



The Newsletter



of the
Orwell Astronomical Society (Ipswich)

2011
FEBRUARY

Registered charity no. 271313

www.oasi.org.uk

No 460



ECLIPSED SUNRISE OVER CLOUDY OFFTON

Taken about 10 seconds before cloud engulfed it at 8.48am by
Ted Sampson.

Society News (Roy Gooding)

1 Committee Meeting to be Announced

2 Access into the School Grounds and Observatory Tower

Please use the third gate into the school grounds, this is the gate behind the Gym. If the Black door entrance at the base of the observatory tower is locked, you will have to phone someone in the observatory to let you in. My mobile number is [REDACTED] (Roy Gooding) alternatively the Observatory mobile is [REDACTED] during meeting hours. The gate code is on the back of your membership card

3 Welcome to New Members

Miss. Jennie Wood	Mr. Jonathan Paul Whitby
Mr. Robert George Baynes	Mrs. Clare Barlow
Miss. Linda Heagerty	Mr. Joseph Coulter
Mr. Michael O'Mahony	Mr. Brian Maclean
Mr. Benjamin Paul Jarvis	Mr. Jason Reeve
Mr. Colin & Jenny Booker	

4 Events Programme for 2011

This provisional event list will be updated through out the year

Meeting	Venue	Date
Workshop Measuring the speed of light Mike Whybray	Nacton Village Hall	Wednesday 2 nd February 19:45
Astro Fest	Kensington Conference & Events Centre London	4 th & 5 th February
Lecture Meeting Observatory Architecture By Peter Hingley	Methodist Church Halls, in Blackhorse Lane	Friday 18 th February 20:00
Workshop Topic TBA	Nacton Village Hall	Wednesday 2 nd March 19:45
SPA Convention 2011	Institute of Astronomy Cambridge	Saturday 5 th March 10:00 to 17:30
BAA one day meeting Summer Barbecue	UEA Norwich	Saturday 7 th May TBA
Perseid Meteor watch	The "Dip" Felixstowe	Saturday 13 th August
Autumn Equinox Sky Camp 2010 Organised by Loughton Astronomical Society with	Kelling Heath, Norfolk	19 - 30 September

the support of the SPA		
Open Weekend		TBA
Lecture Meeting Telescopes from Hell: (what to watch out for when buying a telescope) by Martin Mobberly	Methodist Church Halls, in Blackhorse Lane	Friday 14 th October 20:00
Lecture Meeting Are We Star Dust or Nuclear Waste? (Stellar Evolution) by Robin Catchpole	Methodist Church Halls, in Blackhorse Lane	Friday 4 th November 20:00
Geminid Meteor watch	The "Dip" Felixstowe	Saturday 10 th December
Christmas Meal	Venue TBA	Wednesday 14 th December

5 **Observational Outreach Meetings 2011**

Spring Star Party: Chantry Park New Venue

Ipswich Parks department have asked us if we could change the event to Chantry Park. They presumably, would like more events to be held here. I have surveyed the park, and have found a suitable site. I will contact Richard Sharp with my proposal, see below.

Directions:

- **Enter Chantry Park from the Hadleigh road entrance. It is the drive way to the Sue Rider home.**
- **This drive dose not have any gates so access is always open**
- **At the top of the drive take the left hand road. There are about 3 speed humps along here.**
- **At the end of this road, which is about 200 yards, there is a small car park.**
- **The observing site is adjacent to this car park**

Hopefully this area is at a sufficient distance from the lighting on London road. There are a few large trees here, but there is enough room between to find a clear view of the sky. Equipment will not have to moved any further than on Christchurch park

Meeting	Venue	Date
Chantry Park "Star Party" 1 st Option	Chantry Park car park	Saturday 12 th March Members arrive at 18:30 Visitors arrive at 19:00 Ends at 21:00
Chantry Park "Star Party" 2 nd option if 1 st is cloudy	Chantry Park car park	Saturday 9 th April Members arrive at 19:30 Visitors arrive at 20:00 Ends at 22:00

Astronomy in the Park: Spring Event

Meeting	Venue	Date
Astronomy in the Park "Observing the sun" 1 st option	Christchurch Park Reg Driver Centre	Saturday / Sunday 21 st / 22 nd May 11:00 to 16:00
Astronomy in the Park "Observing the sun" 2 nd option if 1 st is cloudy	Christchurch Park Reg Driver Centre	Saturday / Sunday 28 th / 29 th May 11:00 to 16:00

Night Sky (February)

All times GMT

Moon

New Moon	1 st Quarter	Full Moon	3 rd Quarter
3 rd	11 th	18 th	24 th

Object	Date			Mag	Notes
		Rise	Set		
Sun	1	07:36	16:42		
	28	06:44	17:32		
Mercury	1	07:06	15:03		Mercury is too close to the sun this month, to be seen
	28	07:01	17:42		
Venus	1	04:48	13:05	-4.1	Venus is still a prominent object the pre-drawn sky
	28	05:08	13:39		
Mars	1	07:48	16:39		Mars is too close to the sun this month, to be seen
	28	06:44	16:57		
Jupiter	1	09:17	21:20	-2.1	Jupiter is still observed in the early evening sky
	28	07:40	20:07		
Saturn	1	22:34	09:59	0.6	As Jupiter sets in the west Saturn returns to the early evening sky
	28	20:43	08:12		
Uranus	1	09:08	20:59	5.7	By the end of the month Uranus disappears into the evening twilight sky
	31	07:24	19:20		
Neptune	1	08:14	18:06	7.8	Neptune is too close to the sun this month, to be seen
	28	06:30	16:26		

OCCULTATIONS DURING FEBRUARY

The table lists lunar occultations which occur during the month under favourable circumstances. The data relates to Orwell Park Observatory, but will be similar at nearby locations.

Date	Time (UT)	D R	Lunar Phase	Sun Alt (d)	Star Alt (d)	Mag	Star
07 Feb	17:57:31	D	0.18+	-10	34	6.8	45 Psc
08 Feb	19:03:31	D	0.26+	-20	35	6.9	ZC 177
10 Feb	18:12:51	D	0.44+	-12	56	6.9	ZC 411
11 Feb	17:45:20	D	0.54+	-7	60	7.3	Hip 17043
11 Feb	23:45:04	D	0.56+	-52	22	6.1	ZC 566
12 Feb	00:36:41	D	0.57+	-51	15	6.7	ZC 573
12 Feb	18:52:09	D	0.65+	-17	61	6.0	ZC 693
13 Feb	21:35:24	D	0.75+	-41	56	7.5	Hip 26599
13 Feb	22:57:59	D	0.76+	-49	46	6.6	ZC 859
13 Feb	23:41:02	D	0.76+	-51	40	6.2	V731 Tau
14 Feb	17:54:17	D	0.83+	-8	45	7.3	ZC 1001
14 Feb	18:58:57	D	0.83+	-18	53	7.4	Hip 31316
14 Feb	19:00:32	D	0.83+	-18	53	7.2	Hip 31323
14 Feb	21:44:16	D	0.84+	-41	59	6.1	ZC 1021
16 Feb	01:35:09	D	0.92+	-47	36	4.9	81 Gem
17 Feb	20:02:33	D	1.00+	-27	29	5.1	6 Leo

James Appleton

Astronomy Workshops

Doors open at 7:30pm.
Workshops START at 7:45pm
Venue: NACTON VILLAGE HALL IP10 0EU

If you are a new OASI member, or haven't been to one of these workshops before – they are a mixture of events of different characters including beginners talks, interactive workshops, hands-on observing sessions, films etc., suitable for all. They are also a chance to chat with other members over a cup of tea and a biscuit, in a venue rather warmer than the observatory dome on a winter's night!

Date	Event	Run by...
2 nd February	Measuring the Speed of Light The finite speed of light is a key idea to aid understanding the scale of our universe. I'll review historical methods to determine it including Ole Rømer's method and more modern ones. I've been building an apparatus over the last few weeks to measure the speed of light during the workshop – if I can get it to work in time!	Mike Whybray
9 th March	Asteroid Observing Project During 2011, James Appleton is encouraging members of OASI to observe asteroids. (Details are in OASI monthly Newsletters.) During the workshop, James will describe the current state of knowledge of the asteroids and introduce the observing project. If sky conditions are good, please bring a pair of binoculars/small telescope if you can and at the end of the workshop we will try to find the asteroids Juno and Massalia.	James Appleton

Mike Whybray

Workshops organiser

 (Mobile)
 (Home)

Workshops venue: NACTON VILLAGE HALL IP10 0EU

Please park on the same side of the road as the hall, but avoid parking on the white lines which mark clear spaces for various driveways and passing places. The police do occasionally check up on this!

Library books for sale

OASI LIBRARY

by Tina Hammond

All the Frinton books have been catalogued and are now in the library. Although the process of sorting out duplicate titles is ongoing, I have now identified the following that are excess to requirement.

As before, please email me on tinah1@talktalk.net with your offer if you are interested in purchasing any. In the unlikely event that two people want the same book, it will go to the highest bidder. Otherwise the first person to contact me will be successful.

Title	Author	Format	Year	Pages	Notes	Comments
The Universe of Science	H Levy	hb	1938	242 pp	Thinker's Library	No dust jacket
End in Fire	Paul Murdin	hb	1990	252 pp	1 st ed'n	As new
Collins Guide to Stars and Planets	Ian Ridpath Wil Tirion	pb	1984	384 pp		
Philip's Guide to Stars and Planets	Patrick Moore	pb	1997	256 pp	Rev'd ed'n	Excellent
Einstein's Universe	Nigel Calder	pb	1983	254 pp		
Battle for the Planet	Andre Singer	pb	1987	144 pp	1 st ed'n	C4 TV series
Moon Flight Atlas	Patrick Moore	hb	1968/69	48 pp	1 st ed'n	No dust jacket

Image shows asteroid (7) Iris. Taken at 22:48 UT on Fri 14 Jan 2011 using a handheld digital camera at the eyepiece of the Tomline Refractor. The asteroid is the brightest object in the field, at magnitude 8.0. The double star is Tycho 0804-0507-1 (mag 10.6) and the other star in the field is Tycho 0804-0989-1 (mag 10.4). The asteroid is currently in Cancer, approaching opposition on 24 January. Details of the OASI Asteroid Observing Project are inside.

James.



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ASTEROID OBSERVING PROJECT

OASI Secretary Roy Gooding and I recently put our heads together to generate an idea for an observing project for 2011 which would be widely accessible to the membership of the Society. Our suggestion is to observe the brighter asteroids.

The asteroids are a multitude of small, rocky bodies orbiting the Sun at distances ranging from inside the Earth's orbit to beyond that of Saturn. They predominate in a large torus (the *main belt*) which is located between the orbits of Mars and Jupiter. Almost as many asteroids, called Trojans, orbit at Jupiter's distance from the Sun, 60° ahead of or 60° behind the giant planet.

The discovery of the asteroids dates from 1801. On 01 January of that year, Giuseppe Piazzi, Chair of Astronomy at the University of Palermo, Sicily, found the first asteroid while he was engaged in work on the Palermo Star Catalogue. He named the body Ceres, after the Roman goddess of the harvest and patron of Sicily. Even the largest telescopes available at the time failed to show the asteroid as anything other than an apparently stellar, rapidly moving point of light, and in 1802 William Herschel coined the name *asteroid*, meaning *star-like*. After the discovery of Ceres, astronomers gradually discovered other asteroids, and in modern times automated telescopes have discovered many hundreds of thousands of asteroids.

Ceres is the largest of the asteroids, with a diameter of 950km. The other asteroids range in size down to specks of dust. Astronomers generally consider the Solar System to contain up to two million asteroids of diameter 1km or greater, and many millions of smaller ones.

Astronomers generally believe that asteroids in the main belt initially evolved in much the same way as the rest of the Solar System, condensing due to gravity around dense cores in the solar nebula. However, when Jupiter grew close to its current size, its enormous gravity ejected most of the asteroids from the belt, leaving only the residue that we can observe today. The mass of all the asteroids in the main belt today is estimated to amount to approximately 3.3×10^{21} kg (only about 4% of the mass of the Moon).

The first spacecraft to take a close-up image of an asteroid was the Galileo probe which, on 29 October 1991, imaged Gaspra, showing it to be a heavily cratered, angular body. Since then, several other spacecraft have also captured images, and the Japanese spacecraft Hyabusa landed on asteroid Itokawa and attempted to return a sample of the surface to Earth. (Unfortunately, the sampling device of the spacecraft, essentially a mechanical grab, failed and the mission returned only some asteroid dust to Earth. Nonetheless, scientists have studied the dust grains intently.)

The most ambitious space mission to the asteroids to date, the *Dawn* probe, is currently *en route* towards Vesta (the second largest of the asteroids, discovered by Heinrich Olbers in 1807). NASA launched the probe on 27 September 2007. It is scheduled to enter orbit around Vesta in July 2011, and remain there for one year

undertaking scientific studies before moving on to Ceres, entering orbit around the latter in February 2015 and remaining there undertaking scientific investigations until July 2015. *Dawn's* science payload consists of two cameras, a visible and infrared mapping spectrometer to identify surface minerals, and a gamma ray and neutron spectrometer to determine the elemental composition of the outer layers of the asteroids. The spacecraft also will be used to measure the gravity field of the asteroids, thereby revealing details of their interiors. The arrival of *Dawn* at Vesta later this year (if all goes to plan!) will undoubtedly stimulate much interest in asteroids among astronomers worldwide.

Although the brightest asteroids are easily visible in small telescopes or binoculars, few amateur astronomers have seen one. The OASI 2011 Asteroid Observing Project aims to remedy this situation by encouraging members of OASI to observe the brightest asteroids.

Table 1 lists all asteroids with opposition magnitude 9.0 or brighter during 2011.

Asteroid	Opposition date	Magnitude	Range of dates brighter than mag 9.5	Constellation
(7) Iris	2011 Jan 24	8.7	2010 Oct 12 to 2011 Mar 21	Cancer
(44) Nysa	2011 Feb 10	8.7	2011 Jan 13 to Mar 06	Leo
(3) Juno	2011 Mar 12	8.8	2011 Feb 01 to Apr 06	Leo/Virgo
(20) Massalia	2011 Mar 14	8.8	2011 Feb 15 to Apr 04	Leo/Virgo
(4) Vesta	2011 Aug 05	5.6	At all times.	Sagittarius/ Capricornus/Aquarius
(192) Nausikaa	2011 Sep 02	8.3	2011 Aug 05 to Oct 08	Aquarius
(1) Ceres	2011 Sep 16	7.6	At all times.	Aquarius/Cetus
(1036) Ganymed	2011 Oct 29	8.3	2011 Sep 18 to Nov 13	Cassiopeia/Perseus/ Andromeda/ Triangulum
(29) Amphitrite	2011 Nov 05	8.7	2011 Sep 29 to Dec 13	Aries
(15) Eunomia	2011 Nov 29	7.9	2011 Aug 18 to 2012 Feb 12	Taurus/Perseus

Table 1. Visibility of asteroids with opposition magnitude 9.0 or brighter.

All the asteroids in table 1 should be relatively easy to locate when near opposition: Vesta and Ceres will be binocular objects and the remainder should be visible in modest telescopes. Each month in the *Newsletter*, I will provide a finder chart

indicating the position of the best placed asteroids listed in table 1. Anybody keen to participate in the project should use the finder charts to identify the star field in the night sky, attempt to locate the asteroid, and report the outcome. Ideally, a second observation a few days after the first will reveal the motion of the asteroid. Observers who have access to a digital camera can try photographing the star field containing the asteroid: even a basic camera with modest zoom capability can, when mounted on a tripod and set to a high ISO figure and given an exposure time of a few seconds, capture objects to magnitude 9.0 or fainter.

When reporting an observation, please include the following information:

1. Name of observer
2. Location (postal address or OS coordinates)
3. Date and time of observation (please state whether time is UT or BST)
4. Equipment used: e.g. 10x50 binoculars, digital camera on fixed tripod,...
5. Details of observation. How easy was the sky field to relate to the finder chart? How easy was the asteroid to find? What is the magnitude estimate of the asteriod (by comparison with stars in the finder chart)?

Please send observing reports to me by email at [redacted] or leave them printed in the clubroom of Orwell Park Observatory for me to collect. I will collate the observing reports and provide a summary in the *Newsletter*.

Below is the first set of finder charts (wide field and close up), showing the location of Iris from 01 Feb – 21 Mar 2011 (after which time its magnitude drops below 9.5).

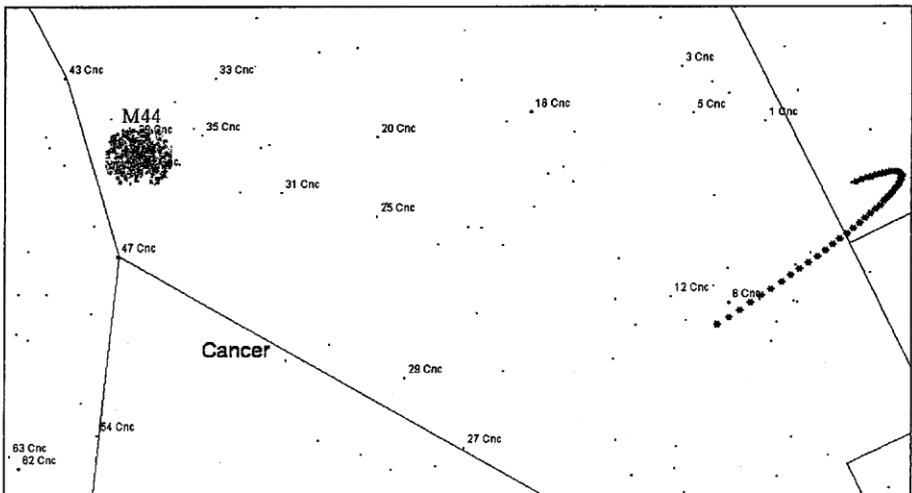


Fig 1. Wide field finder chart for Iris. Shows stars to mag 7.5.

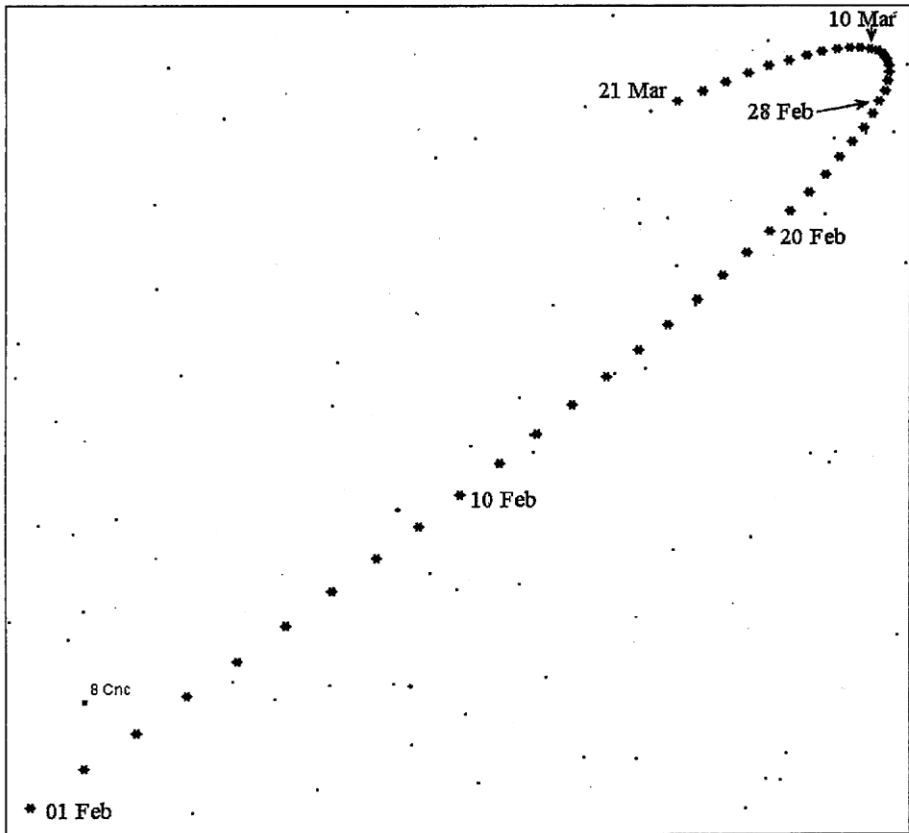


Fig 2. Close-up finder chart for Iris. Shows stars to mag 9.5.

Further information on asteroids is available via the following websites:

1. The RASNZ web site provides finder charts for all the brighter asteroids: www.rasnz.org.nz/Asteroids2011.htm. (Remember to rotate the charts through 180° for use in the northern hemisphere!)
2. The OASI Astronomy Workshop on 09 March 2011 will provide further information about the Asteroid Observing Project. Weather permitting, at the end of the Workshop, we will use small telescopes and binoculars to locate the asteroids Juno and Massalia.
3. The NASA *Dawn* probe website: dawn.jpl.nasa.gov/mission/index.asp.

James Appleton
11 January 2011

Star Party in Christchurch Park Saturday 8th January (Roy Gooding)

Our first public outreach meeting in 2011 was held on Saturday 8th January, in Christchurch Park. I had arranged this event with Sam Pollard back in the autumn, last year, and as it turned out it was a serendipitous date. At the start of the week the BBC had been running a series of 3 Stargazer Live programmes, which encouraged people to attend local astronomical events. This short series attracted many local people to seek out public observing events in the Ipswich area, this resulted in many emails to OASI asking for information about our Star Party. As with the event last year OASI were the evening's hosts and the booking arrangements were organised by the Park Ranger service.

The weather, during the week preceding Saturday, had been mostly cloudy with rain mist and foggy conditions. Consulting the weather URL www.metcheck.com site in mid week, gave the promise of clear skies on the Saturday evening. Saturday began with cloud and rain, but by 14:30 the skies had cleared, which if it lasted would give a good observational evening.

This event saw the largest selection of members equipment we have ever amassed together. There were more telescopes and binoculars in use than we have at some of our normal Open Weekends. Any visitor should have been more than impressed with the evenings viewing. The extra equipment proved very useful in alleviating any long queues, for the visitors, who numbered 53, This number was more than twice that of last year.

Equipment in use:-

Pete & Nicky Richards:	80mm refractor and binoculars
Neil Morley:	80mm refractor
Roy Gooding:	120 mm refractor and 11 x 80 binoculars
Bill Barton:	4" refractor
Martin Cook:	11x 80 binoculars

John Wainwright: 16" Dobsonian reflector
Andy Leggett & son: 150mm reflector
Tom Crow : 200mm reflector

A second 150mm reflector was brought along by two of the visitors. I believe that they have now joined, unfortunately at the time of writing, I am not able to name them. Finally our kit included a few hand held binoculars and the obligatory green optoelectronic pointers.

Last year I had decided that the best site in the park was on top of the hill. So this is where we set up our equipment again. Objects observed included: Moon, Jupiter, M42, M45, M31

Several bright meteors were also seen during the evening. Towards the end of the meeting a few visitors mentioned that the site was getting brighter. It was not, but this was probably the first time the they had experience getting fully dark adapted.

Other members who were present were:













Eric Sims
Paul Whiting
Tina Hammond
Lorraine Goward and sons
Roy & Merlyn Adams

On the Monday, Paul Whiting called in the Reg Driver Visitor Centre on the park. The park staff mentioned that they were well please with the event and look forward to our next one.

As usual I would like to thank all members who attended in making this another very successful OASI event.,

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OASI Committee Contacts & Responsibilities

Neil Morley	Chairman			Chair committee meetings. Represent OASI to external bodies.
Roy Gooding	Secretary			Respond to enquiries. Press & publicity. Observatory decoration. Open days.
Paul Whiting FRAS	Treasurer			Finance. Visits by outside groups.
James Appleton	Committee			Minutes of committee meetings. Web site.
Bill Barton FRAS	Committee			Safety & security.
Martin Cook	Committee			Membership. Tomline Refractor maintenance.
Tina Hammond	Committee			Librarian.
Peter Richards	Committee			Lecture meetings. Email distribution lists.
Eric Sims	Committee			Newsletter.
John Wainwright	Committee			Equipment curator.
Mike Whybray	Committee		Workshops.	

Trustees

Mr Roy Adams
Mr David Brown
Mr David Payne

Honorary President

Dr Allan Chapman D.Phil MA FRAS

DIARY for FEBRUARY

<p>Monday 7th - 21st STONS</p>	<p>SMALL TELESCOPES OBSERVING NIGHTS AT THE OBSERVATORY Main observing targets: M1, M35, M36, M38, M42, M43, M44, M78, Castor, Leo.</p> <p>☎ Paddy O'Sullivan [REDACTED] ☎ Gerry Pilling [REDACTED]</p>
<p>Wednesdays From 8.00pm</p>	<p>OBSERVATORY CLUB NIGHTS Observing with the Tomline Refractor and other telescopes if skies are clear. ASTEROID OBSERVING PROJECT.</p> <p>☎ Martin Cook [REDACTED], mobile [REDACTED] ☎ Roy Gooding [REDACTED], mobile [REDACTED]</p>
<p>Wednesday 2th 8.15pm At Nacton Village Hall</p>	<p>OASI WORKSHOP</p> <p>Measuring The Speed Of Light. By Mike Whybray</p> <p>☎ Mike Whybray [REDACTED]</p>
<p>Thursday 3rd 8.00pm 17th 8.00pm</p>	<p>OBSERVATORY VISITS BY LOCAL COMMUNITY GROUP Orwell High School The Felixsowe Society</p> <p>☎ Paul Whiting FRAS [REDACTED]</p>
<p>Friday 18th 8.00pm</p>	<p>LECTURE OBSERVATORY ARCHITECTURE Speaker: Peter Hingley of the Royal Astronomical Society. Venue: The Methodist Church Hall Blackhorse Lane Ipswich</p>

NEXT COMMITTEE MEETING TO BE ARRANGED.

Society Contact Details

Observatory tel. no. (meeting nights only): [REDACTED]
Secretary: Roy Gooding [REDACTED] (day) [REDACTED] (evening)
E-mail queries: info@oasi.org.uk
Chairman: Neil Morley [REDACTED]