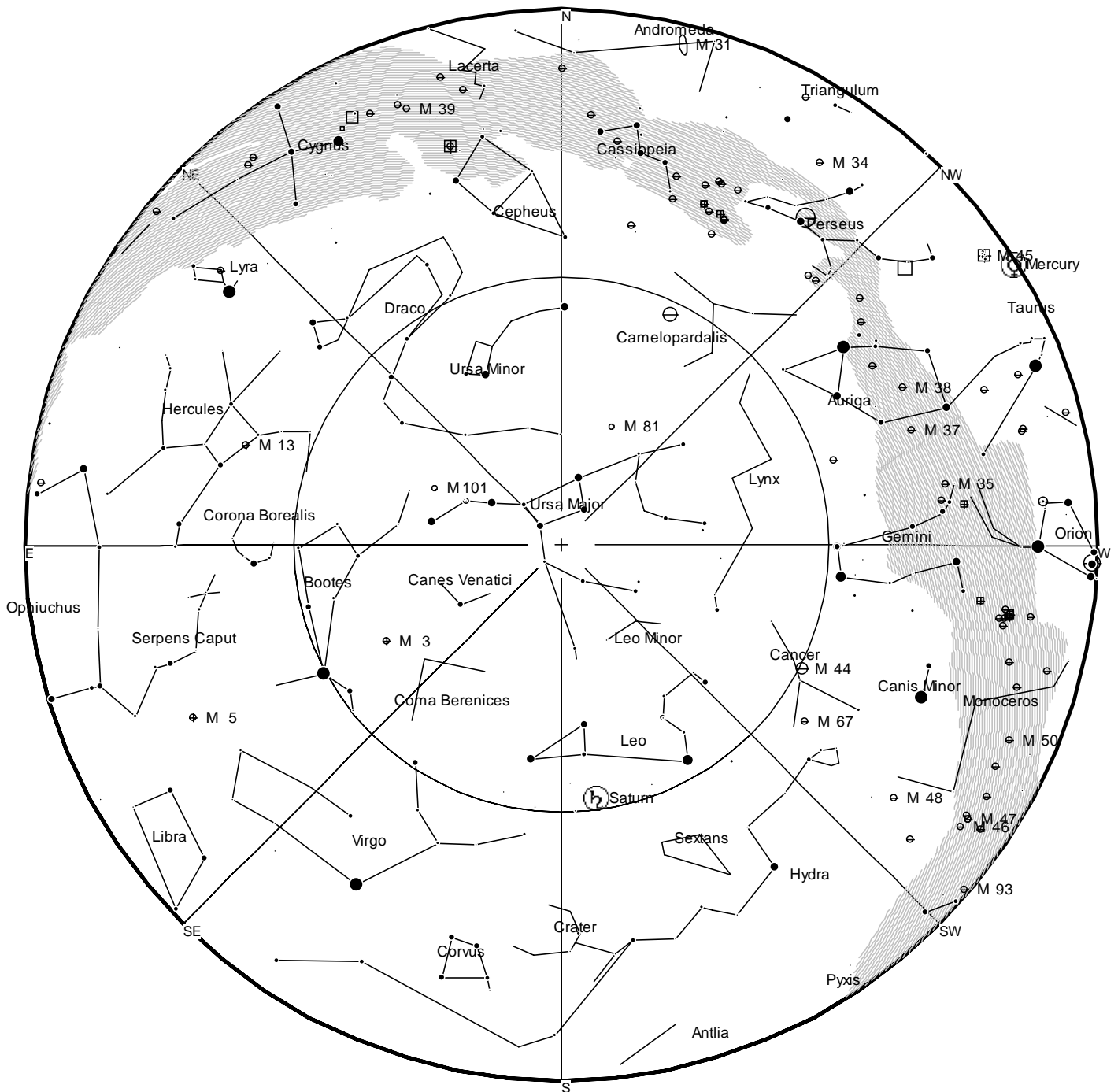
An international team, led by astronomers at the University of Hertfordshire in the UK, have discovered one of the coolest sub-stellar bodies ever found outside our own solar system, orbiting the red dwarf star Wolf 940, some 40 light years from Earth.

"Although it has a temperature of 300 degrees Celsius, almost hot enough to melt lead, temperature is relative when you study this sort of thing, and this object is cool by stellar standards. In fact this is the first time we've been able to study an object as cool as this in such detail", says Dr Burningham, "the fact that it is orbiting a star makes it extra special".

The new object orbits its star at about 440 times the distance at which the Earth orbits the sun. At such a wide distance, it takes about 18,000 years to complete a single orbit.

More at: <http://www.sciencedaily.com/releases/2009/04/090419210430.htm>

# This Month's Sky Map



View from Newchurch Isle of Wight UK - 2100hrs - 15 May 2009



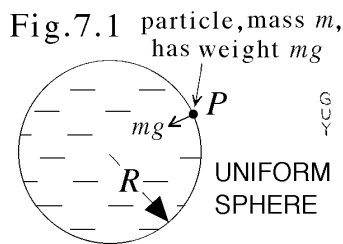
**Saturn** has a large number of moons. The precise figure is indeterminate, as the orbiting chunks of ice in Saturn's rings are all technically moons, and it is difficult to draw a distinction between a large ring particle and a tiny moon. As of 2009, 61 moons had been identified, plus 3 unconfirmed moons that could be large dust clumps in the rings. Of those, 52 had been given proper names. Many of the moons are very small: 34 are less than 10 km in diameter, and another 14 less than 50 km. Only seven are massive enough to have collapsed into hydrostatic equilibrium under their own gravitation. These are compared with Earth's moon in the table below.

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

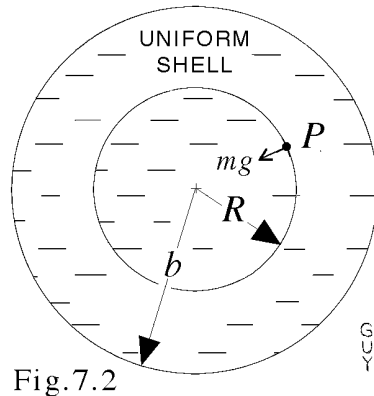
# Let's explore Special Relativity: - Winding up for now with Infinity and History

1. **There's nothing like sitting down with pencil and paper...** and... starting with the constancy of the speed of light with respect to all inertial observers, try to deduce  $E=mc^2$  from scratch! It's good training in how to think and appreciate what Einstein did. His famous equation of 1905, coming from Special Relativity, was a **newly discovered mountain, glowing in the dawn of the 20th century**. How long it took for the clouds to clear concerns history.
2. The infinite: Astronomy deals with the finite, cosmology with the infinite. When considering the infinities of the Universe, don't expect plain-sailing! In relation to cosmology, I wonder what exactly is a 'thought experiment' if it cannot actually be done even in principle. Let me illustrate:

In Fig 7.1, at point  $P$  is a particle of mass  $m$  on the surface of a uniform sphere. Gravity  $g$  points towards the centre, so does the weight  $mg$  of the particle.



In Fig.7.2, a concentric shell of the same material, of outer radius  $b$ , has no effect on  $mg$  (see April NZ section 3). Now let  $b$  tend to infinity - the weight of the particle remains unchanged until suddenly it switches to zero when infinite space



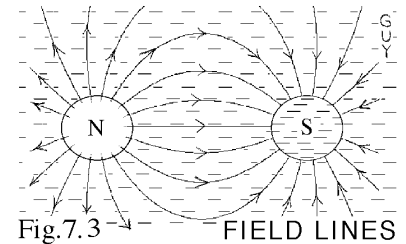
is filled uniformly with matter and point  $P$  then sits in a Higim (Homogeneous, isotropic, gravitating, infinite medium). This astonishing effect is **not a genuine physical effect** - it merely highlights the difference between doing physics and doing mathematics!

3. **The mathematical route:** Not much maths is involved (until you study Mach's principle), but if the Higim is accepted as a *mathematical idea*, then let's make a spherical hole in it. A point on the surface of the hole has lost the attractive force from the matter that was previously in the hole. The logic yields that a hole gives repulsive gravity, maximum at the surface,

decreasing linearly to the centre of the hole<sup>1</sup>. The graph is identical to Fig.6.2 (April NZ) but acts oppositely.

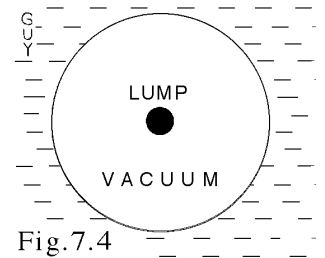
I said to my brother, if you put a Big Bang into such a hole, it might explain dark energy and accelerations increasing with distance. Our letterbox flap went bang and a bit later we were reading the latest ideas<sup>2</sup> coming from cosmology - if we live in the middle of a cosmic void, then dark energy "could have another explanation" - two sides of the same coin?

My brother asked, "...and where do you shift matter to in a Higim? This led to our making a hypothetical 'bar magnet' in Fig.7.3. N is a vacuum bubble, S



contains matter of twice the Higim density, made by shifting the matter from one sphere to the other. Like poles attract and unlike poles repel.

4. **Spherical dipole:** In Fig.7.4 a hole is made by squashing matter into a central lump. The gravitation  $g$  in the vacuum, radially inwards, obeys  $g=k_1/r^2-k_2r$ , consisting of Newton's inverse square law of attraction, minus Higim repulsion. This equation is similar to that for an Einstein universe<sup>3</sup>. Outside the hole,  $g$  cancels. But 'Higim cavity gravity' doesn't obey the basic equations of Laplace and Poisson. Let's see if we can get some **practical insights** by switching to electricity!



5. **Electricity:** Electricity, with parallels to gravity, also obeys the inverse square law. In a 'thought experiment' I filled infinite space with dielectric containing excess positive charge. But if I judged the presence of the charge from its effects, it vanished. This left me wondering about the definition of mass in the gravitational equivalent, the Higim. And what about Olbers' paradox? - perhaps the Higim must be like a transparent aether. Special Relativity doesn't require this, especially if it has an absolute zero of velocity. Let's switch to another subject.
6. **History:** At school, I opted out of history. There was no way to deduce the date of the battle of Hastings, 1066, from first principles - so much to memorize - whereas in physics you can use your sense of reason. Years later, reading a book<sup>4</sup> by Heisenberg, I came across the question - "why should the proton be

precisely 1836 times heavier than the electron? What is so distinctive about that number?" Surprisingly, I've never seen an answer, but there you can read amazing conversations with Einstein, and reflect on the meaning of physics.

Then I saw a paperback<sup>5</sup> in Waterstones where I was amazed to read, "The modern world began on 29 May 1919 when photographs of a solar eclipse... confirmed the truth of a new theory of the universe." Read on! Chapter 1 tells of the confusion between Relativity and Relativism, greatly dismaying Einstein. When Einstein writes the Preface to his famous book *Relativity* in 1916, published in 1920, think of his audience! The world is littered with the cruel consequences of the Great War - so much tragic devastation - a world where the exhausted remainder are desperate in their search for meaning.

This is certainly not the time for more ideas to be coming from physics, especially if they're difficult. Now I think I have a better understanding of Einstein's footnote (discussed in the April NZ) in his *simplified* book of that period. And Einstein does say in the Preface, "I make no pretence of having withheld from the reader difficulties which are inherent to the subject". The situation is far more complicated than it first appears.

At that time, the rug has apparently been pulled from under Newton. Science became misunderstood. The new physics mistakenly suggested that absolutes have gone out the window. I think Einstein's task then became trying to make the world more stable and less uncertain - see that history book.

7. **Rays of hope:** Philosophers were bowled over by Einstein's attitude. If his theory - which by then included gravitation - failed to agree with observation, then it's wrong. Logical positivists pondered over Einstein's refreshing pragmatism.

After the end of the 1914-18 war, the world is in a confusing formative state, looking for new directions. The eclipse of 1919 comes at the right time. Science can reach across nations and astronomy can put down stronger objective roots, providing greater hopes of understanding our place in the Universe.

Sir James Jeans<sup>6</sup> calculates the number of stars in the Universe as  $2 \times 10^{24}$ . "...the same number of grains of sand spread over England would make a layer hundreds of yards in depth. Let us reflect that our earth is one millionth part of one such grain of sand, and our mundane affairs, our troubles and our achievements, begin to appear in their correct proportion to the universe as a whole."

The message is getting clearer. In 1905 the scary picture is - we might be living within an isolated pancake of stars stranded pointlessly alone in the blackness of empty space. Suddenly with bigger telescopes, the **sky comes alive** with a tapestry of redshifted galaxies. The reality of the Universe is far grander than we imagined. If we reflect on this, all our troubles shrink in importance and we ought to steer ourselves towards **creating a better world**. This **briefly** sets the scene in which Relativity was born.

**The next topic**, since we haven't yet got our camera or computing problems fully sorted, could be some more exploration. There's more to see from 1905, such as Einstein's work on Brownian motion and its connection with cosmology, taking us into the realms of particle physics. Or some unpredictable variety for a change? We could try that! The VAS survey of readers should provide some hints!

*Dr. Guy Moore*

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- 1 To deduce this, fill the space between r and R with H<sub>2</sub> material. This has no effect on mg which arises from a smaller missing ball of matter of radius r.
  - 2 "Does Dark Energy Really Exist?" T.Clifton and P.G.Ferreira, Scientific American April 2009, pp.32-39.
  - 3 The Structure of the Universe J.Narlikar, OUP, 1978, p.111.
  - 4 Physics and Beyond Werner Heisenberg, Allen & Unwin, London, 1971, pp.163-164.
  - 5 *A History of the Modern World* Paul Johnson, Weidenfeld and Nicolson, London, 1983, p.1.
  - 6 *Eos* J.H.Jeans, Kegan Paul, London & N.Y., 1928, p.21.

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### **Best-Ever Southern-Sky Galaxy Survey**

Look at any dense grouping of galaxies, whether it's the Virgo Cluster seen these April evenings through a backyard telescope or one of the penetrating "deep fields" recorded by the Hubble Space Telescope, and you get the distinct impression that galaxies are not scattered randomly through the universe.

You're right. Beginning with pioneering surveys of the early 1980s, astronomers have learned that galaxies, when mapped in three dimensions, are concentrated along strings and sheets that enclose huge, nearly empty voids. On the very largest scales of tens and hundreds of millions of light-years, the universe has a frothy, spongy-looking structure. It's all bubbles and walls.

More at:

<http://www.skyandtelescope.com/news/42678632.html>

## Isle of Wight Star Party Report

**Thu 26th – Mon 30th March, 2009**



*Credit Dr Lucy Rogers*

The island's dark skies attracted astronomers from as far as Birmingham and Cambridge to the Isle of Wight Star Party. The event, which was held at Brighstone Holiday Centre, Military Road, Brighstone between Thursday 26th March and Monday 30th March, 2009, proved very successful.

On all four nights the clouds parted to give wonderful clear skies and many astronomers saw distant galaxies they had never before seen from the UK, including M6, M7 and the Lagoon Nebula (M8). Sky Quality Meters were used to officially record just how clear the skies are above the Military Road, and, with a maximum of 21.3, it was confirmed that the island does indeed have some of the darkest skies in the south of England.



*Credit Stephen J Griffiths*

The location offered almost 180-degree southerly views across the Channel, and, combined with ensuite rooms and a great cooked breakfast offered by Brighstone Holiday Centre, even island astronomers were tempted to stay on site.

Professor Ian Morison from Jodrell Bank Observatory also attended the Star Party with his own four telescopes, as he combined the trip with the wonderful talk he gave at VAS's monthly meeting on the Friday evening.



*Credit Madeline Paterson*

Four astronomical traders were represented with stock ranging from GPS GOTO telescopes to bespoke astronomical equipment, and many other astronomical companies provided over £500 worth of raffle prizes.

There was also an excellent visit to the ex-rocket testing site at the Needles New Battery (Highdown), run by the National Trust, with a talk by a rocketman - one of the men who was involved with the secret rocket testing programme.



*Credit Dr Lucy Rogers*

Many thanks to all those who helped out and took part, in particular thanks to Stephen J Griffiths, Bill Johnston, Brian and Sue Curd and Brian Bond. More information about the Star Party is available on [www.iowstarparty.org](http://www.iowstarparty.org).

*Dr Lucy Rogers*  
 Freelance Journalist and Science Writer  
[www.lucyrogers.com](http://www.lucyrogers.com)





**NGC 6960 - WITCHES BROOM - PART OF THE VEIL NEBULA IN CYGNUS**  
IMAGED OVER 2 NIGHTS - 2009-03-27 AND 2009-03-29  
AT 2009 ISLE OF WIGHT STAR PARTY  
TELESCOPE: WILLIAMS OPTICS ZENITHSTAR 66 @ F/4.7  
CAMERA: STARLIGHT XRES6 SXV-H9  
MOUNT: EQ6 PRO  
EXPOSURE (H $\alpha$ ): 7X600 SECONDS  
EXPOSURE (OIII): 7X600 SECONDS  
(C) RICHIE JARVIS - HTTP://WWW.DEEPSKY.ORG.UK

The Witches Broom - Part of the Veil Nebula in Cygnus - Imaged at the IOW Star Party 2009 - © Richie Jarvis - <http://www.deepsky.org.uk>



### BAA electronic bulletin No. 00403

On Apr 4 Rob Matson reported a possible 9th mag. comet seen in SOHO-SWAN images between Mar 29 and Apr 4. This was soon confirmed as a comet by ground based astrometrists. Following the initial IAUC, the CBAT received a message that a comet had been discovered by Dae-am Yi of Korea on DSLR images that he had taken on Mar 26. Orbital calculation showed that the two objects were identical. The comet is at perihelion in early May at 1.3 AU.

Located in Cassiopeia it should be readily observable from the UK, although it looks as if a series of depressions and full moon may give limited observing opportunities over the next few days. It is unfavourably placed on the far side of the Sun near perihelion and will not change much in brightness over the next month. It becomes too close to the Sun for observation after late May. It is the first comet to be named for a Korean observer.

With such a bright object it is surprising that patrol images did not pick it up earlier. One reason is its location in the Milky Way, which is often avoided by the professional search programmes and its orbit is almost exactly along the plane of our galaxy. At least one amateur imager did locate the comet, so if you have taken widefield images of the Milky Way in Cygnus, Lacerta or Andromeda over the last month there is a chance that you will have recorded the comet as it was probably brighter than 10th magnitude throughout.

For an ephemeris see the section web page at <http://www.ast.cam.ac.uk/~jds>, which also has information on other observable comets.

*Jonathan Shanklin*

## twitter and Astronomy

There has been a lot of discussion in the press about **Twitter**.

Twitter is a free cross-platform, social networking and micro-blogging service that enables its users to send and read other users' updates known as **tweets**. Tweets are text-based posts of up to 140 characters in length which are displayed on the user's profile page and delivered to other users who have subscribed to them (known as followers).

Senders can restrict delivery to those in their circle of friends or, by default, allow anybody to access them. Users can send and receive tweets via the Twitter website, Short Message Service (SMS) or external applications. The service is free to use over the Internet, but using SMS may incur fees.

To get started you'll need to set up an account at [twitter.com](http://twitter.com) (*don't worry it's free and you won't get spammed!*) and then it's a good idea to pick one of the many twitter applications to get the best from the system, **tweetdeck** is a good starting point for Windows users but there are many others (see <http://twitter.com/downloads>). Once you have installed the application, you can enter your Twitter account details and then search for others sharing your interests.

Many of the monthly magazines and prominent astronomers use twitter to distribute information regularly and signing in as a "follower" for any of them will make sure you don't miss their news and views.

*Website: <http://www.twitter.com>*



### Quotes

*Two brothers bought a cattle ranch and named it "Focus". When their father asked why they chose that name, they replied: "It's the place where the sons raise meat".*

*Attrib. to Prof. W. B. Pietenpol, Physics Department, University of Colorado, Boulder, Colorado*

*"A thing is not necessarily true because a man dies for it".*

*Oscar Wilde*

### Observatory

For your own safety, when visiting the VAS observatory, please remember to bring a torch. Also, please make sure you close the car park gate if you are the last to leave.

### Articles Needed

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