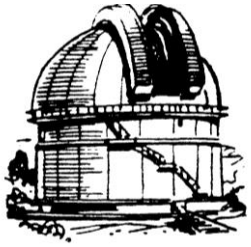
Journal

of the



Nottingham Astronomical Society

December 2007

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Thursday, 6th December

at the

British Geological Survey

Nicker Hill, Keyworth

8 pm (doors open at 7.30pm)

Tonight we welcome

Kevin Kilburn

who will be speaking on

Digital Astrophotography for Dummies

COMET HOLMES: SURPRISE OF 2007

Comet Holmes has been delighting amateur astronomers across the northern hemisphere. A comet could hardly be better placed for observers in the UK, being almost opposite to the Sun, visible all night, and nearly overhead in the late evening. It surprised everyone in late October by brightening almost a millionfold, from magnitude 17 to magnitude 2.6, thus becoming an easy naked-eye object in the constellation of Perseus. The nucleus of the comet is believed to be less than 2 miles in diameter, but the coma has grown to over a million miles across. At the time of writing, Comet Holmes is fading but still visible to the naked eye from a suitably dark site, although you will probably need the help of binoculars to see it from Nottinghamshire.

Comet Holmes has undergone eruptions before, most notably 115 years ago, in November 1892, when the English amateur Edwin Holmes discovered it. It then reached 4th or 5th magnitude, faded in the following weeks, and underwent a second eruption 2½ months after the first.

More about Comet Holmes inside…

Sky Notes
2007 December

Compiled by Roy Gretton

The **WINTER SOLSTICE**, when the Sun reaches its southern extremity in our sky, occurs at 6 a.m. on December 22nd.

PHASES OF THE MOON

Last Quarter occurs shortly after midday on December 1st
New Moon occurs in the early evening of the 9th
First Quarter occurs in the late morning of the 17th
Full Moon occurs early in the morning of the 24th
Last Quarter occurs around sunrise on the 31st

This month the Moon is closest to Earth on the 22nd, and furthest from Earth on the 6th.

THE PLANETS

Mercury reaches superior conjunction on December 17th, and is virtually unobservable this month.

Venus is a brilliant object in the morning sky, though not quite as bright as it was last month. It is slowly moving closer to the Sun, but even at the end of December will still be rising 3 hours before sunrise, and shining at magnitude -4.0.

Mars is the planet of the month, as it climbs high in the southern sky by late evening, and shines at magnitude -1.6 in the constellation of Gemini. On Christmas Eve it will be at opposition (due south at midnight), and at 3 a.m. on that date will be less than one degree from the Full Moon (observers in northern Scotland will see the Moon pass in front of Mars – an occultation). Mars is better placed for telescopic observation this month than it will be for a long time, so make the best of it if you get the chance.

Jupiter is unobservable this month, as it reaches conjunction with the Sun on December 23rd.

Saturn, in the constellation of Leo, is a morning object. At magnitude +0.6 it will be less bright than average because the rings are being presented toward us at a decreasing angle (less than 7 degrees), and are therefore reflecting less light toward Earth. By the end of December Saturn will be rising before 10 p.m.

Uranus and **Neptune** are difficult to observe as they are very low in the evening sky in December.

METEORS

The **Geminids** are the most reliable of our annual meteor showers, and reach their maximum activity on the 14th, in conditions that are highly-favourable, as the crescent Moon will be well out of the way by late evening. If the sky is clear, the night of December 14th – 15th could well be **the best meteor-watching night for the whole of 2007** (though expect it to

be colder than was the case for the Perseids in August!). About 120 events per hour are to be expected at maximum. Geminid meteors tend to be bright and slow-moving.

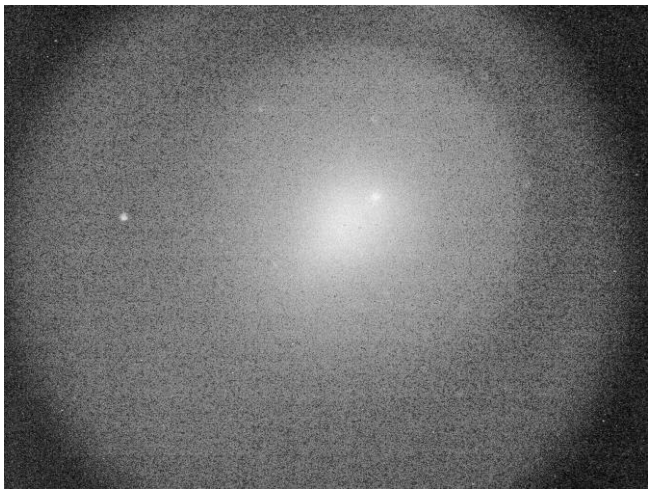
COMET 17P/HOLMES continues to be visible throughout the night, though fading all the time. It is currently performing a loop in the constellation of Perseus, and will be moving south-westwards throughout December. By mid-January it will be close to the variable star Algol, and moving south-eastwards. Look for it this month, with binoculars, a little to the right of Alpha Persei. Don't expect to see a tail; comet Holmes is a fuzzy patch of light, currently expanding into a diffuse glow, and becoming more difficult to spot.

COMET 8P/TUTTLE
This is another periodic comet that is expected to reach naked eye visibility this month. Indeed, this may be the best-ever return of Comet Tuttle, as it is predicted to be brighter than magnitude 6 for a month starting around December 20th. You will need binoculars or a telescope to see it, unless it undergoes an unexpected outburst, which is always possible. Because it is relatively close to Earth this month, the comet has a large apparent diameter, but a low surface brightness, making it difficult to spot in a light-polluted sky. The comet is well-placed for UK observers at the moment, but will disappear from our skies by the end of January. It begins December only 6 degrees from the Celestial North Pole, on the 20th it will be right in the middle of the 'W' of Cassiopeia, and on the 30th will pass within one degree of the galaxy M33 in Triangulum.
Comet Tuttle was originally discovered in January 1790 by Pierre Mechain from Paris, but there were too few observations to permit an orbit to be calculated. It was then re-discovered by Horace Tuttle from Harvard in February 1858. Its orbital period is 13.6 years, and it is the source of the Ursid meteor stream which peaks on December 23rd.

VARIABLE STAR: Algol *(in the constellation of Perseus – see also Comet Holmes)*

December is a bumper month for Algol minima, with no fewer than seven visible from the UK. They occur on December 1st (2.10 am), the 3rd (11.05 pm), the 6th (7.55 pm), the 21st (4 am), the 24th (12.45 am), the 26th (9.35 pm) and the 29th (6.25 pm). The star dims from its normal brightness (magnitude 2.1) to magnitude 3.4 over a period of about five hours.

COMET HOLMES IMAGED AT THE N.A.S. OBSERVATORY



An image of Comet 17P Holmes taken by John Hurst and Mike Provost at the NAS observatory. The camera used was a Nikon Coolpix E995, with a Williams Optics DCL28 lens screwed to the front. Focal Length 8.2mm, 8.0 sec exposure, f/2.8, ISO 400.

DIARY DATES 2007-08

Meetings of the Nottingham Astronomical Society

Our programme for the coming months is below. Don't forget to check our website:
http://beehive.thisisnottingham.co.uk/nottinghamastro
for the latest information about the Society's meetings and observing sessions.

Thursday 6 December 2007
British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)
Talk: "Digital Astrophotography for Dummies"
Kevin Kilburn

Thursday 3 January 2008
British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)
Members' Evening

Thursday 7 February 2008
British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)
Talk: 'Simple Sums for Astronomers'
Dr Roy Gretton
NAS Vice-President

Coming in Summer 2008
Our guest speakers will be:

June – **Andrew Lound** with his talk '**The Discovery of New Worlds'** with some amazing images accompanied by music and supported with various props!

July - **Paul Money** will give his talk **'Mars – the Next Generation'** including 3D images.

OTHER EVENTS

8 - 9 February 2008
European AstroFest 2008
A two-day conference with three floors of exhibits
Kensington Conference & Events Centre
Hornton Street
London W8 7NX
www.astronomynow.com/astrofest/

Small Advertisements

Various items of equipment for sale

Celestron Nexstar 5 telescope and tripod etc.	£395
Tele Vue 8-24 click zoom eyepiece	£75
Vixen Lanthanum 20 eyepiece	£50
Meade 9.7 Super Plossl eyepiece	£25
Celestron 3.6 Plossl eyepiece	£10
Celestron 90-degree erecting diagonal	£10
sodium light pollution filter	£10

Reasonable offers from Society members considered

Please contact Sam Boote
s.boote@bcs.org
0115 937 4644

This advertising space is available free of charge to society members

For Sale

10 inch reflector telescope, focal length 63 inches
with RA Drive
two eyepieces
and storage shed

Any reasonable offer accepted

Phone **Mr Chambers**
0115 914 1454

The Nottingham Astronomical Society: E - SERVICES

'Beehive' Website

Whether or not you are a NAS member, you can now keep up to date with details of the Society's meetings and other events by visiting the NAS 'Beehive' website: http://beehive.thisisnottingham.co.uk/nottinghamastro

NAS Journal e-mailing list

To register for your monthly e-mailed copy of the NAS Journal, just e-mail nottinghamastro@yahoo.co.uk
You don't have to be a Society member to take advantage of this service.

APPLICATION FOR MEMBERSHIP

If you would like to join the Nottingham Astronomical Society, please complete and tear off this slip. Make your cheque/postal order payable to: **THE NOTTINGHAM ASTRONOMICAL SOCIETY**. Then send the slip and payment to Paul Stocks, Secretary, Nottingham Astronomical Society**,** 22 Killerton Park Drive, West Bridgford, Nottingham, NG2 7SB

Alternatively you may hand the slip and payment to the Secretary or Treasurer at one of the Society's regular meetings.

Your name _____

Full address _____

_____

_____ Postcode _____

I wish to join the Nottingham Astronomical Society and enclose the membership fee for:

- ☐ Full Adult £25
- ☐ Junior (17 years or under) £12.50
- ☐ Concession *(full time student, UB40, etc)* £12.50

Please tick and enter your e-mail address if you wish to receive:

- ☐ the monthly **NAS Journal** (in 'Word' format) by e-mail
- ☐ e-mail notifications of dates & times of observing sessions using the large telescope at our observatory.

Your e-mail address: _____

Nottingham Astronomical Society

Affiliated to the **B**ritish **A**stronomical **A**ssociation
Member of the **F**ederation of **A**stronomical **S**ocieties
Member of the **S**ociety for **P**opular **A**stronomy
Supporters of the **C**ampaign **f**or **D**ark **S**kies
Registered Charity No: 1066645

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Dr Roy Gretton
e-mail: roygretton@hotmail.co.uk

DIRECTOR OF OBSERVING and CURATOR OF INSTRUMENTS
John Hurst
***Observatory line:* 07726 940700**

ORDINARY COMMITTEE MEMBERS:
Joe Sowerby
Dorothy Sowerby
Kevin Greally
Robert Bush

Meetings

Our meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August & October) at:
The British Geological Survey
Nicker Hill
Keyworth
Nottingham NG12 5GG

Doors open	7.30pm
Meetings start	**8.00pm**
Meetings end	10.00pm

Meetings are open to the public and visitors are always welcome to attend.

Annual subscriptions 2007-08

Adult	£25
Junior (under 18 years)	£12.50
Concessions*	£12.50

(*Full-time student, jobseeker's allowance, basic state pension)

Subscriptions become due on 1 October. Half-price subscription is charged if joining after 1st April. Please make cheques payable to: Nottingham Astronomical Society.

If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary, Paul Stocks, or speak to any NAS committee member at one of the regular monthly meetings. A membership application form appears inside this issue of the Journal.