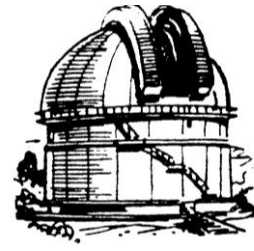

Journal

of the



Nottingham Astronomical Society March 2008

Inside this issue

- Sky Notes for March
- Observatory archive material
- Equations from February's talk
- Diary Dates
- Advertisements
- E-Services
- Membership

Thursday 6th March

at the

British Geological Survey

Nicker Hill, Keyworth

8 pm (doors open at 7.30pm)

Tonight we welcome

Terry Scholey

long-range weather forecaster

who will be speaking on

***The Effect of the Sun and Moon
on Earth's Weather***

THE DATE OF EASTER

Why is Easter so early this year?

It appears that there is no simple formula for calculating the date of Easter, but in most years **Easter Sunday is the first Sunday after the Full Moon that occurs on or after the Vernal Equinox.**

The method of calculation is different for the Eastern (Orthodox) Easter, based on the Julian calendar, compared with the Western Easter based on the Gregorian calendar. Hence Easter is sometimes observed by the Orthodox churches a week or even a month after the Western churches have done so.

In 2008, the **Vernal Equinox** occurs on March 20th, and there is a **Full Moon** on the following day, which happens to be a Friday. Hence **Easter Sunday** is March 23rd (almost, but not quite, as early as it can be).

Sky Notes

2008 March

Compiled by Roy Gretton



The Vernal Equinox (when the Sun is directly overhead at Earth's equator) occurs shortly before 6 a.m. on the morning of March 20th.

British Summer Time

Clocks go forward one hour at 2 a.m. on March 30th.

PHASES OF THE MOON

New Moon occurs in the late afternoon of March 7th

First Quarter occurs on the morning of the 14th

Full Moon occurs in the early evening of the 21st

Last Quarter occurs in the evening of the 29th

This month the Moon is closest to Earth on the 10th, and furthest from Earth on the 26th.

THE PLANETS

Mercury begins the month as a morning object, and reaches greatest western elongation on March 3rd. Although the planet will then be 27 degrees from the Sun, it will be a difficult target to spot, being only 5 degrees above the southeastern horizon at sunrise. Through binoculars you may be able to spot both Mercury and Venus together on this date, as they will be just two degrees apart. Thereafter, Mercury moves back toward the Sun, and soon becomes lost from view.

Venus, difficult to spot in the morning sky at the beginning of March, is virtually lost from view by the end of the month, when it will be a mere two degrees above the horizon at sunrise.

Mars is still prominent in the evening sky, but continues to fade and diminish in angular diameter as the Earth moves further away from it.

Jupiter is a morning object in the constellation of Sagittarius, but is too low down for easy observation this month. In fact, in 2008 Jupiter will be at its most southerly position in the sky, a big disadvantage for UK telescopic observers. It should however be a pleasing object for naked-eye observers in the coming summer.

Saturn is by far the best planet to observe this month. It is a few degrees southeast of Regulus in the constellation of Leo, and is visible all night. It reaches maximum elevation above the southern horizon in the late evening, and is a promising target for telescopic observation.

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

METEORS

Meteor activity is at its lowest in February and March, with small background rates and only minor showers expected. Toward the end of this month the Virginids start to become active, with perhaps a couple of meteors per hour visible.

VARIABLE STARS: Algol

There are three minima of this **eclipsing binary** visible from the UK this month. They occur on March 1st (9 pm), the 19th (2 am), and the 21st (10.35 pm). The star dims from its normal brightness (magnitude 2.1) to magnitude 3.4 over a period of 4.8 hours.

NAS Observatory DVD and archive material

Brian Griffin, a past Treasurer of the Nottingham Astronomical Society, has kindly given the society a DVD and paper archive of material relating to the building of our observatory.

Construction of the observatory began in 1981. The building work was carried out by NAS members in their spare time at weekends during the summer months of the 1980s and 1990s – a remarkable achievement. The observatory was formally opened by Professor Mike Merrifield at a ceremony in May 2006; the 60th anniversary of the founding of the society.

Brian was closely involved in the observatory project from the beginning. Amongst other material on the DVD, Brian has assembled a vast collection of images of the construction work including digging the foundations, laying the bricks, and lifting the dome (once part of an old grain silo) onto the circular wall. Each image has a full description. The paper archive catalogues the stages of construction and includes other details of the observatory.

Members will have the opportunity to view the DVD images at a future Members' Evening.

On behalf of the committee I would like to thank Brian for the archive, which will be of interest and value to the society in the years to come.

Paul Stocks
NAS Secretary

Simple Sums for Astronomers

The main equations from February's talk

Gravity

$$F = \frac{GM_1M_2}{r^2}$$

where **G** is the universal gravitational constant
M₁ and **M₂** are the masses of the two bodies
r is the distance between the bodies
and **F** is the force of attraction between the bodies

$$F = mg$$

where **F** is the force acting on a body in a gravitational field
m is the mass of the body
and **g** is the local acceleration due to gravity

To calculate the local acceleration due to gravity on the surface of a planet:

$$g = G \times \frac{\text{mass of planet}}{(\text{radius of planet})^2}$$

Orbits

Kepler's Third Law:

$$p^2 = kr^3$$

where **p** is the period of revolution of the planet
r is the radius of the planet's orbit
and **k** is Kepler's Constant

Redshift, z

$$z = \frac{\text{observed wavelength} - \text{rest wavelength}}{\text{rest wavelength}}$$

For the classical Doppler effect: $Z = v/c$ where **v** is the velocity of the object
and **c** is the velocity of light

For a cosmological redshift:

$$z = \sqrt{\frac{1 + v/c}{1 - v/c}} - 1$$

DIARY DATES 2008

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 March 2008

British Geological Survey, Keyworth

8.00pm (Doors open 7.30pm)

Our guest speaker is

Terry Scholey

Nottingham's local long-range weather forecaster

who will speak on

'The effect of the Sun and Moon on Earth's weather'

Thursday 3 April 2008

British Geological Survey, Keyworth

8.00pm (Doors open 7.30pm)

'Gravitational Lensing:

Revealing the dark side of the Universe'

Dr Meghan Gray

University of Nottingham, School of Physics & Astronomy

Thursday 1 May 2008

British Geological Survey, Keyworth

8.00pm (Doors open 7.30pm)

'Caroline Hershel'

Madeline Cox

Librarian, Society for the History of Astronomy

Thursday 5 June 2008

British Geological Survey, Keyworth

8.00pm (Doors open 7.30pm)

'The Discovery of New Worlds'

Andrew Lound

A dramatic talk, with music and props!

Thursday 3 July 2008

British Geological Survey, Keyworth

8.00pm (Doors open 7.30pm)

'Mars – The Next Generation'

Paul Money

August

Summer break

No meeting at BGS this month

OTHER EVENTS

IAYC 2008 **July 20th - August 9th** **44th International Astronomical Youth Camp** **Sayda, Germany**

Every year, for 39 years now, the International Astronomical Youth Camp (IAYC) takes place somewhere in Europe. About seventy people from many different countries live together for three weeks. They are aged between 16 and 24 years old and share the same interest: astronomy. The IAYC is different from most astronomical camps for two reasons: the international character and the fact that you do your own small research project, not just accepting facts but rather discovering them yourself. The IAYC is also not like a hotel where one follows a summer school or an astronomy course. Every participant with his or her own cultural background forms an important piece in the complex puzzle of camp life.

This years camp will take place in the "Jugendgastehaus Mortelgrund", a youth hostel in the South East of Germany. The house is located about 2.5 km from the small village of Sayda, which has about 2,300 inhabitants. It is a pleasant wooded area in the "Erzgebirge", about 45km from Dresden.

The IAYC is an international youth camp with participants from about 20 different countries. As a participant you work for three weeks in one of the 8 working groups - together with other young people – on astronomy related projects. These projects are done in a working group of your choice and also depend on your own interest. The working groups themselves will be led by young scientists from the IAYC team and concentrate on a specific field in astronomy. This year these are: Ancient Astronomy, Astrogenises, Basics of Astronomy, Compact Objects, Extragalactic astrophysics, Observational Astronomy, Radio Astronomy and Imaging processing. Of course apart from the astronomical program, there are many non-astronomical activities such as group games, sport events, singing evenings, hiking tours and an excursion.

The accommodation for the IAYC 2008 will be a very pleasant youth hostel called "Jugendgastehaus Mortelgrund". The house offers plenty of space for all participants and working groups and there will also be a darkroom available to the people who want to develop astropictures. At walking distance there is a field which can be used for observations. The remote location of the house promises excellent observing conditions.

Since it is an international camp, the camp language is English. You should be able and willing to speak English throughout the camp although it is not necessary to speak English fluently. Anyone from 16 to 24 years old and able to communicate in English may participate in the IAYC 2008. The fee for accommodation, full board and the whole program, including the excursion, will be 550 Euro. For interested persons who are in the situation of not being able to pay the camp fee themselves, a limited number of grants is available.

More information about IAYC 2008 and the working groups is available on our website: http://www.iayc.org/next_camp.php . There you can also download the application form.

If you have any questions or wish to order, free of charge, an information booklet including an application form, please contact:

Ana Brajovic
Svetog Save 20/1a
11000 Beograd
Serbia
tel.: +381 642 623182
e-mail: info@iayc.org

International Astronomical Youth Camp

IAYC 2008, Sayda, Germany
website : <http://www.iayc.org/>

more info : info@iayc.org

Small Advertisements

Various items of equipment for sale

Celestron Nexstar 5 telescope and tripod etc. (including nylon cover and power supply)	£395
Pop-up observatory tent	£95
Carl Zeiss 10x50 binoculars with leather case	£25
Meade 9.7 Super Plossl eyepiece	£25
Celestron 3.6 Plossl eyepiece	£10
Celestron 90-degree erecting diagonal	£10
sodium light pollution filter	£10

**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.

Nottingham Astronomical Society

The Nottingham Astronomical Society, and/or the Editor accept no responsibility for any errors that may occur within this publication. Any views expressed in the NAS Journal are those of the individual authors and not necessarily endorsed by the Nottingham Astronomical Society, its Committee or Members.

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 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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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.
