



### Society News

#### From the Chairman

November 15th is the 270th Anniversary of the birth of William Herschel, the astronomer who, in 1781, discovered Uranus. This was the first identification of a planet in modern times. Herschel also developed the theory of nebulae and the evolution of stars, catalogued many binary stars and made important modifications to the reflecting telescope. He also demonstrated that the solar system moves through space and discovered infrared radiation. He was a busy man! The [Herschel museum](#) in Bath is well worth a visit if you are passing that way.

Another great place to visit is Jodrell Bank Radio Observatory in Cheshire, and it seems it is safe from funding cuts for a while. There was an online petition sent to the government asking to save Jodrell Bank from closure.

The Government response to the petition included the following statement “The UK has an acknowledged international leading position in the development of radio astronomy facilities and science and the Government has no intention of letting that slip.” It’s nice to see our science and astronomy is recognised and valued.

And it appears that the new Science Minister, Lord Drayson, is keen to champion other interesting science

projects. He has a PhD in robotics, and commented “I was inspired by cool projects in the 60s and 70s like the space programme, and we now need to inspire the next generation with similar cool projects.”

But it’s not just the big projects that make a difference. Local events, such as those we will be doing for the International Year of Astronomy, will hopefully inspire others and may even encourage some to become astronomers, amateur or otherwise.

*Clear Skies!*  
*Dr Lucy Rogers*  
*Chairman, Vectis Astronomical Society*

#### Dates for your Diary

**HAG Visit.** We are hoping to arrange a visit to the Hampshire Astronomical Group. If you are interested please contact **Richard Flux**.

**Isle of Wight Star Party.** Thurs 26th March to Mon 30th March 2009. Expressions of interest to **Stephen Griffiths** ([info@iowstarparty.org](mailto:info@iowstarparty.org)). More details in NZ soon, or visit [www.iowstarparty.org](http://www.iowstarparty.org)

**International Year of Astronomy.** Throughout 2009, VAS will be involved in promoting astronomy to the general public.

**VAS Website:** [www.vectis-astro.org.uk](http://www.vectis-astro.org.uk)

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

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

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**VAS 2008 - Meeting Programme\***

Nov 28th	Historic Telescopes of Cambridge University - Mark Hurn
* Correct at time of publication	

**New Members**

A very warm welcome to our latest new member:

- Mr. J. Ashley

*Tony Plucknett*

**VAS Travellers Return**

I received the following email today. If you would like to have a go at the competition, please send your answers by email or post to me (Brian Curd) using the details shown on the front page of this NZ.

“

*Dear Editor*

*Lying exactly NS on my bench at 5a.m. on the 9th October I am looking upwards at the sky directly above me without my glasses or telescope for they have already been packed and sent home to U.K. I can count 14 stars only and those with some difficulty for the Lahore skies are heavily polluted. The star immediately above me is Copella in Auriga, the 6th brightest star. I can see nothing north of Copella only stars a little to the south and each side of my line of sight. The other 13 stars are in the five constellations generally to the S; how many can I see in each of these five constellations?*

*Daphne and I leave Lahore on the 4th November and look forward to seeing those clear night skies of the IOW and to rejoining the regular functions of VAS when we get home.*

*We will bring a small gift from Lahore to those who can name the five constellations and allocate the right number of visible stars in each.*

*Daphne and Dennis  
Lahore*

”

## International Year of Astronomy 2009

VAS are planning events throughout 2009 and welcome any suggestions for suitable locations and partnerships with other interested clubs and organisations.

We hope to set up 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** - [brian@briancurd.com](mailto:brian@briancurd.com) or

**Bill Johnston** - [bill.johnston@onwight.net](mailto:bill.johnston@onwight.net)

For more details of events throughout the UK, full information and other links please visit the IYA UK Website at

<http://www.astronomy2009.co.uk/>

## Equipment Maintenance

In order to maintain and update our observatory equipment, Richard Flux is preparing a list of items requiring attention.

If you are aware of anything which needs refurbishing or updating, please contact Richard with details.

## Stop Press:

### VAS Website

The VAS website will be undergoing major changes over the following weeks and months - *more details next month.*

### 2009 IYA Events

Preparations for our programme of IYA events continues and we hope to publish firm details shortly.

If you can lend a hand, please contact Bill Johnston or Brian Curd

### Monthly Meeting Calendar

Roger Young is working hard on next years guest speaker list for our monthly meetings. So far 7 months are filled.

## This Month's Night Sky

### Moon Phases

New	1st Qtr	Full	Last Qtr
27th	6th	13th	19th

All times are in BST - For GMT subtract one hour.

### Planets

After last month's peak in the morning sky **MERCURY** soon fades back into the twilight sky passing  $4^\circ$  north of Virgo's primary star Spica on the 1st. The planet reaches superior conjunction on the 25th.

**VENUS** is starting to increase in altitude quite nicely now and is thus becoming more prominent in the evening sky lying in the south west at the time of civil twilight (around 17:00 mid-month). Venus' declination is very low as it travels through Sagittarius. This is a very packed region of sky with the Milky Way passing diagonally through the constellation but the area's low altitude as seen from the U.K, means that a lot of the fainter and more interesting objects are hidden behind horizon haze and light pollution. However, it may be worth taking the time to use Venus to acquaint yourself with the region as the planet passes  $1^\circ$  south of M8,  $2.5^\circ$  south of M20 and  $3^\circ$  south of M21 all on the 13th.

Jupiter is approaching the scene from the upper left and by the end of the month and into early December the two planets along with the Moon will provide an excellent photo opportunity.

**MARS** is approaching solar conjunction and is therefore unobservable.

**JUPITER**, as mentioned above is heading towards the evening twilight and a close association with Venus. On the 3rd at 23h the Moon and Jupiter will lie  $2.5^\circ$  apart. It won't be long until Jupiter fades into the evening twilight.

**SATURN** is only just recovering from its early September solar conjunction and can be found in the pre-dawn sky in the constellation of Leo. The crescent Moon lying  $6^\circ$  south on the 21st makes identification a little easier.

**URANUS** and **NEPTUNE** ought to be considered awkward objects although Uranus, lying due south at 19:00 is the more favourable of the two. Early 2009 sees their respective conjunctions with the Sun.

### Meteors

There are two active showers this month:

The **Taurids** peak twice-on the 3rd and 13th. The first date is classed as favourable as the Moon is only four days old but the 13th is unfavourable as the Moon is at full phase the day after.

The 17th/18th sees an fairly favourable maximum of the **Leonid** shower. These have a variable rate and a percentage of meteors will be washed out by the 18 day old Moon which rises at 20:25.

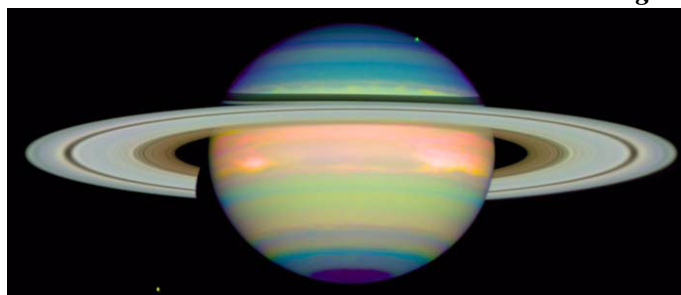
### Deep Sky

**M76 The Little Dumbbell Nebula R.A 1h 43m Dec  $51^\circ 37'$  mag 12** - Just under one degree in the direction of Cassiopeia from Phi Persei lies one of the faintest of the Messier objects; a small bipolar planetary nebula that, as its name implies looks like a miniature version of the famous Dumbbell Nebula. At magnitude 12 it is beyond the reach of all but the largest binoculars, however in medium sized telescopes, with averted vision the two halves of the dumbbell can be seen. It was once considered to be two distinct objects and was given two NGC numbers NGC651 & 651.

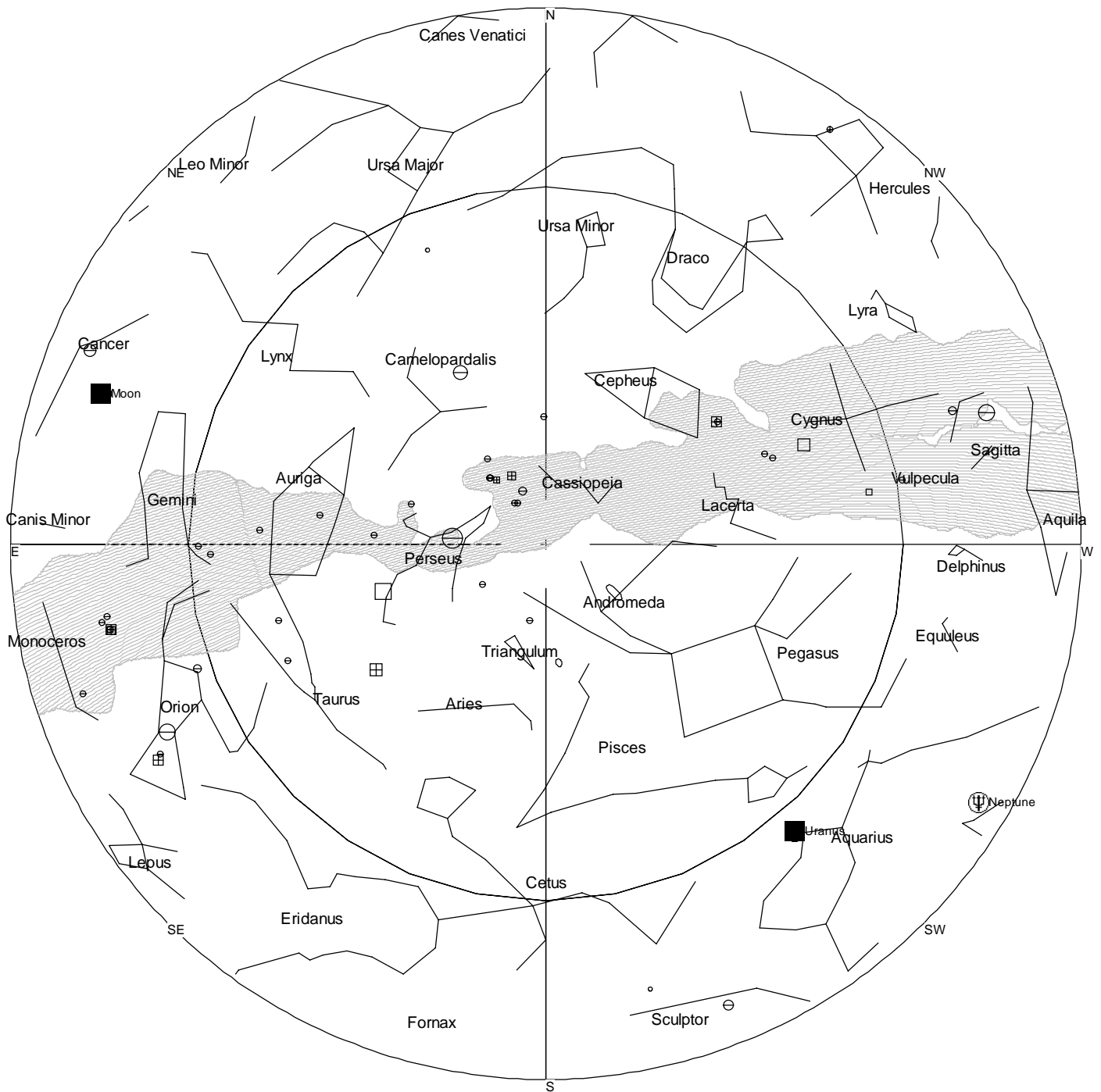
**NGC869 & 884 The Double Cluster R.A. 2h 19m Dec  $57^\circ 19'$  Mag 5.3** - Either one of these clusters would be high in the list of sights in the winter sky yet here we have two in the same field of view. They can be seen as a pair of diffuse glows with the naked eye, and were recorded by the ancient Greeks. A small pair binoculars show them to be a pair of rich star clusters and will resolve a few of the stars. A telescope at low magnification gives the best view, careful use of magnification is needed as too much will spoil the view.

**Stock 2 Open Cluster R.A 2h 15m Dec  $59^\circ 20'$  mag 4.4** - From the double cluster follow the curved chain of stars toward Cassiopeia; for about  $2.5^\circ$ , about half a 10x50 binocular field. To the left is a group of stars making a rather crooked H shape, sometimes called the strongman cluster. This is Stock 2, another open cluster that needs low magnification, this is a rather sparse cluster about 1 degree in diameter. A telescope shows chains of stars and dark areas in the cluster.

*Peter Burgess*



# November's Sky



**The Little Dumbbell Nebula** (aka Messier 76, NGC 650/651, the Barbell Nebula, or the Cork Nebula) is a planetary nebula in the Perseus. It was discovered by Pierre Méchain in 1780 and included in Messier's catalog of comet-like objects as number 76. It was recognized as a planetary nebula in 1918 by Heber Doust Curtis. M76's distance is not well known and estimates range from 1,700 to 15,000 light years and consequently its dimensions are also not well known.

The nebula has an apparent magnitude of +10.1 with a central star of magnitude +16.6. Originally thought to consist of two separate nebulae and was thus given two catalog numbers in the NGC, 650 and 651.

It is one of the faintest and hardest to see objects in Messier's list.

## Let's Explore Special Relativity (part 2)

1. **A cannon ball in a bull ring:** Heat a cannon ball to white heat and fire it across the middle of a bull ring at large velocity. When the audience sees the ball crossing the centre, they yell out the colour of the ball. They see it as red, white or blue according to their viewing position, see Fig.2.1. If the ball travels towards a viewer then it appears blue, if away from the viewer then red, whereas viewers to the side see it as white because, at the middle, the ball travels perpendicular to their line of sight so at this instant the ball neither approaches nor recedes from the viewer. A 'white line' of zero redshift ( $z=0$ ) divides the viewers into those seeing a blueshift and those seeing a redshift.

2. **Relativistic Doppler shift:** Compare Fig.2.2 with Fig.2.1 - no prizes for spotting the differences. The 'white lines' are pushed around the ring, the number of persons seeing a redshift increases, people viewing directly sideways or perpendicular to the ball's path see a slight redshift. If you wish to see a white ball, then move round the ring away from the cannon, the blue shifted zone is compressed into less than  $180^\circ$ . As the cannon ball is fired with velocity even closer to the speed of light, see what happens in Fig.2.3. Blue turns to ultraviolet and red to infrared, only a few viewers see anything visible. Take the extreme case in Fig.2.4 - to detect the white hot cannon ball flying past, bring your microwave viewing horn! The redshift is so great at nearly all angles around the ring, all you get are microwaves, except very close to the direction of travel where enormous blueshift transforms the thermal radiation into a gamma ray burst, surrounded by x-rays, a narrow cone of visible light, and microwaves sprayed elsewhere. If the radius of the bull-ring is 300m, do not dally, you have  $1\mu\text{s}$  to get out of the way of the cannon ball travelling near a million times faster than sound!

3. **Eh? Why a redshift for sideways motion?** When the ball moves sideways to the viewer's line of sight, many persons expect zero redshift as in Fig.2.1. But as the ball is speeded up, it becomes redshifted when viewed sideways. This is called 'transverse Doppler shift' and is due to time dilation. Yes we have a right to be confused. Doppler stated his famous principle in 1842, whereas the redshift operating sideways depends on Einstein's special theory of relativity of 1905 so **Doppler himself knew nothing about it.** So 'transverse Doppler shift' is obviously wrongly named! Here I will distinguish between true Doppler shift and Einstein's time dilation which enhances redshift and reduces blueshift.

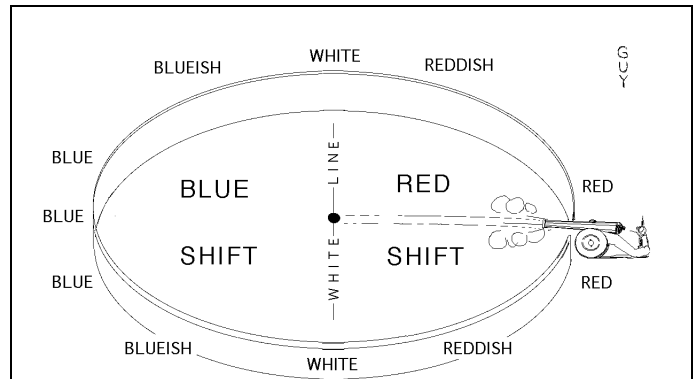


Fig.2.1 Normal Doppler effect.

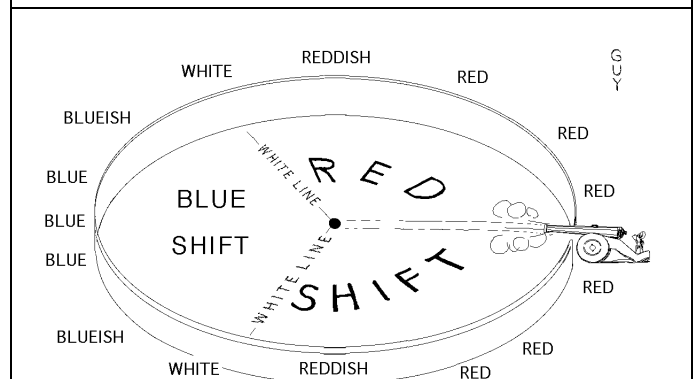


Fig.2.2 Relativistic Doppler effect.

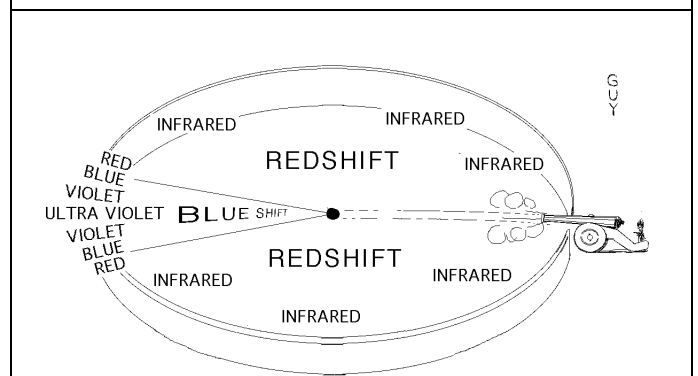


Fig.2.3 at bigger velocity.

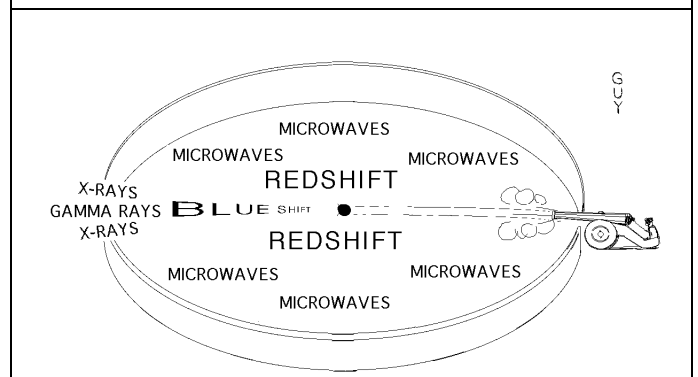
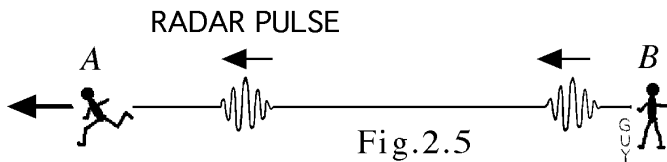


Fig.2.4 At extreme velocity

4. **From Su Doku to Time Dilation:** "How can I be bothered to do Su Doku when there are such interesting puzzles to solve in relativity?" I asked myself, so I wrote a computer program to do the work instead (in BBC Basic) - relativity is so much more interesting and rewarding, so be prepared to work things out with pencil and paper! Newspapers should leave blank space for people like us to solve our own intriguing problems!

5. **Take a redshift  $z=1$ :** The formula for redshift is  $z=(\lambda/\lambda_s) - 1$  where  $\lambda$  is the received wavelength from a receding source and  $\lambda_s$  is the source wavelength measured as if the source were stationary. If  $z=1$  then  $\lambda/\lambda_s=2$  so the wavelength doubles, the frequency halves and the time or period between wave crests

doubles. Remember the example in Part 1 with observer *B* racing away from observer *A* so fast that the spacing between radar pulses doubled. This corresponds with  $z=1$  in that example and also in the example coming next.



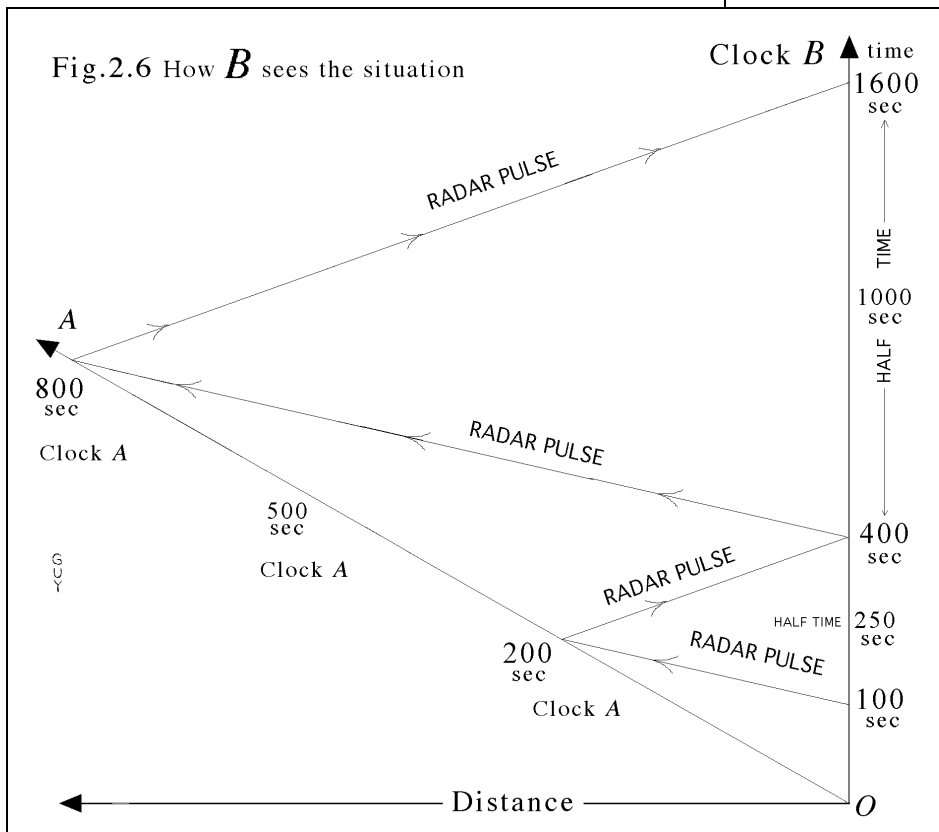
6. **Next example:** Fig.2.5 is like Fig.5 of Part 1, but here I am observer *B* (that's you as well!). I shake hands with observer *A*, we set our clocks to zero, and *A* runs away so very fast that radar pulses spaced by 100 seconds sent by us (using clock *B*), arrive at *A* spaced by 200 seconds (on clock *A*). *A* carries a copper sheet

(nicked from my kitchen - see Sept NZ p8!) and reflects the pulses back to me, so the pulse spacing doubles again. If I send a pulse at 100 seconds on clock *B*, it is received at 200 seconds on clock *A*, when reflected back to me, my clock *B* says 400 seconds. I grab another sheet of copper and reflect the pulse back to *A*, who receives it at 800 seconds on clock *A*, and back to me at 1600 seconds on our clock *B*, see Fig.2.6. The inclined line from *O* to *A* represents the motion of *A*. With a pencil, point to the numbers 100, 200, 400, 800, 1600, to trace the radar pulse reflecting to and fro like a ping pong ball. Remember we are observer *B*, we must judge things only from our point of view.

7. **What is *A*'s speed?** Half-time between 100 and 400 seconds = 250 seconds - this is the time when *B* (that's us) reckons the pulse arrives at *A*. According to distance = speed x time, then the range of *A* from *B* at the instant of pulse reflection is  $v \times 250$  seconds where  $v$  is the speed of *A* running away from *B*. According to *B* (that's us) the radar pulse took half of  $400 - 100 = 150$  seconds to reach *A* so the radar range is  $c \times 150$  where  $c$  = the speed of light. Equating the two ranges gives  $150c = 250v$ , so  $v/c = 150/250 = 3/5$ , or  $v = 0.6c$ . So now we know the speed  $v = 0.6$  of the speed of light.

8. **Double check the speed:** Half-way between 1600 and 400 seconds on our clock *B* is 1000 seconds which is when I reckon the radar pulse reaches *A* for the second time (clock *A* says 800 seconds for this event but we are our using *our* time) so at this event, *A* is distant  $1000v$ . The pulse took half  $(1600 - 400) = 600$  seconds to reach *A*, so the radar range is  $600c$ . Putting these ranges equal gives  $v = 0.6c$  - same again!

9. **Time dilation:** As far as *B* (that's us) is concerned, clock *A* runs at 0.8 the speed of our clock *B*. For 10 seconds passing on Clock *B*, only 8 seconds passes on clock *A*, so time on clock *A* drags out with respect to our clock *B* - this is called '**time dilation**' = 0.8 in this example.



Dr. Guy Moore



## Observatory 10 Year Anniversary

About 30 members of the Astronomy Society and the NPS&CA gathered at the pavillion and observatory on Sunday 28th September to celebrate the 10th anniversary of the Isle of Wight Observatory in Watery Lane Newchurch. The completion of this facility was the realisation of John Smith's dream and the occasion was also used to congratulate John on his recent MBE award.

The afternoon started with tributes to John (*a transcript of Colin Boswell's follows*). We were then treated to a presentation by Peter Burgess entitled "*Beyond the Eyepiece*" which explained the importance of our eyes and gave some fascinating examples of how they can be tricked.

Many thanks to all those who attended but especially to Roger Hayward for organising the event and to Rosemary Pears who, along with John and Ann Langley, prepared the food and drinks.

### John Smith



We are here to celebrate John's award of MBE for a lifetime's devotion to this village and the wider community. John would be the first to say that his MBE is a recognition of the achievement of this village in the last 30 years and the work of all who worked so hard around him. Every one plays a different part and it was John's role as the visionary, the larger perspective for the community who helped create the conditions for the village's achievement.

John's story is also a story of the evolution of this parish in the last 100 years, combined with that of his parents it makes for real social history.

John was born in 1923 at Mersley Gardens so will be 85 this year. His father came from Havant, born in 1878 and his mother in Shropshire in 1890. John's father was a skilled plantsman who rented Mersley Gardens, just below Mersley, to raise plants just after the First World War. They wanted to build brick based glasshouses to produce more plants but did not own their property and these would have become the property of the landlord. Their landlord Edward Carter who owned all the land from Havenstreet to Newchurch was happy for them to construct the glasshouses but would provide no security of tenure.

Some of you will not be aware of the thriving horticultural community which was Newchurch from the

time the train arrived at Langbridge in the 1880s. The Smiths Chrysanthemums were loaded onto the train at Newchurch siding at 4.00pm, confident they would be in Covent Garden in London by 3.00am the next morning. They therefore purchased a plot on the north side of Forest Road, next to Harry Groves nursery and called it Rhosneiger. Why Rhosneiger? John's mother, Susannah, as a young lady was employed by a Mrs Pinker, wife of an Amsterdam diamond dealer. She accompanied Mrs Pinker in her travels around the country as a lady's maid and companion. Rhosneiger in Anglesea made a great impression on her. She had left school aged 12 but had a voracious appetite for books. Mrs Pinker, an educated and literary lady, asked John's mother Susannah to read to her wherever they went, expanding her knowledge and education. She often spoke of Mrs Pinker and passed on to John her love of books and literature. Jack Lavers arrived one day to find John's mother listening to a BBC programme on Socrates and very capable of dissecting and discussing it afterwards. He said that only in Newchurch might one find a working woman who could hold her own on Socrates and logic. "What your mother could have done" was always one of Jack's comments to John.

John's father was a natural musician and played the violin. Known as "Flutter" Smith, he was on the parish council, fluttering to and fro on the train to Newport to try and encourage the Council to support night schools and secondary education. He died when John was only 8 but John still remembers him sitting on his bed with one of the first Crystal sets, listening to 2LO radio and Jack Paine's Orchestra. Perhaps that's why, on leaving school at 14, John worked at Lake Radio. He desperately wanted further education and paid 2/6d for a Chemistry course at Sandown grammar. After two months the teacher told him that he had taught him all he knew so he then started on correspondence courses in Radio, Maths and Electronics.

John has vivid memories of the Island in the war, Junker 88 bombers flying low over the Island to bomb Cowes and Portsmouth. The gorse on Bleak Down alight from end to end during the raids on Cowes. John joined the Signals Regiment in 1944, He became a Radio Operator, spending time in Egypt, Syria and coming under fire from the Stern Gang (Jewish terrorists) in Palestine. Nevertheless he was sympathetic to the refugees coming off the refugee boats from Europe who he had to take into custody. Having been brought up in a horticultural environment, he couldn't help admiring the Jewish settlers on the kibbutzim working 24 hours a day to establish themselves.

In 1947 he left the army and returned to Lake Radio, moving on to Sherratts for 3 years before joining the new electronics department at Saunders Roe. In 1951 he was one of 100 applicants for 3 jobs at Saunders Roe in Cowes. He was selected because of his aptitude for radio and mathematics which he continued to study at night school.

He rose to become the Systems Manager for Scientific Computing at Westland Aircraft, renowned for solving problems. He was working with an engineer from Armstrong Whitworth from Coventry who when he returned to his company recommended John be recruited. He was invited up and offered the job, very well paid, on the spot. Pam didn't want him to leave the Island and nor did John. The managing director of Westland heard he might be poached away and promptly offered to match the other company's offer to which John agreed and stayed at Westland for 30 years. From then on they made a point every Christmas to ask him if he was happy!

Saunders Roe became British Hovercraft Corporation and then Westland Aerospace. John remained there for 30 years, becoming very involved in the first steps to computers and in planning and organisation.

Never a churchgoer but identifying with Christianity's moral code and obligation to help others, John describes himself as a spiritual humanist. A deep thinking and widely read man, he has always talked in simple and convincing terms of what he believes his duty is to others.

At the age of 31 John was elected the youngest Newchurch Parish Councillor and became involved with work in the village. He became aware that if Newchurch was to survive as a community, the village school and communal facilities would have to be improved. In 1978, with other like minded villagers he formed the Newchurch Parish Sports and Community Association, of which he was the chairman. Quietly but vigorously promoting his vision for the village, he was paramount in bringing in to the Association, not only the stalwarts who helped with all village affairs but also young professionals with families eager to improve the village school.



*The Early Days of VAS*

John has a passion for astronomy and always had a dream of an observatory on the Island. Supported by a great team, in particular Jim Cahill who is sadly no longer with us, the Observatory is here for all to see.

John was an exceptional chairman. Respected and admired by young and old alike, with the intellectual ability to think through complex ideas and plans confronting the meeting he was in but giving all present a sense of involvement. We were all in this together working for a common aim. There have been other individuals who have given of their time and effort to the NPS&CA to achieve what it has today. Newchurch was fortunate to have John Smith as much also to have Marjorie Lanfear, the Gallops and all those other remarkable individuals over the years.



*Colin Boswell*



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## Getting Started with Clusters

Star clusters are gravitationally bound groups of stars and fall into two distinct types: **Globular clusters** which are tight groups of hundreds of thousands of very old stars and **Open clusters** which generally contain less than a few hundred members, and are often very young.

### Globular Clusters



*Messier 92*

Globular clusters, (GC), are roughly spherical groupings of from 10,000 to several million stars packed into regions of from 10 to 30 light years across. They commonly consist of very old Population II stars - just a few hundred million years younger than the universe itself - which are mostly yellow and red, weighing a bit less than two solar masses. Such stars predominate within clusters because hotter and more massive stars have exploded as supernovae, or evolved through planetary nebula phases to end as white dwarfs. Yet a few rare blue stars exist in globulars, thought to be formed by stellar mergers in their dense inner regions; these stars are known as blue stragglers.

In our galaxy, globular clusters are distributed roughly spherically in the galactic halo, around the galactic centre, orbiting the centre in highly elliptical orbits. In 1917, the astronomer Harlow Shapley was able to estimate the Sun's distance from the galactic centre based on the distribution of globular clusters; previously the Sun's location within the Milky Way was by no means well established.

Our galaxy has about 150 globular clusters, some of which may have been captured from small galaxies disrupted by the Milky Way, as seems to be the case for the globular cluster M79. Some galaxies are much richer in globulars: the giant elliptical galaxy M87 contains over a thousand.

A few of the brightest globular clusters are visible to the naked eye, with the brightest, Omega Centauri, having been known since antiquity and catalogued as a star before the telescopic age. The best known globular cluster in the northern hemisphere is M13 (modestly called the Great Globular Cluster in Hercules).

### Open Clusters



*Pleiades*

Open clusters, (OC) are very different from globular clusters. Unlike the spherically-distributed globulars, they are confined to the galactic plane, and are almost always found within spiral arms. They are generally young objects, up to a few tens of millions of years old. They form from H II regions such as the Orion Nebula.

Open clusters usually contain up to a few hundred members, within a region up to about 30 light-years across. Being much less densely populated than globular clusters, they are much less tightly gravitationally bound, and over time, are disrupted by the gravity of giant molecular clouds and other clusters. Close encounters between cluster members can also result in the ejection of stars, a process known as 'evaporation'.

The most prominent open clusters are the Pleiades and Hyades in Taurus. The Double Cluster of  $\eta$ + $\chi$  Persei can also be prominent under dark skies. Open clusters are often dominated by hot young blue stars, because although such stars are short-lived in stellar terms, only lasting a few tens of millions of years, open clusters tend to have dispersed before these stars die.

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## News From Around the Web

### Calling all Secondary School Teachers



**Telescopes for Schools** - Would your school like a free telescope to help you celebrate the International Year of Astronomy in 2009? Funded by STFC, the Society for Popular Astronomy is making 1000 free telescopes available to support science education, and your secondary school can get one just by writing a simple plan for how you would use it to support and enrich science in your school.

The telescope will come with a DVD addressing astronomy syllabus topics and will have interviews with astronomers of different ages. The SPA website will show teachers and other science club leaders which planets might be visible that night and what else of interest could be seen.

In addition to the IYA2009 Spring and Autumn MoonWatches there will be an additional Schools Autumn MoonWatch (19 to 29 November 2009) when the first quarter Moon can be seen, during which pupils will be encouraged to draw or photograph the Moon or the night sky and submit their images to the SPA.

If you are interested and would like to register your school or would like more information please contact the Society for Popular Astronomy: IYA2009@popastro.com

### 365 Days of Astronomy



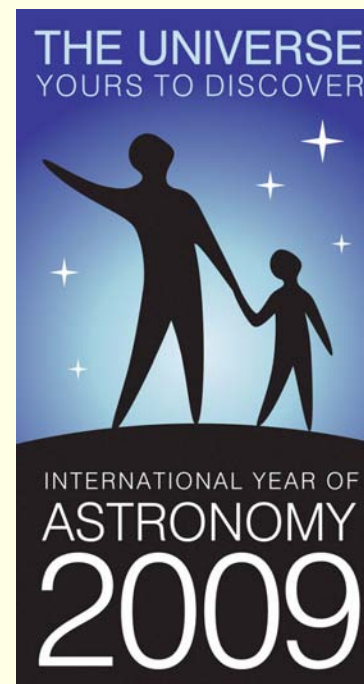
The **365 Days of Astronomy** Podcast is a project that will publish one podcast per day, 5 to 10 minutes in duration, for all 365 days of 2009. The podcast will be made available through an RSS feed. The podcast episodes will be written, recorded and produced by people around the world. Each day will have a specific topic or theme based on The 365 Days of Astronomy Calendar, a daily calendar of astronomical events, themes and ideas created by the IYA.

<http://365daysofastronomy.org/>

**What's a Podcast?** - A podcast is a series of audio or video digital-media files which is distributed over the Internet by syndicated download, through Web feeds, to portable media players and personal computers. Though the same content may also be made available by direct download or streaming, a podcast is distinguished from other digital-media formats by its ability to be syndicated, subscribed to, and downloaded automatically when new content is added.

Like the term broadcast, podcast can refer either to the series of content itself or to the method by which it is syndicated; the latter is also called podcasting. The host or author of a podcast is often called a podcaster.

The term is a portmanteau of the words "iPod" and "broadcast", the Apple iPod being the brand of portable media player for which the first podcasting scripts were developed. Such scripts allow podcasts to be automatically transferred from a personal computer to a mobile device after they are downloaded. As more devices other than iPods became able to synchronize with podcast feeds, the term was redefined by some parties as a backronym for "Personal On Demand broadCASTING"



### Quotes

*"Once you get to earth orbit, you're halfway to anywhere in the solar system."*

*Robert A. Heinlein*

*"All attempts at artificial aviation are not only dangerous to life but doomed to failure from an engineering standpoint."*

*Editor 'The Times' of London, 1905*

### 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.