

## Society News

It is with great sadness that I have to report the recent death of Ken Panteny, Life President of VAS.

Ken was an early, and extremely influential, member of the Society who, along with others, worked very hard to establish VAS.

Ken will be sadly missed and I am sure I speak for the whole Society when I offer our sincere condolences to his family.

*Brian Curd*  
*Observatory Director*

### Ken Panteny

Ken and I joined the VAS shortly after it was founded in 1976 and were soon given places on committee. Ken was appointed Treasurer whilst I became Secretary. Meetings were held at Chesterlodge Hotel Sandown, the home of Roger Hayward a founder member of the Society. Ken held the position of Treasurer for many years and only relinquished the position when he felt rather old for the task.

Being a strong supporter of the Society he continued to help in almost every activity, particularly when it was a fund raising exercise. After stepping down from the position of Treasurer he was made Life President of the Society but, due to advancing years, he was unable to continue his support as much as he would have liked. He had tremendous technical knowledge particularly on optical matters and in the practical field he had his own workshop and everything he made was done to perfection.

Ken was a great friend of mine from the time we first met and I continued to visit him fairly often until my own ill health prevented this.

Without his valuable input to the VAS over so many years we would not have made such progress in those earlier times. He will be greatly missed by those who knew him and his passing is a great loss to the Society and those who have amateur astronomical interests.

*John Smith*

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

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

### VAS Registered Office

Castle Haven Cottage, Castle Haven Lane, Niton Undercliff, 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.

Registered Charity No 1046091

### Observatory Diary

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

### Contents this Month

<i>Society News</i> .....	1
<i>April 2012 Sky Map</i> .....	3
<i>April 2012 Night Sky</i> .....	4
<i>Download the Universe</i> .....	5
<i>WightBay</i> .....	5
<i>Book Review</i> .....	5
<i>Wight Stargazing Live</i> .....	6
<i>Hubble Zooms in on a Magnified Galaxy</i>	7
<i>Large Binocular Telescope</i> .....	8
<i>Scintillation Squiggles</i> .....	8
<i>Distance Measurement in Astronomy</i> ..	9
<i>The Back Page</i> .....	10

## Monthly Meeting Calendar 2012

Check the website for up to the minute information.

Travel for our monthly speakers is sponsored by:		
		
Date	Subject	Speaker
23 Mar	Black Holes	Prof. Ian Morrison
27 Apr	Answering the Biggest Questions with the Biggest Surveys	Dr Thomas Kitching
25 May	TBA	TBA
29 June	Member's Forum and Special Project Presentation	
27 July	TBA	TBA
24 Aug	Observing Galaxies - Faith Jordan <b>AGM</b> Meeting Starts at 19.00hrs	
28 Sep	TBA	TBA
26 Oct	TBA	TBA
23 Nov	TBA	TBA

*All details correct at time of publication.*

### Do You Know a Speaker?

As you can probably see, we are having some difficulty arranging speakers at the moment.

If you know anyone who can help, or perhaps you would be prepared to have a go, please contact Elaine Spear at [progorg@wightastronomy.org](mailto:progorg@wightastronomy.org)

### Apologies

Sorry to all those who turned up for last month's meeting in Newport only to discover that we'd been locked out of the hall.

We now have the phone number for the key holder!

### VAS Contacts 2012

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

### New Members

A very warm welcome to our new members:

- Stephen Taylor
- Michael Thorne
- Kev Prowse
- Steve Biggs
- Martin Weaver
- David Long

*VAS Committee*

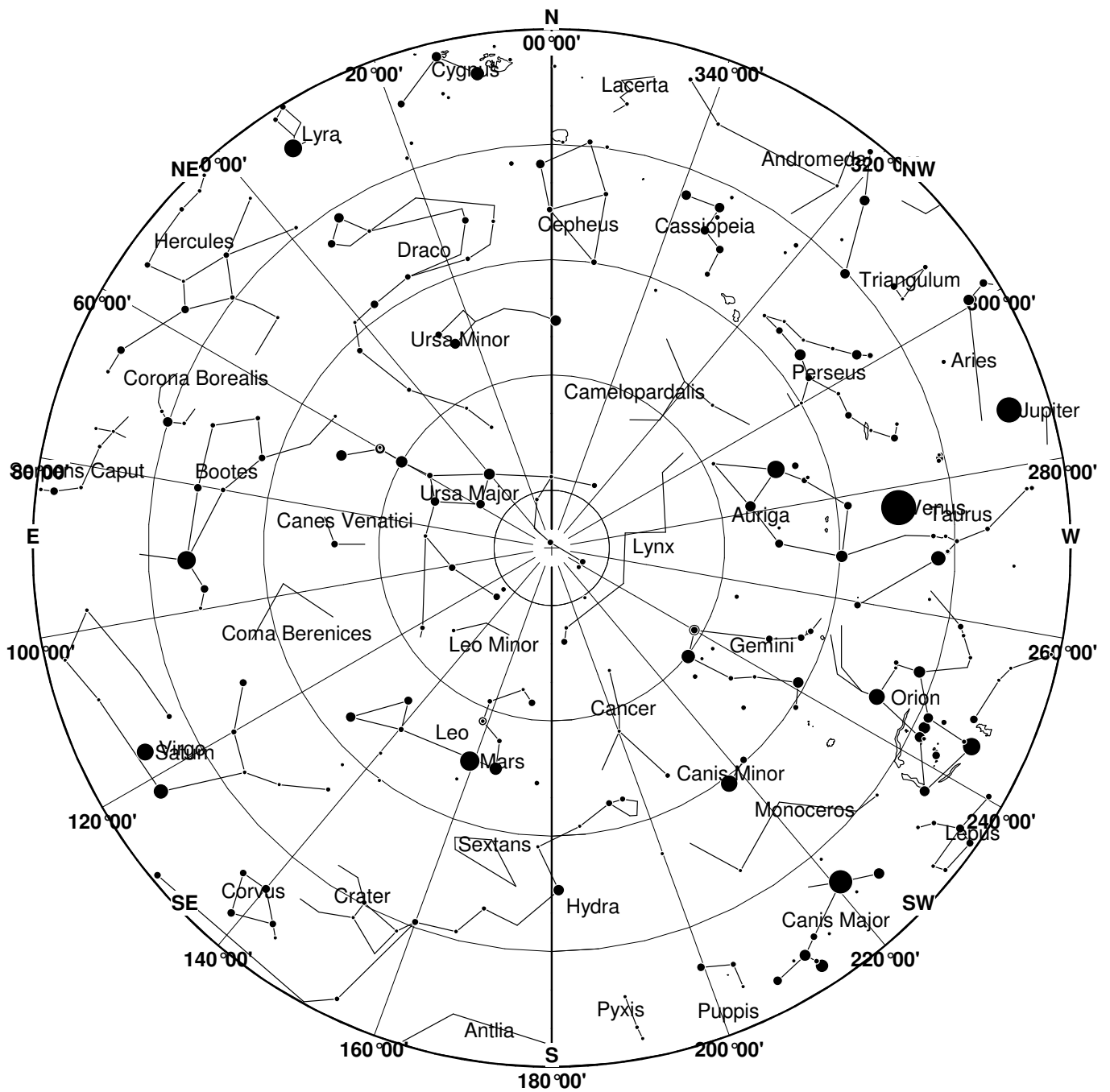
## IMPORTANT!

### Possible Change of Venue for 29th June Meeting

As the 29th June is at the start of the IOW music festival and Newport will be very congested, we may hold the monthly meeting at the Community Pavilion next to the Observatory in Watery Lane.

We are currently checking availability and will publish details in the next New Zenith

# April 2012 Sky Map



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



**The Whirlpool Galaxy** (also known as Messier 51a, M51a, or NGC 5194) is an interacting grand-design spiral galaxy that is estimated to be  $23 \pm 4$  million light-years from the Milky Way Galaxy. It is one of the most famous galaxies in the sky. The galaxy and its companion (NGC 5195) are easily observed by amateur astronomers, and the two galaxies may even be seen with binoculars.

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

## April 2012 Night Sky

### Moon Phases

New	1 <sup>st</sup> Qtr	Full	Last Qtr
21st	29th	6th	13th

### Planets

#### Mercury

In the morning sky at the middle of the month, though it is almost 30° away from the Sun, at our latitude it is only a few degrees above the horizon at sunrise and not visible. Those in much more southerly locations, preferably the southern hemisphere will have a much better view.

#### Venus

On the 3<sup>rd</sup> Venus passes through the Pleiades cluster. This will make an interesting and challenging photo opportunity with Venus being about 7 magnitudes brighter than the brightest of the cluster members. It's now past its maximum eastern elongation and has started to move closer to the Sun. At the start of the month a small telescope will show it has a 'first quarter' phase, but by the end of the month it will have a distinctly crescent phase.

#### Mars

During the first weeks of the month as darkness falls Mars is already high in the south east. It is now past its best but still worthy of observation. As the month closes Mars is high in the south at sunset and noticeably dimmer and, through a telescope, smaller. It will be another 2 years before we get such good views of the red planet.

#### Jupiter

Jupiter is too close to the western horizon at sunset for detailed observation. It will disappear into the sky brightness during the second half of the month.

#### Saturn

Saturn is opposite to the Sun and best placed for observation around the middle of the month. It is in the constellation of Virgo close to the bright blue star Spica. Saturn is noticeably yellow when compared to Spica. Look towards the south east at around 2200 where Spica and Saturn are the brightest objects around.

#### Uranus & Neptune

Both the outer planets are too close to the glare of the Sun for observation this month

### Deep Sky objects

#### **M51 Whirlpool Galaxy RA 13h 30m Dec 47° 10' mag 8.0**

M51 together with its companion NGC5195 are one of the most famous galaxy pairs in the sky. The spiral nature of nebulae was first observed in this galaxy by Lord Rosse with his Leviathan telescope. The pair are easily seen today in small telescopes, and thanks to the intense star formation a medium sized telescope easily shows that spiral structure.

#### **NGC5866/M102 Spindle Galaxy RA 15h 7m Dec 55° 44' mag 10.5**

Is this really M102? Did Messier ever see this galaxy or was it all a great mistake, and just a duplicate observation of M101, perhaps we will never know. An almost perfectly edge on galaxy, visually it lives up to its name, small telescopes show it as a silvery spindle of light against a hopefully dark background. Larger 'scopes may, if the seeing is good enough show a thin dust lane cutting through the central bulge

#### **Leo Triplet M65, M66, NGC3628 RA 11h 20m Dec 13° 14'**

Just under the lion's hind legs in an area not much larger than the full moon are three spiral galaxies. Using a low power, all three can be seen in the same field of view. Each is about half way between edge on and face on so appear as an oval smudge with a bright core. Why NGC3628 is the largest of the three and the faintest, just (mag 9.5), why it does not have its own place in the Messier catalogue we will never know, perhaps it says something for the quality of 18<sup>th</sup> century optical equipment.

*Peter Burgess*

### Solar News

With all the solar activity at the moment, readers may be interested in the following weblinks:

- <http://www.spaceweather.com/>
- <http://sohowww.nascom.nasa.gov/>
- <http://solarsystem.nasa.gov/planets/profile.cfm?Object=Sun>
- <http://www.bbc.co.uk/news/science-environment-17295337>

## Download the Universe

*During one of my surfing fits, I came across this relatively new website. The text is taken directly from the site description.*

“Download the Universe” was born out of a conversation in January 2012. A group of writers and scientists had gathered at a meeting called Science Online to talk about the startling growth of ebooks. It was clear that ebooks were becoming an extraordinary new medium, rivalling print books in the marketplace and offering opportunities that printed books could not. We saw great things in the future of science books. There was just one thing missing: a way for readers to find out about new ebooks about science. Book reviews were showing little interest; blogs offered scant, diffuse attention. We agreed that what was needed was a science ebook review. Here it is.

Our mission is to give readers a growing guide to the world of science ebooks. We review books about science that only exist in the digital world--Download the Universe doesn't include reviews of the automatic spin-offs of print books. But we define ebooks broadly. They may be self-published pdf manuscripts. They may be Kindle Singles about science. They can even be apps that have games embedded in them. We hope that we will eventually review new kinds of ebooks that we can't even imagine yet. And we hope that you will find Download the Universe a useful doorway into that future.

<http://www.downloadtheuniverse.com/>

---

## WightBay

I am sure everyone has heard of ebay, the online auction/shopping site, and a lot of us have used it to buy/sell stuff. Personally I have always had good experiences with it but, inevitably, I have also heard of horror stories.

Anyhow, if you have been put off using ebay because it's big and impersonal, you may be interested in WightBay; it's a similar idea but it is solidly Island based.

Searching it earlier today I found a couple of interesting adverts:

***Celestron Nexstar - Only used twice!*** - £300

***Meade ETX-90 - Mint condition*** - £185

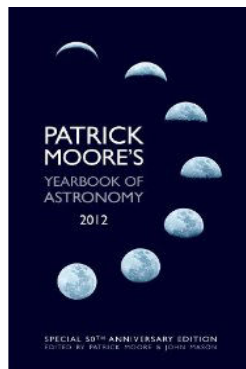
Obviously I can't recommend anything I haven't seen myself so I suggest you satisfy yourself that the seller appears genuine before entering into a purchase.

*Brian Curd*

## Book Review

### Patrick Moore's Yearbook of Astronomy 2012

Patrick Moore and John Mason, Macmillan, 2011



Perhaps everyone except me is familiar with this annual publication, which has now reached its 50th edition, representing another strand of Sir Patrick's remarkable ubiquity. It is the first time I have owned a copy, and I have been delving into its interior when the weather is too thick to observe.

The first section includes star charts for the year and notes of interesting events or observing opportunities for each month. The star charts are probably less useful now than they were, since it is so easy to pull this kind of material from internet sites or magazines. The monthly notes could also be considered redundant, but they have their own flavour and character (for example, paragraphs about distinguished-but-forgotten astronomers).

The book comes into its own in the second section, which comprises a baker's dozen of articles by various authors. Some of these were written for previous issues of Yearbook of Astronomy, but have been updated by their authors for the 50th edition. Their tone, length and academic level is varied too. I've particularly enjoyed a substantial piece by David M Harland entitled 'Robotic space exploration: 1962-2012' and also boggled at 'A universe of darkness' by Iain Nicolson, summed up in his memorable phrase: 'The splendid panorama of stars, nebulae and galaxies revealed by astronomers' telescopes is little more than thin icing on a dark and ponderous cosmic cake'. Some of the articles are quite heavily illustrated in black and white and there is a small section of colour plates, but this is no coffee table book.

The binding is slightly disappointing, as it is basically a paperback glued into a hard cover, not a proper sewn binding; it is accordingly less comfortable than it should be to hold while reading, and is unlikely to prove durable if read more than once. For this reason the cover price of £20 seemed steep to me, but the book is available at several online book stores at about £12.

There was a sting in the tail too. The volume concludes with a list of astronomical societies in Britain, and the entry for VAS is comprehensively wrong (and yes, I have emailed the editors...)

*Rebecca Mitchelmore*

## Wight Stargazing Live

On Friday 20<sup>th</sup> January 2012 another successful public event was held at the Newchurch Observatory, by the Vectis Astronomical Society in association with the BBC programme Stargazing Live held during the same week. Approximately 75 members of the public attended, several of whom were young people with their parents, illustrating the increase in interest in the subject and practise of astronomy.

The event was opened in the Community centre next door to the Observatory by Elaine Spear, the event organiser, who then introduced Brian Curd who gave a well illustrated presentation on the place of the Isle of Wight, the earth and the solar system in the universe.



On display and being demonstrated were examples of members of the Society's own telescopes. These included Ryan and James Dymock's Vixen ED81 3" refractor attached to a Vixen15 4½" refractor both on a Vixen Atlas mount with Starbook controls and ATIK 314 and QHY5 CCD cameras.

Rebecca Mitchelmore presented her Celestron Nexstar 130 LT on an equatorial mount. On the patio outside was the society's own 10" Dobsonian with its PUSHTO.

Bert Paice had his home made 8" Dobsonian, converted from an 8" equatorial reflector, which he has been using for more than 4 decades.

Members of the Society offered support and helped provide answers to the many questions from the public, as well as advice on purchasing and observing. A Goody Bag including a star chart booklet from the BBC was given to each person or family attending to encourage them to continue their interest in the subject.



*Bert Paice demonstrating to young visitors Thomas Gibbs, age 10 and Cameron Brittan, age 12.*

Unfortunately after a promising start the evening sky closed in with cloud so no viewing was possible. However many members queued to have a look round the observatory, including the dome.



In the Observatory were Society's pair of 100mm mounted binoculars, the Meade 90 ETX GOTO, and the Skywatcher 90mm equatorial as well as the Meade 300mm in the dome.



*Finlay Grant, age 11, Luca Paonessa, age 11, Zac Harris, age 11 and Kayleigh Light age 10.*

Together with the refreshments, the raffle and donations we raised nearly £90 for the Society to help develop further activities and our role in public education.

Grateful thanks go to *Ryan and James, Bert and Rebecca* for their telescopes; *Dudley Johnson and Rebecca Mitchelmore* for help with the Goody bags; *Tony Williams and David Kitching* for the car park (and also *Dave Mallard* for the generator for the lights). *Julia and Thomas Jones* did the teas and coffee and *Veronica Hext* helped with the raffle; *Barry Bates* bought the supplies and also supervised the Dome. Others who were present and helped generally were *Glyn Salmon, Faith Jordan, Trevor, George Beasley*, and *Bryn Davis* who wrote this report (*sincere apologies if we've missed anyone off the list!*)

*Elaine Spear*

*Programmes/Events Organiser*

## Hubble Zooms in on a Magnified Galaxy



*Source/copyright: NASA*

Thanks to the presence of a natural “zoom lens” in space, NASA’s Hubble Space Telescope got a uniquely close-up look at the brightest “magnified” galaxy yet discovered. The observation provides a unique opportunity to study the physical properties of a galaxy vigorously forming stars when the universe was only one-third its present age.

A so-called gravitational lens is produced when space is warped by a massive foreground object, whether it is the sun, a black hole or an entire cluster of galaxies. The light from more-distant background objects is distorted,

brightened and magnified as it passes through this gravitationally disturbed region.

A team of astronomers led by Jane Rigby of NASA’s Goddard Space Flight Center in Greenbelt, Md., aimed Hubble at one of the most striking examples of gravitational lensing, a nearly 90-degree arc of light in the galaxy cluster RCS2 032727-132623. Hubble’s view of the distant background galaxy is significantly more detailed than could ever be achieved without the help of the gravitational lens.

The results have been accepted for publication in the *Astrophysical Journal*, in a paper led by Keren Sharon of the Kavli Institute for Cosmological Physics at the University of Chicago. Professor Michael Gladders and graduate student Eva Wuyts of the University of Chicago were also key team members.

The presence of the lens helps show how galaxies evolved from 10 billion years ago to today. While nearby galaxies are fully mature and are at the tail end of their star-formation histories, distant galaxies tell us about the universe’s formative years. The light from those early events is just now arriving at Earth. Very distant galaxies are not only faint but also appear small on the sky. Astronomers would like to see how star formation progressed deep within these galaxies. Such details would be beyond the reach of Hubble’s vision were it not for the magnification made possible by gravity in the intervening lens region.

In 2006 a team of astronomers using the Very Large Telescope in Chile measured the arc’s distance and calculated that the galaxy appears more than three times brighter than previously discovered lensed galaxies. In 2011 astronomers used Hubble to image and analyze the lensed galaxy with the observatory’s Wide Field Camera 3.

The distorted image of the galaxy is repeated several times in the foreground lensing cluster, as is typical of gravitational lenses. The challenge for astronomers was to reconstruct what the galaxy really looked like, were it not distorted by the cluster’s funhouse-mirror effect.

Hubble’s sharp vision allowed astronomers to remove the distortions and reconstruct the galaxy image as it would normally look. The reconstruction revealed regions of star formation glowing like bright Christmas tree bulbs. These are much brighter than any star-formation region in our Milky Way galaxy.

Through spectroscopy, the spreading out of the light into its constituent colours, the team plans to analyze these star-forming regions from the inside out to better understand why they are forming so many stars.

*Source: NASA*

## Large Binocular Telescope Brings Universe into Sharper Focus

Today (March 16, 2012) astronomers from the Large Binocular Telescope (LBT) released the first series of scientific results showing its best-in-the-world performance in cancelling the blur of the Earth's atmosphere. Included in these first findings are previously impossible discoveries about extrasolar planets and their environments and new insights into how stars are formed.

The LBT is the first in the new generation of extraordinary large ground-based telescopes that uses advanced adaptive secondary mirrors to see more clearly than ever before. The LBT utilizes two giant 8.4 meter mirrors (27.5 feet) and is located on Mt. Graham in southeastern Arizona.

*“With this unrivalled new technology, we can now probe the close-in environments of nearby stars with a clarity that was previously not possible,” said Richard Green, Director of the LBT. “We expect these to be the first of many amazing new discoveries as we are now able to observe in unique detail the formation of stars and their systems of planets.”*

More at: <http://goo.gl/E0Fe6>

## Scintillation Squiggles

Everyone knows that stars twinkle but planets do not. The reason has to do with angular size. Stars are distant pinpricks smaller than the thermal irregularities in Earth's atmosphere that refract their light. Each packet of air that passes in front of a star produces a well-defined change in colour or brightness. Planets, on the other hand, are relatively nearby and wide; they span many atmospheric irregularities, which tends to smooth out the prismatic action.

Photographer Monika Landy-Gyebnar of Veszprem, Hungary, has found a kinetic way to demonstrate the effect. “When photographing a star or planet, kick the tripod during the exposure”. She's applied this technique to many stars and planets, and the resulting collection of squiggles reveals the character of their twinkles.

“If we take a photo of a star with a shaking camera, the result is a wavy line with many couloirs,” she points out. “If we photograph a planet, however, there is no change; the colour and width of the squiggle are nearly constant.”

More at: <http://goo.gl/sGtP1>

# For Sale

Meade 8" ACF Lightswitch with 3.5 lcd, vibration suppression pads, set of revelation eyepiece and filters  
**£1350**

Meade Zero Image Shift Electronic Focuser - £150

JMI Motofocus for Celestron SCT - £115

Antares 2" mirror diagonal - £30

Bright Star astro off-axis guider - £75

Baader 8-24mm zoom eyepiece Mk 3 - £140

Opticstar PL-131 Coolair - £120

Meade DS1 colour deep sky imager - £75

Baader stereo prism binocular #93690 45 deg - £150

Celestron Eyepiece Omni Plossl 25mm - £20 each

**Contact John Ashley**  
**01983 611709**

## 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)



## Distance Measurement in Astronomy

*“Space is big. You just won't believe how vastly, hugely, mind- bogglingly big it is. I mean, you may think it's a long way down the road to the chemist's, but that's just peanuts to space”*

*Douglas Adams, The Hitchhiker's Guide to the Galaxy*

Dealing with the numbers involved with the distances to the stars or even with those found in the solar system can be hard going. Astronomers make their lives easier by using a number of rulers (units of distance) for the distances and although they have some strange names they can be very useful for comparing the distances to stars, other galaxies and even the planets in our solar system.

### AU (astronomical units)

One AU is the average distance that the Earth orbits the Sun at. The AU is most commonly used for the distances of objects within our solar system. Pluto, the last planet in the solar system is found at an average distance of 39.47 AU from the Sun. Sedna the new body nearly as large as a planet found beyond Pluto is never nearer to the Sun than 76AU and then goes to 880AU from the Sun in its giant elliptical orbit.

### Light Years

One of the most common rulers is the light year. The light year is the distance that light travel in one year (365.25 days). It is most commonly used for the distances to stars and other galaxies.

The nearest star is 4.2 light years away from our sun. We are 8.3 light minutes away from the Sun. The distance to the outer most planet Pluto is about 13 light hours.

The table on the right shows some other distances in light years:

Object	Approx. Distance in light years
Next Nearest Star (Proxima Centuri)	4.2
Sirius	8.6
Centre of the galaxy	30,000
Andromeda Galaxy	2 million
Betelgeuse and Rigel	1,400

### Parsec (pc)

Astronomers started measuring distances from the amount that a star moves as the Earth goes from one side of the Sun to the other. Try moving your head and you will see that the position of everything around you changes. One parsec is derived from the smallest angle measurement of 1/3,600th of a degree or an arc second that is the angle that a star at this distance would appear to move in 6 months as the Earth journeys around the Sun. A parsec is 3.2616 light years or 30,857,000,000,000 km. Two parsecs is 6.5532 light years or twice the distance, it is not a measure of change in angles of the stars. Due to the massive distance in the universe astronomers often use multiples of parsec commonly found are kiloparsec (kpc) a 1000 parsecs or a megaparsec (Mpc) 1,000,000 parsecs.

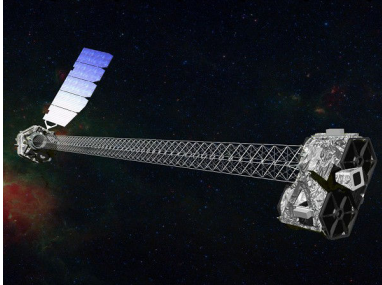
Below is a conversion table for some useful astronomical distance units:

	Kilometres (km)	Astronomical units (AU)	Light Years (l.y.)	Parsec (pc)
Kilometres (km)	1	149.6 million	9,460,000,000,000	30,857,000,000,000
Astronomical units (AU)	0.0000000067	1	63,240	206,263
Light Years (l.y.)	0.00000000000011	0.000016	1	3.2616
Parsec (pc)	0.000000000000033	0.0000048	0.3066	1

## THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

### NASA's NuSTAR Launch Postponed



Source / copyright: NASA

The planned launch of NASA's Nuclear Spectroscopic Telescope Array (NuSTAR) mission has been postponed after a March 15 launch status meeting. The launch will be rescheduled to allow additional time to confirm the flight software used by the launch vehicle's flight computer will issue commands to the rocket as intended.

The spacecraft will lift off on an Orbital Sciences Pegasus XL rocket, which will be released from an aircraft taking off from the Reagan Test Site on the Kwajalein Atoll in the Marshall Islands. The time required to complete the software review has moved NuSTAR beyond the March timeframe currently available on the range at Kwajalein. In the interim, NASA will coordinate with the launch site to determine the earliest possible launch opportunity. This is expected to be within the next two months.

NuSTAR's advanced optics and detectors, will allow astronomers to observe the high-energy X-ray sky with greater sensitivity and clarity than any mission flown before. The mission will advance our understanding of how structures in the universe form and evolve. It will observe some of the hottest, densest and most energetic objects in the universe, including black holes, their high-speed particle jets, ultra-dense neutron stars, supernova remnants and our sun.

Source: NASA

### Glittering Jewels of Messier 9



This image from the NASA/ESA Hubble Space Telescope shows the globular cluster Messier 9. Hubble's image resolves stars right into the centre of the cluster, and clearly shows they have different colours. Redder colours signify lower surface temperatures, while blue stars are extremely hot. (Credit: NASA & ESA)

The NASA/ESA Hubble Space Telescope has produced the so far most detailed image so far of Messier 9, a globular star cluster located close to the centre of the galaxy. This ball of stars is too faint to see with the naked eye, yet Hubble can see over 250,000 individual stars shining in it.

Messier 9 is a globular cluster, a roughly spherical swarm of stars that lies around 25,000 light-years from Earth, near the centre of the Milky Way, so close that the gravitational forces from the galactic centre pull it slightly out of shape.

Globular clusters are thought to harbour some of the oldest stars in our galaxy, born when the Universe was just a small fraction of its current age. As well as being far older than the Sun -

around twice its age - the stars of Messier 9 also have a markedly different composition, and are enriched with far fewer heavier elements than the Sun.

The elements crucial to life on Earth, like oxygen and carbon, and the iron that makes up our planet's core, are very scarce in Messier 9 and clusters like it.

More at: <http://www.sciencedaily.com/releases/2012/03/120316094015.htm>

### 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 scientific theory I like best is that the rings of Saturn are composed entirely of lost airline luggage”*  
**Mark Russell**

### Quotations

*“We don't devote enough scientific research to finding a cure for jerks”*  
**Bill Watterson**

*“Every man is a damn fool for at least five minutes every day; wisdom consists in not exceeding the limit”*  
**Elbert Hubbard**