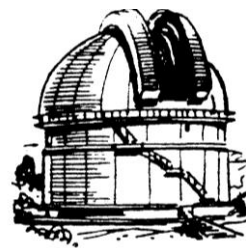

Journal

of the



Nottingham Astronomical Society

March 2010

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Thursday, 4th March

at the

British Geological Survey

Nicker Hill, Keyworth

8 pm (doors open at 7.30pm)

Tonight we welcome the irrepressible

PAUL MONEY

"Sky At Night" magazine reviews editor

who will be speaking on

'OBSERVING ORION'

NEW HUBBLE IMAGES OF PLUTO

The most detailed pictures of Pluto, showing features of the order of a few hundred kilometres across, obtained using the Hubble Space Telescope, reveal seasonal changes in the colour and brightness of the surface. The images provide evidence of a complex planet having white, orange and black components in its terrain. The colours may be due to the decomposition of methane and other carbon compounds by ultraviolet radiation from the Sun. For example, Pluto was seen to become significantly redder between 2000 and 2002, with the northern hemisphere becoming brighter and the southern hemisphere darker, perhaps due to the melting of surface ices near the sunlit pole and their refreezing near the other pole. ("Ices" in this context means solid forms of substances that are normally present as gases on Earth; for example, nitrogen).

The Hubble pictures will assist *New Horizons* mission specialists in their task of picking sites to survey when the mission flies past Pluto. During the swift fly-by, only one hemisphere can be photographed in detail. Further imaging of Pluto by the Hubble Space Telescope is planned using the new Wide Field Camera 3, before *New Horizons* arrives at the dwarf planet in 2015.

Sky Notes

March 2010

Compiled by Roy Gretton



British Summer Time begins on March 28th. Clocks should be advanced by one hour at 2 am on that date.

PHASES OF THE MOON

Last Quarter occurs in the afternoon of March 7th

New Moon occurs in the evening of the 15th

First Quarter occurs on the morning of the 23rd

Full Moon occurs in the early morning of the 30th

This month the Moon is closest to Earth on the 28th, and furthest from Earth on the 12th.

THE PLANETS

Mercury passes through superior conjunction on March 14th, and thereafter will appear in the evening sky, reaching 14 degrees above the horizon at sunset by the end of the month. This apparition will continue into April, when Mercury will be better placed for evening observation than at any other time in 2010.

Venus will gradually be moving away from the Sun in the evening sky, and will have reached an elongation of 19 degrees by the end of the month. It will continue to be a challenging object to locate unless you have a clear western horizon.

Mars continues to be the best of the planets for observation this month, appearing as a bright orange object high in the south in late evening, and therefore well-placed for observation. However, the apparent size of its disk is diminishing rapidly, so that by the end of March it will have shrunk to less than 10 arcminutes (after being 14 arcminutes only a few weeks ago). The brightness of the planet will also have diminished, from magnitude -1.2 to $+0.1$ as the month ends. This is because the Earth, on its smaller orbit, races ahead of the Red Planet and leaves it far behind.

Jupiter is unobservable this month.

Saturn, in the constellation of Virgo, reaches opposition to the Sun on March 22nd, when it will be due south at midnight. The tilt of the ring system is only 3 degrees from horizontal, and therefore in small telescopes the rings will appear as little more than a thin line on either side of the planet.

Both **Uranus** and **Neptune** are unobservable this month.

METEORS

March is a lean month for meteor showers, but there is a small possibility that you will see members of the Virginids toward the close of the month.

VARIABLE STAR: Algol

There are **five** minima of this **eclipsing binary** visible from the UK this month. They occur on March 3rd (1.20 am UT), the 5th (10.05 pm UT), the 23rd (3 am UT), the 25th (11.50 pm UT) and the 28th (9.35 pm BST). The star dims from its normal brightness (magnitude 2.1) to magnitude 3.4 over a period of 4.8 hours.

Observing Report: JANUARY ENDS IN A BLAZE OF GLORY

Much of the opening month of 2010 was plagued with cloudy skies in the UK. For about two weeks in mid-to-late January there was little opportunity for astronomical observation, with grey days and disappointingly murky nights (although one exception was the evening of the 17th, close to the New Moon). Hence the sky was overcast on the night of January 27th, when Mars was at its closest to Earth, but thankfully the clouds moved off just in time for the opposition on January 29th, when the night was sparkingly clear, and the Red Planet could be seen in all its glory. Although this opposition was far from ideal, with Mars being more distant (at 61.7 million miles) and so appearing smaller than it did in August 2003 (when it was a mere 34.6 million miles away), this was partly compensated for by the fact that the planet was at a much higher elevation when viewed from Britain, so that atmospheric turbulence was less of a problem. In the late evening of January 29th, the Martian north polar ice-cap was clearly visible, together with the adjacent large dark area of the Mare Acidalium, while strung out just south of the equator could be seen the dark features of Sinus Sabaeus, Sinus Meridiani and Sinus Margaritifer.

The clear, frosty conditions were repeated on the following night, when the Moon happened to be Full. **And what a Full Moon it was!** High in the sky close to Mars, it was the largest Full Moon of the year, with an angular diameter of 33.5 arcminutes, because this date coincided with perigee, the point in the Moon's orbit when it is closest to Earth. In fact, this was the closest approach of the two bodies in the whole of 2010. (Compare this with the situation two weeks later, on February 13th, when the Moon had a diameter of only 29.4 arcminutes). Of course a Full Moon, large or small, obliterates our view of the fainter deep-sky objects, but it is no problem when observing a body as bright as Mars.

After the weekend of the opposition of Mars, we had to wait nearly a week for the next clear evening, on February 6th, which turned out to be a one-off: the surrounding nights were impenetrably overcast. But the 6th was brilliantly clear until after 11 pm, when high cloud started to encroach from the southwest. In mid-evening, the Syrtis Major was the main dark feature on display (the changing aspect being due to the fact that the rotation period of Mars is 24 hours 37 minutes, so that if you wait a few nights you get to see different areas of the planet).

If you missed this opposition of Mars, the next one will occur on March 3rd, 2012, but Mars will then be even further away from us than it was this year. The next really close opposition (at 35.8 million miles) will be on July 27th, 2018, when UK observers will again be disadvantaged by the low altitude of the planet in our sky.

Roy Gretton

DIARY DATES 2010

Meetings of the Nottingham Astronomical Society

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

Thursday 4th March 2010

British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)

Talk: '**Observing Orion**'
Paul Money FRAS

"The Sky At Night" reviews editor.

Thursday 1st April 2010

British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)

Talk: '**Saturn Lord of the Rings**'

Andy Lound

Thursday 6th May 2010

British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)

Talk: '**Astrophotography with a DSLR Camera**'

Dr Roy Gretton
NAS Vice President

Thursday 3rd June 2010

British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)

Talk: '**Is there or has there been Life on Mars?**'

Prof. Mark Sims
Physics and Astronomy Department
University of Leicester

Thursday 1st July 2010

British Geological Survey, Keyworth
8.00pm (Doors open 7.30pm)

Members Evening, with short talks by members of the NAS, including
"**After the Space Shuttle, What's Next? -
NASA's plans for the future of human spaceflight**"

Paul Stocks

If you know of anyone who is willing to give an astronomy or science-related talk at one of our monthly meetings, please let the Secretary (or any committee member) have their contact details

Public astronomy lecture at the University of Leicester

Lots in Space!

Date: Tue 16th March 2010

Time: 6:30 pm on

Speaker: Dr Jonathan Nichols

Abstract:

Space has an undeserved reputation for being empty. The vast tracts of space between cosmic bodies is permeated by electromagnetic fields and plasmas, whose complex interactions generate significant dynamism in the universe. At Earth, these interactions pose problems for astronauts and satellites, affect polar communication networks and air traffic, as well as causing the spectacular glowing auroras, or 'northern lights'. Spacecraft have revealed that other planets exhibit their own spectacular plasma processes, and they have even been observed around other stars. Dr Jonathan Nichols of the Department of Physics and Astronomy at the University of Leicester will discuss the science of space plasmas and reveal that there is, in fact, lots in space.

Lecture Theatre 3
Ken Edwards Building
University of Leicester
University Road
Leicester
LE1 7RH

Registration is required.

Contact: Dr Darren Wright (dmw7@ion.le.ac.uk) or via www.le.ac.uk/lpc

OPEN DOME EVENT AT NOTTINGHAM TRENT UNIVERSITY

- Date:** 25 March 2010
Time: 7.00pm - 9.00pm
Event: Open Dome Event: Soviet Cosmos
Location: CELS Building, Clifton Campus, Nottingham Trent University
Details: **Guests should meet at 6.30pm in the foyer of the CELS Building.**

This event will begin with an illustrated lecture on the history of Soviet space exploration as a symbol of utopian desire. The presentation will be delivered by Rolf Hellebust, an Associate Professor from the University of Nottingham.

Following this, there will be the opportunity to observe the evening sky using the NTU observatory telescope. If we are unable to observe due to poor weather conditions, a small planetarium session will be offered in the observatory dome.

Advanced booking is required for this event as places are strictly limited. To register, please contact [Dr Daniel Brown](#).

For further details about the optical observatory, please see the [observatory website](#). Additional

information about this event can be found by visiting the [Nottingham Contemporary website](#).

Public astronomy lecture at the University of Nottingham

"WIMP Hunting: The Search for Dark Matter"

Speaker: [Dr. Anne Green](#)

Date: Thursday 18th March 2010

Time: 6-7 pm

Venue: Maths & Physics Building (B1)
University Park Campus
Nottingham

The 2010 UK Space Conference

will take place from March 24th-28th at Charterhouse School, near Godalming Surrey.

'TOWARDS A NEW UK SPACE AGENCY'

With Lord Drayson's announcement that there will be a new UK Space Agency the UK is entering period of major change. This is a period both of possibility and challenge for the UK Space Industry and for Space Research. We appear to be entering a golden age for Space based Astronomy and Exploration. The government has heaped praise on the UK Space Industry and are setting ambitious targets for future growth. However, the state of Government finances and the urgent need for a new generation of Scientists and Engineers mean that the new UK Space Agency will be launched with serious challenges and the need for decisive leadership and support from the UK Space Community.

Further information at: brohp2@aol.com

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 website:
www.nottinghamastro.org.uk

NAS Journal e-mailing list

To register for your monthly e-mailed copy of the NAS Journal, just e-mail
info@nottinghamastro.org.uk

You don't have to be a Society member to take advantage of this service.

Small Advertisements

FOR SALE

Celestron C11 optical tube assembly	£1250
Losmandy GM-8 equatorial mount with Gemini system	£1200
Tele Vue binoviewer	£450
Celestron dewshield for 11-inch tube	£20

For full details, please contact Sam Boote:

0115 937 4644
s.boote@bcs.org
www.sboote.demon.co.uk/astro

FOR SALE

Vixen single-axis (Right Ascension) drive motor and hand controller to fit Great Polaris or GP-DX equatorial mount.

Also battery case for use with the above.

£28

Email the Editor: roygretton@hotmail.co.uk

NAS Members may submit private advertisements for inclusion free of charge in the Journal. Please email the Editor.

NAS Membership application 2009/10

If you would like to join the Nottingham Astronomical Society, please complete the form below. Hand the slip and payment (cheque or cash) to the Treasurer at any of the Society's meetings.

If paying by cheque, please make it payable to **Nottingham Astronomical Society**. Alternatively, you may post the slip and your cheque (*not cash*) to

Sam Boote, Treasurer
Nottingham Astronomical Society
17 Rannock Gardens
Keyworth
Nottingham NG12 5FQ

Title: _____ Name: _____

Address including postcode: _____

Telephone: _____

e-mail: _____

please tick one box

Subscription rate:	Full	£25.00	<input type="checkbox"/>
	Concession	£12.50	<input type="checkbox"/>
	Half-year*	£12.50	<input type="checkbox"/>
	Concession half-year*	£6.25	<input type="checkbox"/>
	Joint rate for partners living		
	at the same address:	whole year	£37.50 <input type="checkbox"/>
		half year*	£18.75 <input type="checkbox"/>

**Half-year is available from 1 April to 30 September*

Gift Aid

Do you pay Income Tax and/or Capital Gains Tax? If so, would you like to register for Gift Aid? Please ask the Treasurer for a Gift Aid declaration form. You need to fill it in only once. As a registered charity, the Society will get £6.25 from the taxman for each £25 subscription. You have to be a UK tax payer in order to participate in Gift Aid.

Nottingham Astronomical Society

Affiliated to the **British Astronomical Association**
Member of the **Federation of Astronomical Societies**
Member of the **Society for Popular Astronomy**
Supporters of the **Campaign for Dark Skies**
Registered Charity No: 1066645

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CURATOR OF INSTRUMENTS:**

John Hurst

email: jmhurst@hotmail.co.uk

Observatory line: 07726 940700 (line open during observing sessions)

CAMPAIGN FOR DARK SKIES

REPRESENTATIVE:

Barrie Chacksfield

email: b.chacksfield@bgs.ac.uk

ORDINARY COMMITTEE MEMBERS:

Joe Sowerby

Dorothy Sowerby

Kevin Greally

David Anderson

Julie Morledge

Meetings

Our meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August) 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 2009/10

Full	£25
Concessions	£12.50
Joint rate for partners living at the same address	£37.50

Subscriptions become due on 1st 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 info@nottinghamastro.org.uk or speak to any NAS committee member at one of the regular monthly meetings. A membership application form is inside this issue of the Journal.

The Nottingham Astronomical Society

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