



## Society News

### Chairman's Report 2009

VAS had another busy year and to ensure that we are meeting the needs of the membership, we conducted a survey (A summary of the results are given in the September 2009 New Zenith). It showed that, on the whole, our regular monthly meetings and newsletter are very well received. (*Thanks to Roger Young, Program Organiser and Brian Curd, New Zenith Editor plus the NZ contributors*). The Observatory is also appreciated and the regular Thursday nights are still popular, with about 20 members usually attending. (*Thanks to Roger Hayward, Observatory Director*). However, some members felt more could be done with the observatory, in particular structured observing and opening on other nights.

In response to the survey, Roger Hayward now opens the observatory at 7:30pm on a Monday, to do more visual astronomy and telescope training. Please let Roger know if you want to attend and would like to meet him, as otherwise he may not be there beyond 8 o'clock. We are also opening on Tuesday evenings, to address some of the educational needs mentioned by members, see page 3.

The survey also showed that the idea of outings is very popular. If anyone would like to arrange an outing, please let a member of the Committee know and we will do our

best to assist because without help from the membership, the society could not exist.

The Society's Outreach is going well, and we have again been out to local schools and groups, as well as hosting numerous visits to the observatory. We have also held nine International Year of Astronomy events already, with more planned for the rest of the year. The IYA events, have brought astronomy to over 350 people on the island, in locations such as Brighstone Downs, the Pointer Inn, Brading Roman Villa and Quay Arts. Thanks to Brian Curd and Bill Johnston for organising them, and to all the people who have turned up with their scopes to help out.

Over 150 people visited the observatory and another 160 attended offsite talks by our members. This has contributed £534 to the society's funds. Many thanks to all those involved, particularly John Langley, Bert Paice, Graham Osborne and Paul England.

To further our education outreach, we were awarded £3,000 in Leader-lite funding. Many thanks to Sue Curd for securing this. This money has helped with much of the International Year of Astronomy events, with a pair of large 25/40 x 100 binoculars, 3 pairs of Bresser 10x50 binoculars, a noticeboard, pre-printed leaflets and a laser colour printer. We also set up and host the new web site [www.wightastronomy.org](http://www.wightastronomy.org), and the VAS forum (*this will be opened to all members in the very near future*).

### 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

## Contents

<i>Society News</i> . . . . .	1
<i>This Month's Night Sky</i> . . . . .	4
<i>Three Globular Clusters in Hercules</i> . . . . .	5
<i>This Month's Sky Map</i> . . . . .	6
<i>Starting as a Stargazer Part 5</i> . . . . .	7
<i>Make a Chirping Laser Interferometer</i> . . . . .	8
<i>Winter Solstice at Stonehenge</i> . . . . .	9
<i>The Back Page</i> . . . . .	10

The 2009 Isle of Wight Star Party was a great success - with four clear nights and over fifty astronomers attending from as far away as Birmingham and Cambridge. The Star Party forum (at [www.iowstarparty.org](http://www.iowstarparty.org)) is where people can discuss the Star Party and anything else astronomical. Dates for 2010 are March 11th-15th and we've already started a list of people who are interested in attending. If you're interested, please let Stephen Griffiths or Bill Johnston know and, if you're able to help, please volunteer - next year promises to be bigger than ever. Thanks to Stephen and Bill for their efforts in organising this event.

VAS membership stands at 135, an increase from last year - 22 members did not rejoin this year, but we have gained 38 new ones. Many thanks to our Membership Secretary, Tony Plucknett for his work during the year.

I'd specifically like to thank Graham Osborne, who has been our Treasurer for 6 years and Sue Curd, who has been our secretary for 2 years, both of whom are stepping down. I'd also like to thank the committee members John Langley, who stood down mid-term, Bert Paice, Tony Plucknett, Roger Young and Paul England (who was co-opted) who are also stepping down. Also, a special thank you to Peter Burgess, who enlightens us with his topical monthly astronomy stories at the Friday meetings, and who will hopefully carry on in this role.

We have also had some wonderful donations, including a Power Pack. Again our thanks for these. Also, thanks are due to Richard Flux for organising the volunteers who marshalled at the Garlic Festival and raised valuable funds for the society.

My thanks go to everyone involved in making this another successful year for the society. Particular note should go to the officers and members of the outgoing committee, for their hard work in looking after their respective areas of responsibility. Next year things are changing slightly to spread the workload. Some of the roles and responsibilities will be undertaken by members who are not necessarily on the committee. This should free up the committee's time to take the society forward, and enable those who do not necessarily wish to be on the committee, but still want to help the society, to get involved. The list following shows many of the roles and responsibilities currently undertaken to keep the society running smoothly. If you would like to be involved in any of these, please let a member of the committee know.

In closing, I also thank you, the members, for supporting our society, through your membership and enthusiasm. If you'd like to get more involved, or have ideas about what you would like to see, please let any member of the committee know. We are all approachable and do our best to provide you, the members, with what you want.

*Dr Lucy Rogers - Chairman*

## **Roles and Responsibilities**

- Chairman
- Secretary
- Treasurer
- Executive Committee Members
- Observatory Director
- Outreach Officer
- Education Officer
- Program Organiser
- Membership Secretary
- NZ Editor
- NZ Printer
- NZ Distributor
- Observatory Technical Team
- Observatory Maintenance Team
- Observatory Librarian
- Curator of Instruments
- SAGAS representative
- Monthly Meeting Refreshment Organiser
- Monthly Meeting Equipment Organiser
- Monthly Meeting Raffle Organiser
- Web Editor
- "What's in the sky this month" speaker
- IOW Star Party Committee
- International Year Of Astronomy Events Organisers
- Public Relations

## **Monthly Meeting Calendar 2009**

Date	Subject	Speaker
Sep 25	The Search for Novae and Supernovae	Guy Hurst
Oct 23	Sloan Digital Sky Survey	Dr. Hubert Lampeitl
Nov 27	TBA	TBA

*All details correct at time of publication.*

## **New Members**

A very warm welcome to our latest new member,

- Simon Baker

*Tony Plucknett - Membership Secretary*

## International Year of Astronomy

IYA is now coming to an end but if you think you can help with the last few events, please contact either

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

All events are free of charge unless stated. Information is correct at time of publication.

Date/time	Subject	Venue
A Thursday in September	Pavement Astronomy	Ad-Hoc outing depending on weather
9th October	Observing the night sky	St Thomas Pri Sch ( <i>Private</i> )
Sat 21st November	Observing the night sky	Wellow Institute ( <i>Public</i> )

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

## IYA Helpers

**If you can spare a few hours to help at any of the remaining IYA events, Bill or Brian would like to hear from you. We need members to bring their telescopes and/or expertise to these events.**

## Observatory - Education Evenings

The Isle of Wight Observatory will now be open to **members** on Tuesday evenings from about 7.30pm. The theme of the Tuesday evenings will be education. It is aimed at being a self-help group for those who want to enrol on external courses, such as GCSE Astronomy, Open University courses etc, or for general questions about astronomy.

This session should complement Monday evenings' practical sessions which are already proving popular.

Of course, Thursday evenings remain open to members and the general public, as it has done in the past, with its relaxed and open format.

## Observatory - Telescope Training

Roger Hayward, our Observatory Director, has started **members'** training sessions at the Observatory at Watery Lane in Newchurch. If you would like training on the

club's kit (and a key to the observatory), please contact Roger at director@wightastronomy.org, or come along on any Thursday evening from 7:30pm

## Winter Project

Are you interested in a Messier object hunt? If so please make yourself known to any member of the Committee as it has been suggested we observe and possibly photograph as many of the Messier objects as possible this winter. If enough members would like to join in, this will become part of Thursday's regular get togethers.

## Island Planetarium @ Fort Victoria

### Star Gazing Evenings

Starting Friday - 16th October,  
13th November and 11th December

#### Programme

**Fri evening** - Finding your way around the night sky and stargazing with telescopes if clear.

**Sat afternoon/ Sun morning** - Visit to Island Observatory and Solar Observing if clear.

**Sat evening** - Observing the night sky with telescopes either live with telescopes or simulated observing using planetarium and telescope images from our library of small and large telescope pictures.

**Cost £40 for VAS members**

**enquiry@islandastronomy.co.uk**

## THE VECTIS ASTRONOMICAL SOCIETY

# A HISTORY 1976 — 2009

BY BRYN DAVIS

Available from Thursday 3rd September from the author  
at the Observatory or any Monthly Meeting

Price £6

## This Month's Night Sky

As darkness falls the view overhead looks much as it has for the past few months, The Summer Triangle just does not want to move from the prominent position it has held since those now almost forgotten warm summer evenings. Make the most of it, it won't be moving out of sight that quickly, but the relentless motion of the sky is always there, it is only the lengthening hours of darkness that give the illusion of thing remaining static.

Looking to the east there are two deep sky objects that can be seen with the naked eye. By mid evening when the sky has fully darkened, the most distant of these, the Andromeda Galaxy (M31) is already halfway to the zenith. This is about as high as you can comfortably observe for any length of time without getting an annoying crick in your neck. It is a large object, bigger than the full moon yet how many have ever seen this distant object. Choose somewhere free of light pollution to the east and a night free from haze. Find the square of Pegasus and sweep up and to the left following the curve of the stars in Andromeda. About half way along the curve and a little above there is a misty oval shaped smudge of light; this is it. Use averted vision, looking slightly to one side will help, peripheral vision is more sensitive to light.

Looking further down to the north east another misty patch will be revealed, this is the Pleiades star cluster, the seven sisters. There are many more than seven sisters in this group, but that is about all you will see with the naked eye if your sight is good. This cluster heralds the coming of winter, and has since ancient times been associated with the rapidly approaching wet season.

### Moon Phases

New	1 <sup>st</sup> Qtr	Full Moon	Last Qtr
18th	26th	4th	11th

## Planets

This month's morning apparition of **Mercury** is the best of the year. **Venus** acts as a guide to assist in finding this elusive planet before it is lost in the approaching daylight. Midway through this apparition on the 8<sup>th</sup> is a close conjunction with **Saturn**. The table shows the positions of the planets and the Moon when the Sun is 7° below the horizon.

Now much lower in the morning sky than it has been for many months **Venus** comes close to **Mercury** and meets with Saturn as this month passes.

**Mars** is showing a tiny, slightly gibbous disc through a telescope as it crosses the relatively unpopulated sky between Gemini and Cancer.

**Jupiter** is still well placed for observation throughout the evening, and this month restarts its eastwards journey against the star background.

**Saturn** although visible in the bright pre-dawn sky using binoculars or a small telescope is too low down and close to the sun for observation.

**Uranus** and **Neptune** are still favourably placed in Pisces and Capricorn for observation. Use the previous finder charts to aid location.

## Meteors

On the 13<sup>th</sup> is a fairly favourable peak of **Piscids** meteor shower

The **Orionid** shower peaks at around 30 meteors per hour on the 21<sup>st</sup>/22<sup>nd</sup>. The Moon will have set long before any meteors from this shower will be visible.

Date	Time	Mercury		Saturn		Venus		Moon	
		Alt °	Az °	Alt °	Az °	Alt °	Az °	Alt °	Az °
Sept 28	06:22	5.1	92	2.3	87	16.7	96		
Oct 3	06:30	9.1	95	6	92	15.7	98		
Oct 8	06:37	9.5	98	9.6	97	14.5	101		
Oct 13	06:45	7.8	99	13.4	102	13.4	103		
Oct 15	06:48	6.6	100	14.9	105	12.9	104	24	118
Oct 16	06:50	6.1	100	15.7	106	12.7	105	13	112
Oct 18	06:53	4.9	101	17.1	108	12.2	106		
Oct 23	07:01	1.7	103	20.7	113	11	108		

### Planets in the Morning Sky



## Deep Sky Objects

**NGC7331 Galaxy** RA 22h 37m Dec 34° 24' mag 9.5 - This magnitude 9.5 galaxy is like a miniature version of the nearby Andromeda Nebula, an almost edge on spiral galaxy that is adjacent to a galaxy group called Stephan's quintet. These other members of the group are a challenge for small telescopes being just a faint haze in smaller apertures. A good CCD target.

**NGC7000 North America Nebula** RA 20h 59m Dec 44° 28' mag 4.0 - Located 3° to the east of Deneb in Cygnus is this large misty patch in the Milky Way that can be seen with the naked eye. Unless the sky is very dark this nebulosity is the light from the myriad of background stars, if conditions are suitable the darker rift of the 'Gulf of Mexico' can be visualised. Large aperture binoculars or a rich field telescope will help reveal the nebulosity. Most of the light emitted is the deep red of hydrogen alpha, to which our eyes lack sensitivity. A nebula filter can help to increase the contrast with the background sky glow. This is a rewarding area for long exposure photography.

**NGC6910 Open Cluster** RA 20h 23m Dec 40° 48' mag 7.4 - NGC6910 is a small cluster located about ½° north of Sadr the central star of Cygnus. The brighter members make a cluster of three short spokes.

*Peter Burgess*

## The Three Globular Clusters in Hercules

Both M13 and M92 are bright Globular Clusters with the former slightly brighter than the latter. NGC 6229 is considerably fainter and cannot be resolved with small instruments.

### M13 (NGC 6205)



Discovered by Edmond Halley in 1714 and is some 25,100 light years from earth. It is believed to contain more than one million stars and is visible at a magnitude of 5.6.

### M92



Discovered by Johann Elert Bode in 1777 at a distance from earth of 26,00 light years it is estimated to contain about 100,000 stars and has a magnitude of 6.4.

### NGC 6229



Discovered by William Herchel in 1787, this globular cluster is faint at mag 9.39 and contains around 100,000 stars.

There are thought to be around 200 Globular Clusters in the Milky Way forming an outer framework.

*Roger Hayward*

## Island Planetarium @ Fort Victoria

The Island's Telescope Professionals

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

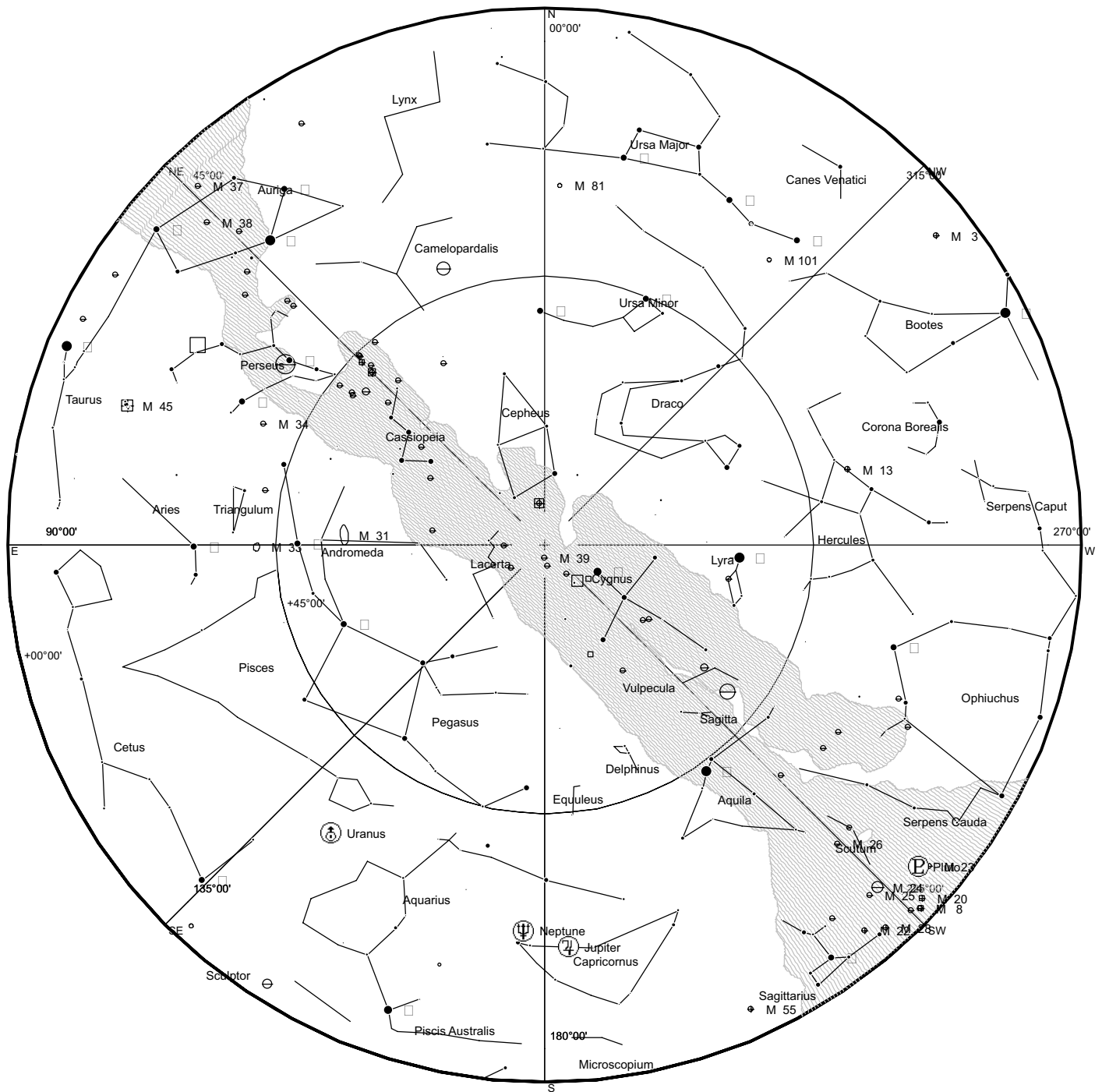
At least 10% discount on SRP for VAS Members

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 Sky Map



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



**The North America Nebula** is large, covering an area of more than four times the size of the full moon, but its surface brightness is low so normally it cannot be seen with the unaided eye. Binoculars and telescopes with large fields of view (approximately 3°) will show it as a foggy patch of light under sufficiently dark skies. However, using a UHC filter which filters out some unwanted wavelengths of light, it can be seen by the naked eye under dark skies. Its prominent shape and especially its reddish color (from the hydrogen H $\alpha$  emission line) only show up in photographs of the area.

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

## Open University Astronomy Courses 2009

Here's some information about OU astronomy courses that might be of interest:

Course	Start	Duration	Fee
S194 Introducing Astronomy	Feb, May, Sept & Nov	2 months	£150
S196 Planets: an introduction	Feb, May, Sept & Nov	2 months	£150
S197 How the Universe works	Feb, May, Sept & Nov	2 months	£150
S282 Astronomy	Feb	9 months	£360
S283 Planetary Science and the search for life	Feb	9 months	£360
SXR208 Observing the Universe (based in Mallorca)	Feb & July	1 week	£745
S382 Astrophysics	Feb	9 months	£360
S383 The relativistic Universe	Feb	9 months	£360

More information at: <http://www3.open.ac.uk/study/>, just type in the course code.

If you want to know anything about the style of OU study then I'm happy to advise – I tutor for the OU Business School.

Give me a call on 01983 864303 or email [sue.curd@gmail.com](mailto:sue.curd@gmail.com). For administrative/booking queries then it's best to call 0845 366 6044.

Some free modules from OU courses are available from [www.open.ac.uk/openlearn](http://www.open.ac.uk/openlearn) and include the following:

- Jupiter and its moons
- The evolving universe
- The moon
- The Sun
- Comparing stars
- Icy Bodies – Europa and elsewhere
- Introduction to active galaxies
- Telescopes and spectrographs
- The restless Universe
- The Big Bang

*Sue Curd*

## Starting as a Stargazer Part 5

So why haven't we got four hands, or perhaps a third eye which operates independently, preferably on a long stalk? Both of these modifications would have been a great help when I decided to set up the SkyAlign on my telescope.

I was now quicker at putting the telescope together, and better at using the finder, after an episode when I totally and randomly unaligned it, while trying to turn off the red dot. The most difficult task so far was removing the main battery cover, which was too wide for my hand to grip. In the end I marched indoors, crossly uttering a rarely heard formula: 'I need a MAN'. (My daughter's boyfriend kindly squinched the cover off.) But tonight was the moment for the SkyAlign. The instructions require you to set a location, date and time, then point the telescope at any three bright objects visible in the sky. Then bingo! SkyAlign will triangulate itself and all will be peace, light and Messier objects centred in the eyepiece on request. I juggled eyepieces, manual, controller, torch, gloves, taking varifocals off to look in the eyepiece and putting them on to read the instructions.... Twenty minutes later: 'Alignment successful'. I directed the telescope to find Saturn with a smugness which turned to exasperation as it veered at random. I was by now well aware that Saturn would not be found at the zenith. A second attempt also failed. I tried the two star alignment, which seemed to work (at least it pointed to Saturn when I asked); but by then the batteries were flat again. Hmm.

The next exercise was to see what the scope would make of Jupiter. I found a website to show me which moons I should see (<http://www.skyandtelescope.com/observing/objects/javascript/jupiter>). Then there was a favourable conjunction: a night expected to be fine, and no work the next day. Out into the chilly small hours. Consulting my authorities, I worked out that Jupiter should be - just there, behind a farm building and a totally unnecessary tree. Muttering, I set off out of the gate. The planet was indeed shining like a great lamp, but the only view to be had was from the middle of the road. Not wanting to explain this in A&E when I was run over, I fidgeted until Jupiter came within telescope range, while the sky paled ominously.

The image was good in spite of the approaching dawn. I could see all four Galilean satellites lined up in a neat row. Between them, the planet was showing its main belts and zones, reminding me of a tubby man wearing a hooped football jersey (rather old and faded). It was an astronomical experience I would never have expected: watching Jupiter climb into the summer morning, while the roses took on their colours and a blackbird sang on the gable end above me.

*Rebecca Mitchelmore*



# Make a Chirping Laser Interferometer

- (part 5 of Waves, Diffraction and Interference)

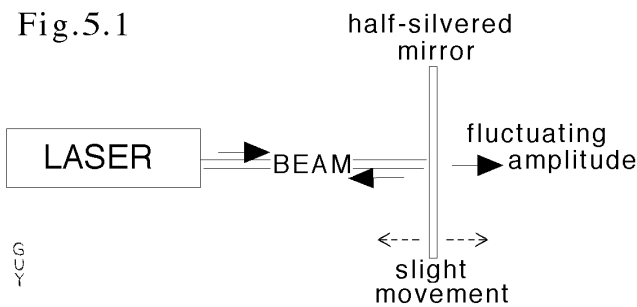
**Editor's Note:** This article has been edited and condensed for publication here. If you intend to make Guy's device, please download the full construction details from:

<http://www.wightstronomy.org/extras/interferometer.pdf>

## Introduction

Here is described a DIY interferometer that converts interfering light beams into an audible signal. Perhaps it has application in amateur astronomical instrumentation as a laser aligner, movement detector or measurer. Total cost excluding the laser is about £20 - half that if you collect radio bits.

Fig.5.1



## Theory

A small red laser, see Fig.5.1 (like in a modern spirit level) shines toward a half-silvered mirror, reflecting some of the beam directly back into the laser. Move the mirror a tiny amount towards or away from the laser and the reflected beam interferes with the light inside the laser, going in and out of phase. This causes the beam to become amplitude modulated. The modulation frequency increases with the speed of the mirror motion, and can be picked up by a photodiode, amplified and passed to a loudspeaker. The slightest touch of the half-silvered mirror produces whistles, like birds chirping.

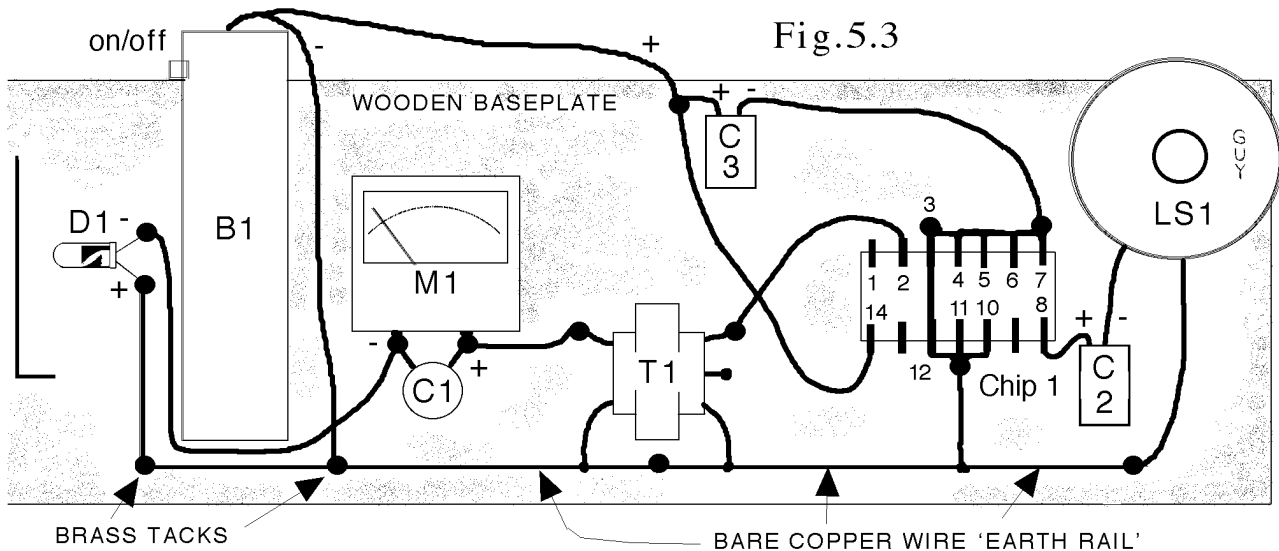


**Build Guy's Mk 2 Version.** My first version used the bits from broken radios and old computer monitors. The version of Fig.5.2 (photograph) uses components mostly from Maplin listed in the Table, plus other items.

## Parts List, includes Maplin's Product Codes.

D1	CY90 Photodiode.
B1	L90AN black battery box with on-off switch, for PP3 9 volt battery, doubles as the power supply and as a laser beam stop.
M1	LB80B signal strength meter 0.25mA fsd 675Ω.
C1	VH05F Capacitor 4.7μF, to bypass whistle past the resistance of the meter.
C2	VH13P output capacitor 100μF.
C3	VH41U power bypass capacitor 220μF.
T1	HX82 microphone transformer LT44, turns ratio 1:20, input resistance 1k,Ω output 20kΩ centre tap (not connected).
Chip1	QH40T amplifier chip LM380.
LS1	VC84F 49mm Mylar speaker 8Ω.
*	N91AL double-sided foam sticky tape.
*	XS54J burglar alarm/signal cable 1m length - open the cable lengthwise and use the different coloured connecting wires - this saves buying complete reels, one for each colour.

....Cost so far, close to £16





**Other items**

- Wooden baseplate about 60mm wide, 0.6m long 12mm thick or so.
- About 14 brass plated 10mm tacks.
- 10 inch length of bare single copper earth wire taken from a stiff mains cable off-cut.
- Corner cut from a polished shiny transparent plastic box, or piece of cassette tape lid - this acts as a half-silvered mirror.
- PP3, 9 volt battery

**Construction**

Fig 5.3 shows the basic construction and layout of the interferometer - full details are in the download.

Fig.5.4 Circuit diagram

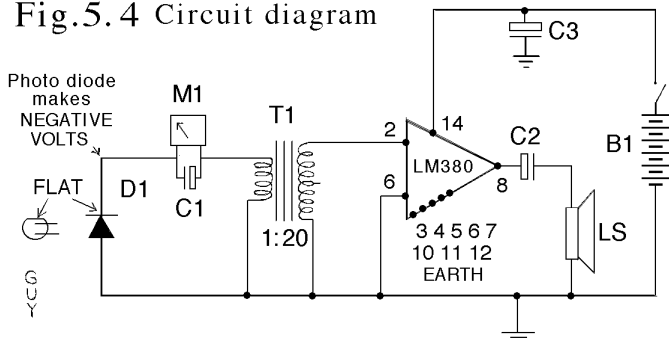
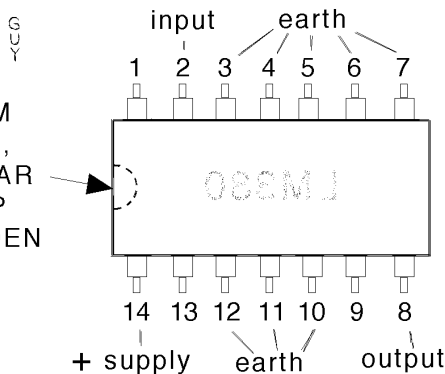


Fig.5.5

THE CHIP VIEWED FROM UNDERNEATH, SEMI-CIRCULAR HOLLOW (TOP SIDE) IS HIDDEN ON THE LEFT



Lastly, an LED CJ64U in series with a 300Ω resistor across the battery supply of your interferometer, will remind you to switch off and not waste the battery.

**Testing**

Switch on at the battery box. I laid the spirit level laser on the wood pointing at the diode, producing a near full-scale deflection. (Add 1kΩ or less across C1 to reduce the deflection if the laser is too bright). By easy adjustment, you should hear whistles in the loudspeaker, especially when one finger wobbles the plastic reflector. There is no volume control - make the chirping louder by adding a cardboard tube around the loudspeaker, a couple of inches

tall, with sticky tape to double the volume. That's it! Each cycle of whistle corresponds to a reflector movement of half the wavelength of red light, which is 300nm or 0.0003mm. Using the laser at a longer range, across a table, you can discover that even thick benches are elastic.

Systems like this were used for long range eavesdropping on conversations in buildings by detecting the vibrations of the windows and converting them back into sound, especially during the cold war. A bar of chocolate prize to the first person to demonstrate feedback from the loudspeaker to the half-silvered mirror - my system is nearly oscillating already. Try blowing on the plastic reflector to see how close to oscillation yours is.

**More Notes - a philosophical side**

The idea for this experiment is remembered from the *Physics Teacher* from 30 years ago or so - I used to spend time in the wonderful Science Museum library, investigating... This might all look terribly practical, but there's a philosophical side. When once you realize that's there's nothing perfectly rigid in this Universe, this provides a handle onto a very interesting problem. I solved the problem about twenty years ago - in a rather strange way - and sent it to various journals, but it wasn't accepted. Recently I found that a particular institute of mathematics has put up a prize of one million dollars to solve the problem - that means the reviewers either didn't read my solution, didn't believe it, didn't understand it, didn't agree with it, or didn't like it - possibly all five - and then forgot about it, so call it a lucky six! It's quite funny really, because my work indicates that the mathematicians don't really understand the nature of the problem they have set. Enough clues for now! Before disappearing back into our computing, mathematics and philosophical musings, here are some more practical considerations.

Dr. Guy Moore

**Winter Solstice at Stonehenge**

Wed Dec 16 – Sat Dec 19, 2009

- Archaeologists and astronomers offering site tours and tours of the nearby landscape and monuments
- Exhibition of astronomical images
- Watch the sunset before the site closes.
- Once-in-a-lifetime opportunity to visit the interior of the stone circle after sunset (**Places Strictly Limited**)
- Local amateur astronomy groups on site with telescopes to allow people to watch the skies from the area adjacent to the site.

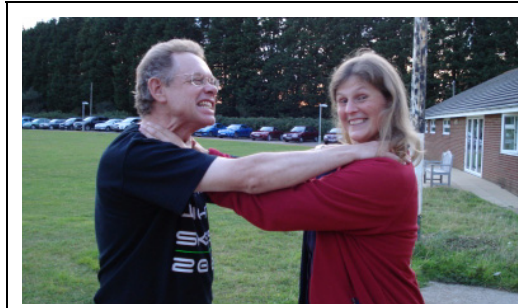
More details at:

<http://www.le.ac.uk/has/ahc/shws-event/>

## THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

### News and Events



Only one entry!  
So I guess it must win.  
*“Lucy and Graham having a friendly discussion over the presentation of this years accounts.”*  
IOU One KitKat Graham... BC

### Underground Mars

A radar instrument on the Mars Reconnaissance Orbiter has essentially looked below the surface of the Red Planet's north-polar ice cap, and found data to confirm theoretical models of Martian climate swings during the past few million years. The new, three-dimensional map using 358° radar observations provides a cross-sectional view of the north-polar layered deposits. “The radar has been giving us spectacular results,” said Jeffrey Plaut of JPL, a member of the science team for the Shallow Radar instrument. “We have mapped continuous underground layers in three dimensions across a vast area.”

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

### Zooming to the center of the Milky Way

European Southern Observatory (ESO) unveiled the second of three images from its GigaGalaxy Zoom project. It is a new and wonderful 340-million-pixel vista of the central parts of our home galaxy as seen from ESO's Paranal Observatory with an amateur telescope.

This 34°-by-20°-wide image provides a view as experienced by amateur astronomers around the world. However, its appeal owes much to the quality of the observing site and the skills of Stephane Guisard, the world-renowned astrophotographer, who is also an ESO engineer. This second image directly benefits from the quality of Paranal's sky, one of the best on the planet, where ESO's Very Large Telescope (VLT) is located. In addition, Guisard has drawn on his professional expertise as an optical engineer specializing in telescopes, a rare combination in the world of astrophotographers. Guisard, as head of the optical engineering team at Paranal, is responsible for ensuring that the VLT has the best optical performance possible.

<http://www.astronomy.com/asy/default.aspx?c=a&id=8646>

### Milky Way



This X-ray panorama of the Milky Way's center reveals thousands of point-like sources, mysterious filaments, and a diffuse haze, all in X-ray light and extends some 900 light years across. Because X-rays penetrate the gas and dust that blocks optical light coming from the center of the galaxy, Chandra is a powerful tool for studying the Galactic Center. This image combines low-energy (red), intermediate energy X-rays (green) and high-energy X-rays (blue) that Chandra can detect. Credit: NASA/CXC/UMass/D. Wang

THE UNIVERSE  
YOURS TO DISCOVER



INTERNATIONAL YEAR OF  
ASTRONOMY  
2009

### Quotations

*“Have you noticed that the astronomers and mathematicians are much the most cheerful people of the lot?”*

*I suppose that perpetually contemplating things on so vast a scale makes them feel either that it doesn't matter a hoot anyway, or that anything so large and elaborate must have some sense in it somewhere.”*

**Dorothy L Sayers**

### 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.