WAS NEWS

Monthly Newsletter of the **W**orthing **A**stronomical **S**ociety

Official website: www.was.org.uk
Affiliated websites: www.observatory99.freeserve.co.uk

Number 169 **November 2003**

ALMANAC

All times U.T.

November. /December.

LUNAR

November	Date	Time	rise	set
First Quarter	1st	04.25	14.34	22.54
Full Moon	9th	01.13	16.27	07.29
Last Quarter	17th	04.15	23.32	13.58
New moon	23rd	22.59	06.46	15.36
First Quarter	30th	17.16	13.18	23.18
December				
Full Moon	8th	20.37	15.18	07.41
Last Quarter	16th	17.42	23.55	12.34
New moon	23rd	09.43	08.39	15.30
First Quarter	30th	10.03	12.03	**.**

EARTH

November	Sunrise	Sunset
1st	06.53	16.34
9th	07.07	16.21
17th	07.21	16.09
23rd	07.31	16.02
30th	07.42	15.56
December		
8th	07.52	15.52
16th	08.00	15.51
23rd	08.04	15.54
30th	08.06	15.59

PLANETS(as at November 23rd.)

	Constellation	Rises	Sets	Mag.
Mercury	Ophiuchus	09.09	16.41	-0.5
Unfavourable				
Venus	Ophiuchus	09.45	17.23	-3.9
Unfavourable				
Mars	Aquarius	13.35	00.43	-0.6
Visible in the south west				
Jupiter	Leo	00.32	13.40	-2.0
Morning object in the East				
Saturn	Gemini	18.42	10.52	-0.2
Visible most of the night				
Uranus	Aquarius	12.59	22.58	+5.8
Difficult				
Neptune	Capricornus	12.13	21.17	+7.9
Difficult				
Pluto	Ophiuchus	08.18	17.59	+13.9
Unfavourable				

PHENOMENA

Day	Hour	November
13th	20	Saturn 5° S. of moon
18th	19	Jupiter 4° S. of moon
23rd	23	Total eclipse of Sun in Antarctica
25th	03	Mercury 0.3° N. of moon
25th	18	Venus 2° N. of moon
		December
1st	19	Mars 4° N. of moon
9th	06	Mercury at greatest elongation E. 21°
10th	23	Saturn 5° S. of moon
12th	05	Pluto in conjunction
16th	07	Jupiter 3° S. of moon

Minima of Algol

November 21st 03.18 24th 00.12 26th 21.00 29th 17.48
December 05.06 14th 01.45

Lunar Occultations

Times as at W.A.S. Observatory

Date	U.T.	S.A.O.No	Mag	Phase
November	h. m. s.			
14th	23.27.52	79855	8.0	reapp
15th	00.03.44	79869	6.2	reapp
15th	00.18.00	79874	8.5	reapp
15th	00.29.46	79886	8.5	reapp
15th	00.44.25	79888	8.5	reapp
15th	23.44.09	80494	8.6	reapp
15th	23.49.02	80496	7.5	reapp
16th	23.39.04	98750	6.9	reapp
27th	17.08.36	188817	7.4	diss
27th	18.16.40	188849	7.9	diss
28th	17.19.00	189940	7.6	diss
28th	18.10.58	189964	9.5	diss
29th	17.10.23	164759	7.7	diss
29th	17.23.57	164764	8.7	diss
29th	17.46.23	164762	9.0	diss
29th	18.33.04	164777	8.9	diss
30th	17.00.38	165298	5.7	diss
30th	18.33.18	165317	9.2	diss
30th	18.34.36	165321	4.2	diss
30th	20.46.50	165354	8.5	diss
December				
2nd	17.54.34	128707	7.0	diss
2nd	20.39.51	128743	6.2	diss
3rd	19.20.35	109671	7.8	diss
5th	20.13.55	93015	8.3	diss
5th	20.17.24	93016	7.6	diss
6th	23.41.30	93436	6.4	diss
10th	20.32.09	78736	8.6	reapp
12th	21.22.42	80276	9.0	reapp
12th	21.53.13	80288	8.8	reapp
13th	23.33.23	80898	7.7	reapp

This is only about 21% of the predictions for the WAS. observatory.

Dave Wells

Editors Note

Good day! Out with the old (didn't they do well) and in with the new (Good luck one and all).

I refer to, of course the various changes implemented at last months AGM, for your viewing pleasure they are listed below.

So remember your subs, and look ahead to 2004 and just to cheer you all up – 42 days until Christmas!!!!!

Rob

Worthing Astronomical Society – AGM

2003 ~ 2004 Line up

Executive Committee

Chairman	Glen Thomas
Business Secretary	Christa Sutton
Meeting Secretary	Graham Boots
Membership Secretary	**Post Vacant**
Treasurer	Mike Marshall
Vice Chairman	Bob Turner
Assistant Secretary	David Chilard

Other Posts

Curator	Graham Boots
WAS News Editor	Rob Davis
Auditor	Dave 'Doc' Sutton
Librarians	Dave & Linda Story
Web Site Manager	Ryan Thomas
Refreshments	Donna Bushby

Section Directors

Astronautics	Nick Quinn
Astrophotography	Alex Vincent
Comets	Alex Vincent
Variable Stars	Alex Vincent
CFDS	Pam Spence
Deep Sky	Graham Boots
History	**Post Vacant**
Instruments	Bob Turner
Lunar	Glen Thomas
Planets	Glen Thomas
Solar	Brian Halls

Chairman and Acting Secretary's Report to the Annual General Meeting October, 2003

Brian Halls

This report again combines the Chairman's and Acting Secretary's annual report.

The society has enjoyed again a large diversity of speakers and subjects throughout the year.

In November 2002, our speaker was Alan Smith, of Horsham Astronomical Group who spoke on the subject of **CCD astronomy** and the work the Horsham group were undertaking at Christ's Hospital School where the group meet.

In December, another member of the Horsham group, Owen Brazell spoke on the subject of **North American Star Parties** – which he had attended on several occasions over the years. The talk took us to warmer climates which seemed to warm us up on that cold December night.

January was our usual New Year Social, but our February meeting once more took us to warmer climates when Ian King and Nic Szymanek spoke on **Astronomical Imaging from La Palma.** Their talk was well illustrated with CCD images and conventional photographs taken over the years from their many visits to the observatories on those islands.

Our speaker in March, Lillian Hobbs spoke on **Indoor Astronomy – observatory remote operating.** This unusual subject generated a lot of interest from members – Lillian described how she observes from the comfort of the warm confines of her home while the telescopes in her observatory are remotely controlled by a personal computer in her house.

April was a members evening, and we had diverse contributions on astrophotography techniques, a history of solar eclipses, an annular eclipse in Arizona in 1994 and the story of Woomera rocket range in Australia.
The pictures of the annular eclipse were timely as a number of astronomical events occurred in May – there was the long awaited transit of Mercury – the first complete transit of the planet for over 30 years. The weather on the day was fine and many members and visitors to the observatory were treated to this all to rare event. Sadly, members who travelled to northern Scotland to witness the annular eclipse of the Sun had cloud to contend with though many did get to glimpse the event through the cloud.

In May, Martin Lunn, Curator of Astronomy at the Yorkshire Museum in York came and spoke on **Women Astronomers** – a lecture of the unsung heroines of science and astronomy - reminding us of the important work that was conducted by women in an era where male dominance in the field of science was 100%.

The planet Mars was certainly on everyone's mind during 2003, in anticipation of the close approach/opposition in August. Our speaker in June was Jerry Workman – who spoke on **Mars** and the results of an earlier space probe mission – Mars Global Surveyor.

In July, Konrad Maylin-Smith of Croydon Astronomical Society spoke on **White Dwarf Stars.**

Several members of WAS attended the SAGAS summer convention, held at the scenic Christ's Hospital on July 12th, which was organised by Horsham Astronomical Group.

Our next Society event was the Society BBQ held a bit later than normal at the end of August to coincide with the opposition/close approach of Mars – I can say that all those who that attended were truly 'fed up' – many thanks for Avril and Jane who organised the food and surroundings for us.

The last meeting of the society year, was in September when Caroline Beevis came and spoke to us on **Cosmology** – a subject that is thought provoking with its philosophical implications as much as the mathematics.

One of my last acts as Chairman I was honoured to chair the David Levy meeting held in Chichester as a joint WAS/Planetarium Trust/SAGAS event. Many thanks must go to Nick Quinn who organised this event on behalf of us all.

And now we have come full circle. We are once more at the Society's AGM.

The forthcoming year has a lot going for it too astronomically speaking.

There is something always going on in the sky – some quite awe inspiring others perhaps not so much so, but interesting in their own right. Sometimes these events are even visible from the United Kingdom.

There is the forthcoming total lunar eclipse which begins on the evening of November 8 and details of which appear in the October issue of WASNews.

At the beginning of May there will be another total lunar eclipse, which will be in part visible from our shores – the Moon rises during the latter parts of totality.

Certainly one of the most important events in the coming year will be the transit of Venus in early June – the first such transit of the planet visible from Earth since the latter part of the 19th-century – certainly, no one alive today was around when this last occurred. This event shall be visible from the UK weather permitting – so it is no surprise that some astronomers are looking at sunnier climates to observe this historical event – just in case!! Otherwise it is along wait to 2012 for the next one, which shall not be visible from the UK.

Anyone who heard David Levy speak at Chichester at the end of September will remember that David alluded to two comets being visible over the coming year – these objects, both discovered by probes rather than human observer's, are still faint but may put on a bit of a show too.

There shall be, no doubt, something for everyone during this coming year.

This is my last report as Chairman. I have done my three consecutive years and now is the time for me to pass on the reins to someone else. I have during these three years also played the part of Acting Secretary – this has made my job as Chairman more than quite interesting. I have got to meet many people – many of whom I have welcomed into the Society. I shall also be passing on the reins to a new Secretary.

My last three years have been exciting – and I would like to thank all those on the committee who have helped and advised me, especially, Nick, Graham and Mike, without whom, I would have probably made a pig's ear of the job.

There is a thank you too, Kay Smith and her team of helpers who have made the tea and coffee during the intermissions between the two halves of the meeting. She to is now having a well deserved rest. I would like to thank Donna Bushby for taking over this important roll.

There are many others too working behind the scenes to keep the Society running who also deserve a thank you – David Chilard for keeping the Committee Meeting minutes, Rob Davis the editor of WASNews, Graham Darlington who physically produces the newsletter; Vanessa Wegner who can be seen jotting away producing the meeting reports; Robert Kasprowiscz, who ensures that those who cannot attend the meeting receive their copy of WASNews in the post. There are the section directors who report and aid those interested in the various aspects of astronomy.

Lastly, a thank you, the members, without whom these meetings and the society could not exist.

Dates for your Diary

Eclipse Of BM Cassiopeia

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Alex Vincent.

The long period eclipsing binary star BM Cassiopeia will be at minimum on December 22 2003. The eclipse will begin on December 3 and ends on January 10. Its magnitude at maximum is.8.78 and drops down to 9.31 at minimum. Its period is 197.27 days.

The system comprises of a high luminosity star of A6 spectral type and its secondary is either a late K or early M giant. Its position is RA 00h 54m 46s and declination is +64 degrees 05m 05s Epoch 2000.0. Dates of future minima are on 2004 Jul 7, 2005 Jan 20 and Aug 5, 2006 Feb 18 and Sep 4.

Eclipsing Binary Nebulae.

Alex Vincent.

No variation in brightness of nebulae have been observed in the case of eclipsing binary stars, which are associated with them. An example of this are two stars of the four that form the Trapezium in the Orion nebula "BM Orionis" and "V1016 Orionis". The primary star during minima still fully illuminates the nebula and is only hidden (totally or partially) from the observer.

However during secondary minima when the primary goes in front of the secondary then the former is hidden from view from the nebula. In this case the nebula could dim somewhat because the star is at primary minima seen from it. Could observations be made at secondary minima to see if the nebula does show any dimming in the area where the primary is hidden?

Comet Encke.

Alex Vincent.

Date	R.A.		Dec.		Mag.
	h	m	°	′	
Nov 17	20	25.5	+30	27	8.1
Nov 27	18	50.2	+12	28	7.2
Dec 7	17	47.3	-02	36	6.2
Dec 17	17	06.9	-13	32	4.8
Dec 27	16	59.3	-21	33	3.6

The above co-ordinates are for Epoch 2000.0.

This comet has the shortest known period, which is only 3.3 years. It will be too low and unobservable after the end of the year because it will get too close to the sun and so our best views of it will be during November and December.

Comet 2002 T7 (Linear

Alex Vincent

Date	R.A.		Dec.		Mag.
	h	m	°	′	
Nov 17	04	05.0	+37	48	9.6
Nov 27	03	24.4	+37	08	9.3
Dec 7	02	40.8	+35	07	8.9
Dec 17	02	00.1	+31	54	8.7
Dec 27	01	26.3	+28	06	8.4
Jan 06 2004	01	00.7	+24	23	8.3

The above co-ordinates are for Epoch 2000.0.

This comet will attain a magnitude of 0.4 on May 15 2004, but will only be some 25 degrees from the sun and visible very low in the morning sky.

Mineral Show

Alex Vincent.

On Saturday November 15th there will be a mineral show at Clair Hall. Perrymount Road, Haywards Heath, West Sussex. Clair Hall is east of the railway station It starts at 10.00 a.m. and finishes at 4.30 p.m. There will be some illustrated talks. Admission is £1.50 for adults and children 50p. There is a bar and refreshments. They have meteorites on show and for sale. It is open to the public

and all are welcome. This is a most interesting day for those interested in geology, fossils, minerals and semi-precious stones made into jewellery. Map available from Alex Vincent telephone Mobile 07753282714.

Reports

The Planets in November 2003

Glen Thomas - Planetary Section Director

Mercury is not visible during November.

Venus should be visible from **1st Nov** low in the SW at sunset as it continues to recover from its August superior conjunction. As Venus moves towards us it will grow in size but shrink in phase as it moves around it orbit.

Mars is now higher in the sky, at **31°** altitude, than at any time this year, but unfortunately Mars is rapidly diminishing now. It is still a brilliant sight though, transiting at **19:30** (18:50 at the month's end). Use as high a magnification as conditions allow and observe close to transit (when it passes due south) to cut the effects of the atmosphere to a minimum. Mars' altitude increases as the nights pass, helping to stabilise the view and allow the higher magnifications needed to see details on the shrinking disc.

Jupiter dominates the dawn sky, shining at around magnitude -2.0 and best seen around **06:30** throughout the month.

Saturn is now a spectacular sight throughout the night and is very high in the predawn sky. The ringed planet now rises before **20:00** and is high enough for steady views by late evening.

Uranus and **Neptune** are becoming more difficult, but it is not too late to spot them low in the south as soon as the sky is properly dark.

Pluto disappears into the low altitude haze before the sky is dark and will not now be observable until next Spring.

Astronautics Report

Nick Quinn – Astronautics Director

Rosetta

Last January, ESA's Rosetta mission to comet Wirtanen had to be cancelled due to problems with the Ariane 5 launcher. Now the spacecraft has been re-targetted at comet Churyumov-Gerasimenko and will be launched from Kourou, French Guiana, on 26 February 2004 by an Ariane-5 G+ rocket. Rendezvous with the comet is scheduled for November 2014.

Because Churyumov-Gerasimenko is three times larger than Wirtanen, engineers were concerned that the lander could travel too fast and topple over because of the comet's stronger gravitational pull. To overcome this, they have fitted a mechanical device to the 100-kilogram lander to stop it tilting, in addition to the lander's existing three legs.

ISS

On Sunday November 2nd, the International Space Station marked three years of continuous human presence. Although expansion of the station has been severely hit by the grounding of the Space Shuttle fleet, a skeleton crew of two has managed to keep the station operational. On Monday October 20th the Expedition 8 crew of Mike Foale and Alexander Kaleri arrived at the ISS to take over from Yuri Malenchenko and Ed Lu who returned to Earth onboard the Soyuz 6 spacecraft. ESA astronaut Pedro Duque from Spain, flew up with the Expedition 8 crew and spent 8 days on the station before returning home with the Expedition 7 crew. Foale and Kaleri are due to stay on the ISS until April 2004 when they will return to Earth, once again in a Russian Soyuz spacecraft.

Space Shuttle

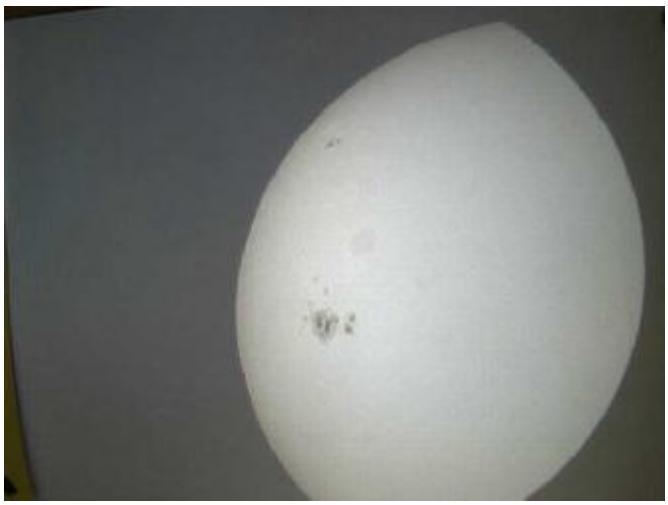
Following the recommendations of the Columbia Accident Investigation Board (CAIB), NASA are now working towards a return to flight date between September 12th 2004, and October 10th 2004. The first 'Return to flight' test mission STS-114, will be flown by Atlantis and will include the ISS elements: Raffaello Multi-Purpose Logistics Module (MPLM) and the External Stowage Platform (ESP-2). Eileen Collins will command the flight, and be accompanied by three other crew members. The second 'return to flight' test mission, STS-121 will be flown by Discovery about a month later.

Solar Section Report - October, 2003

Section Director, Brian Halls

Solar activity this month has been abnormally high – even, it is said, historical.

The month began with the large group visible at the end of September still just visible, before continuing on with moderate to low sunspot activity.



This rapidly changed when a large sunspot group – 10484 ($N04^0$ $L=354^0$) appeared at the eastern limb on the 18th. It became apparent as this area rotated into view; it was a very active sunspot group, increasing its size 5 times in a 48-hour period.

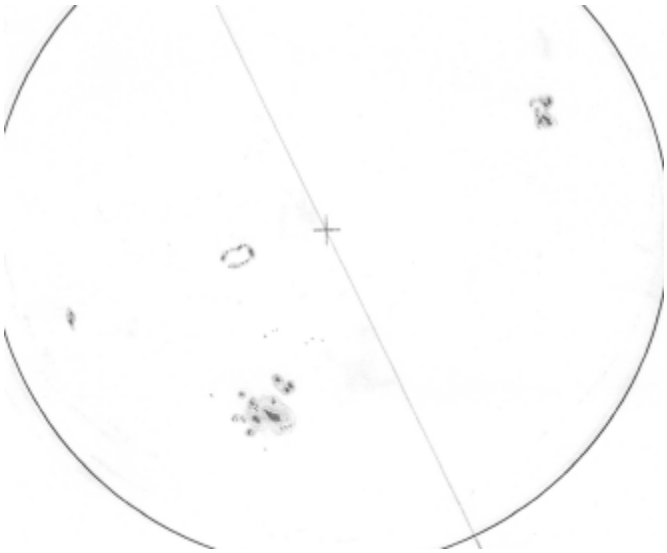
Over a few days it had reached naked eye visibility – reaching a maximum size of 1750^{-6} during its crossing.

A few days later, on the 22nd another group 10486 rotated into view (S16^0 L=286^0). Again, it was apparent that this region too was extremely active and as magnetically complex as its northern counterpart. This too, reached naked eye proportions – reaching a maximum size of 2600^{-6} on 31st.

It is not unusual to have two naked eye sunspots on the Sun at the same time (a group has to be about 500^{-6} to reach naked eye magnitude) when sunspot activity is high, but it is not common to have two groups of such sizes at the same time.

Telescopically, these groups were impressive objects – 10486 had 94 sunspots associated with (26th October). They were joined by another northern group (10488, N08^0 L=289^0) which suddenly developed on the 27th and which would finally reach a size of 1750^{-6} on the 31st. There were now three naked eye groups on the face of the Sun.

All three active regions were responsible for massive disruptions to the solar environment which resulted in a number of coronal mass ejections (CME's) spewing out energetic matter – much of it Earthwards.



Reports of 'Northern Lights' from the midlands and northern England have been reported as well as from Chichester by Neil Bone who has reported a bright aurora in the late/ early hours after rain and cloud had dissipated during the last week of October.

A number of members reported observations this month – reports received from Graham Boots, Bob Marshall, Chris Parfitt, Nick Quinn and the Director.

Photographs shown here are from Bob and Nick. The first picture from Bob was taken with an ordinary digital camera and is a close up of a projected image of the Sun. The other two pictures show the larger northern group and the southern group. These were taken by Nick using a *Celestron C90*, *100 Oaks* filter, and a *TouCam* webcam. Bob and Nick's photographs were taken on 26th October.

The final picture is a detail from one of my daily disk drawings of the Sun made on the 27th. The drawing shows all the regions mentioned in this report and clearly shows the 'ring' like appearance of active area 10488. The drawing is reproduced here in 'mirror image' for comparison with the other photographs in this report.

As I write this report, violent solar outbursts continue, with the press reporting the largest ever outburst ever recorded – a flare with a designation of X20 (http://news.bbc.co.uk/1/hi/sci/tech/3242353.stm). These groups may very well return for a second showing and the leading northern group might be expected to return at or just after the time of the November monthly meeting, with the other magnetically complex area's following a few days later.

MDF = 4.04 (N=2.0 ; S=2.83) R= 78.4

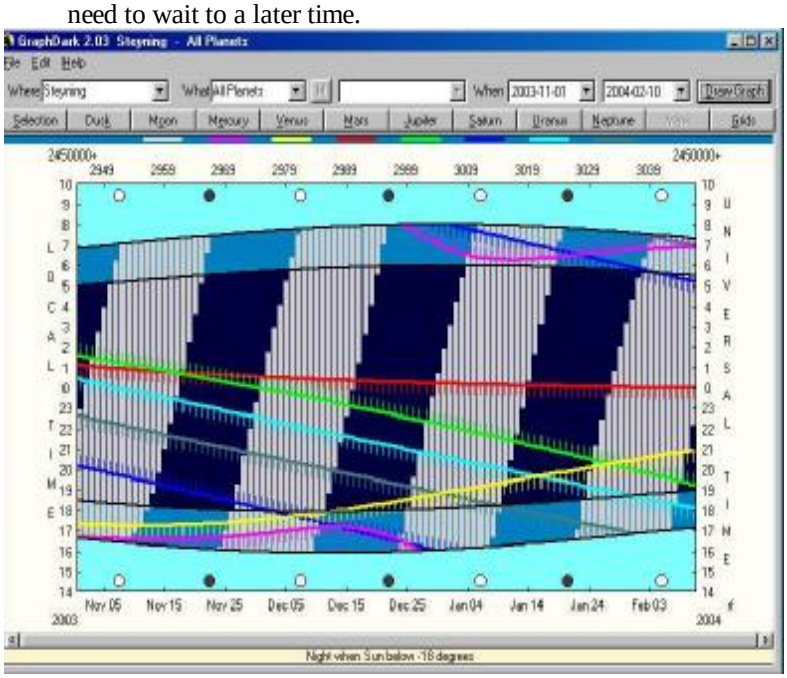
Articles

Graphdark 2.03

Nick Quinn

Have you ever needed to look ahead to find out when the optimum time will be to observe a particular planet? Have you wanted to plan a holiday abroad to coincide with a new Moon so that you can do some deep sky observing? If so, then Graphdark may be the piece of software you need. Graphdark runs on a PC and has been developed by Richard Fleet of Newbury Amateur Astronomical Society.

You enter your observing site (latitude and longitude), what objects you are interested in (Planets, Messier objects, Comets, etc.), a range of dates and then press 'draw graph'. The display shows the times of sunset, sunrise, twilight, moonrise and moonset, and the phases of the Moon. At a glance you can see the best times to observe a particular object. Clicking on the graph will open up another window showing you a view of the sky for that date and time, with the objects plotted at the correct azimuths and altitudes. It is possible to add a mask to this display so that your own local horizon complete with obstructions caused by trees, neighbouring houses, etc. is drawn in. This makes it very easy to tell if you actually will be able to see an object or need to wait to a later time.



There are many customisable options including the ability to add newly discovered objects such as comets and asteroids, add altitude masks and generate a lunar calendar.

This is a super little application written by an active observer to meet his own needs. You may download the software from http://www.newburyas.org.uk/ or http://www.rfleet.clara.net/graphdark/download.htm. It requires 5Mb of disk space and Windows 95 or later. Oh, by the way, did I mention that it is free?

Notices

Loaned Equipment

Graham Boots

The following item has been lent but I have mislaid the borrower's details. If anyone has it can they please let me know, just for my records.

Praktica Nova II SLR Camera with 50 mm f 2.8 lens and 2X Converter in grey carrying bag.

Thank you.

January Social

Graham Boots

For our 14th January 2004 Wednesday monthly meeting we need volunteers to help organise events and provided donations of food and drink.

Ideas and organisers for one or two items of entertainment are desperately required.

Such events as we have had in the past are 'True or Force' quiz, Identification of Strange Objects brought to the meeting place and a Raffle. There will be prises, perhaps bigger ones than in previous years. We have a speaker for some of the evening and will have an extended tea break. Can you help in some way to make this meeting a success? The committee find these days we are very short of contributors.

If you can organise or help please let me know on: 01903 505346.

Wanted Urgently

Graham Boots

The society would like to purchase a second hand laptop computer to use in the Observatory and at various other telescopes at the site in association with my Web Cam, which has become so popular. Due to capacity problems on member's own computers we also need the society to purchase a second hand CD Writer so we can transfer and store movie images onto CDs.

If you can help please contact me on 01903 505346

Members Hndbook

Brian Halls

Revised editions of the Members Handbooks will be available for collection to paid up members from the Library at the start of the monthly meeting and during the tea break interval.

What's on the Box

Wednesday 12th November 2003

23.20 - 0030 ~ **To Mars by A-Bomb.**
The extraordinary story of a secret American project to build a spacecraft the size of an ocean liner and despatch it to Mars, Jupiter and Saturn.

Monday 17th November 2003

20.00 – 20.30 ~ **Building the Ultimate.**
Spacecraft. Series which focuses on great feats of engineering. This episode looks at the wonders of spacecraft technology and features testimony from experts at NASA and the Russian Space Agency, talking about the design elements of spacecraft, illustrated by 3D computer images, high speed cameras and microscopic analysis.

Wednesday 19th November 2003

21.00 – 21.30 ~ **Frontiers**
Galaxy Formation: The evolution of giant star assemblies such as our own Milky Way remains a mystery. Peter Evans joins astronomers in the search for galaxies of the past.

WAS News News

Amateur locates powerful stellar explosion before pros

Nasa-Gsfc News Release

Armed with a 12-inch telescope, a computer, and a NASA email alert, Berto Monard of South Africa has become the first amateur astronomer to discover an afterglow of a gamma-ray burst, the most powerful explosion known in the Universe.

The discovery highlights the ease in tapping into NASA's burst alert system, as well as the increasing importance that astronomy enthusiasts play in helping scientists understand fleeting and random events, such as star explosions and gamma-ray bursts.

This 40-second-long burst was detected by NASA's High-Energy Transient Explorer (HETE) on July 25. Monard's positioning of the lingering afterglow, and thus burst location, has given way to precision follow-up study, an opportunity that very well might have been missed: At the time of the burst, thousands of professional astronomers were attending the International Astronomical Union conference in Sydney, Australia, far away from their observatories.

"I have seen a multitude of stars and galaxies and even supernovae, but this gamma-ray burst afterglow is among the most ancient light that has ever graced my telescope," Monard said. "The explosion that caused this likely occurred billions of years ago, before the Earth was formed."

Gamma-ray bursts, many of which now appear to be massive star explosions billions of light years away, only last for a few milliseconds to upwards of a minute. Prompt identification of an afterglow, which can last for hours to days in lower-energy light such as X ray and optical, is crucial for piecing together the explosion that caused the burst.

Monard notified the pros of the burst location within seven hours of the HETE detection. The Interplanetary Network (IPN), comprising six orbiting gamma-ray detectors, confirmed the location shortly thereafter.

Because of the nature of gamma-ray light, which cannot be focused like optical light, HETE locates bursts to only within a few arcminutes. (An arcminute is about the size of an eye of a needle held at arm's length.) Most gamma-ray bursts are exceedingly far, so myriad stars and galaxies fill that tiny circle. Without prompt localization of a bright and fading afterglow, scientists have great difficulty locating the gamma-ray burst location days or weeks later.

The study of gamma-ray bursts (and increasing ease of amateur participation) comes through two innovations: faster burst detectors like HETE and a near-instant information relay system called the Gamma-ray Burst Coordinates Network, or GCN, which is located at NASA Goddard Space Flight Center in Greenbelt, Md.

The typical pattern follows: HETE detects a burst and, within a few seconds to about a minute, relays a location to the GCN. Instantly, the automated GCN notifies scientists and amateur astronomers worldwide about the burst event via email, pagers, and a Web site.

Monard is a member of the American Association of Variable Star Observers (AAVSO). This organization operates the AAVSO International High Energy Network, which acts as a liaison between the amateur and the professional communities. Monard essentially used GCN information passed through the AAVSO and other network groups and turned his telescope to the location determined by HETE.

"In the past two years, HETE has opened the door wide for rapid follow-up studies by professional astronomers," said HETE Principal Investigator George Ricker of MIT. "Now, with GRB030725, the worldwide community of dedicated and expert amateur astronomers coordinated through the AAVSO is leaping through that door to join the fun."

Monard, a Belgian national living in South Africa, has other discoveries under his belt, including ten supernovae and several outbursts from neutron star systems, as part of his participation with the worldwide Center for Backyard Astrophysics network and the Variable Star Network.

Diary

December 10 ***The Relevance of Astronomy to Human Culture*** **- Dr Francisco Diego University College London**

January 14 2004 ***The First 3 Minutes of the Universe*** **- Bob Turner F.R.A.S.,**

February 11 2004 ***Solar Neutrinos*** **- Dr. Robert C. Smith University of Sussex**

All Meetings **(bold)** are held on the second Wednesday of every month unless otherwise stated, at Heene Church Rooms, Worthing at 7.30 p.m. Meetings include the latest astronomical work, reports and, photographs by members. For further information please call 01903 521205, on the Internet at *www.was.org.uk* or
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Contributions & Correspondence for the **December** issue of WAS NEWS should be with the Editor by **December 1st.** All material for inclusion should be sent to the Editor.

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