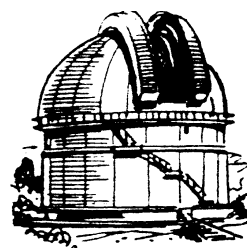

Journal

of the



Nottingham Astronomical Society

September 2012

Inside this issue

- Sky Notes for September
- Diary Dates for 2012
- Astronomical Delights of Summer
- NAS e-Services
- Small advertisements
- Society Information
- Membership application form

Thursday, September

British Geological Survey

Nicker Hill, Keyworth

8 pm (doors open at 7.30pm)

Tonight we are holding a

Members' Evening

(to which visitors are warmly welcome)
with the theme

**"All about Telescopes—
a Practical Evening"**

A BRIGHT COMET FOR NEXT SPRING?

Comet 2011 L4 (PanSTARRS) was discovered 14 months ago by the Pan-STARRS (Panoramic Survey Telescope and Rapid Response System) in Hawaii. The object was then magnitude 19 and at a distance of 8 astronomical units (AU), and calculations showed that it would reach perihelion on 11th March 2013, when it would be only 0.3AU from the Sun, and quite possibly a naked eye object when viewed from Earth.

The comet is currently about 5AU away. It has brightened to magnitude 13, and is within range of amateur observers in the southern hemisphere. A small tail has already formed, indicating that the comet is active, which is a good sign for future development. However, the behaviour of comets is notoriously difficult to predict, and in the recent past some that showed promise of brilliance turned out to be disappointingly faint. Nevertheless, Comet 2011 L4 could well become a naked-eye object, visible from our latitude in the second half of next March, although very low down in the west as it moves through Pisces and Andromeda. From the shape of its orbit it seems that this is the comet's first visit to the inner Solar System.

The main purpose of the Pan-STARRS facility is to discover and characterize Earth-approaching objects, both asteroids and comets, that might pose a threat to our planet.

Sky Notes

September 2012

Compiled by Roy Gretton



THE AUTUMNAL EQUINOX, when the Sun will be exactly overhead at Earth's equator, occurs on the afternoon of September 22nd.

PHASES OF THE MOON

Last Quarter occurs on September 8th

New Moon occurs on the 16th

First Quarter occurs on the 22nd

Full Moon occurs on the 30th

This month the Moon is closest to the Earth on the 19th, and furthest from the Earth on the 7th.

THE PLANETS

Mercury is virtually unobservable this month.

Venus is unmissable in the morning sky before dawn as it moves between the constellations of Gemini and Cancer. Slightly less brilliant than it was in August, its magnitude will still be -4 as September closes, so it will continue to be the brightest object in the heavens, other than the Sun and Moon.

Mars, moving yet further southward in the evening sky and fading as it nears the Sun, is now difficult to spot, let alone observe successfully.

If you have been out and about in the late evening, and looked east when the sky was clear, you can hardly have failed to spot **Jupiter**, rising majestically below the Pleiades. You might even have thought that you were looking at an unusually bright Aldebaran, but Jupiter is several degrees to the east of this star, and shining at magnitude -2.3 . By the end of September its equatorial diameter will have grown to 43 arcseconds and it will be rising before 10 pm BST.

Saturn, like Mars, is becoming very difficult to observe, low in the evening sky after sunset as it moves toward conjunction with the Sun in October.

Uranus, shining at magnitude 5.7, reaches opposition to the Sun on September 29th, when it will be close to the magnitude 5.8 star 44 Piscium. In fact, on September 23rd, Uranus will be less than one arcminute from this star, so to the naked eye the two objects will appear to become a single "star" of magnitude 5.

Neptune, in the constellation of Aquarius, is well placed for observation as September begins. It is, of course, a tiny target, 2.4 arcseconds across and shining at magnitude 7.8.

METEORS

September's main shower is the **Piscids**, which appear from several radiants close to the ecliptic. The second week on the month will probably be the best period for spotting these meteors, with the Moon approaching New.

VARIABLE STAR: Algol

There are **two** minima of this **eclipsing binary** visible from the UK this month. They occur on September 17th (2.50 am BST) and on the 19th (11.40 pm BST). The star dims from its normal brightness (magnitude 2.1) to magnitude 3.4 over a period of 4.8 hours, and then returns to its normal brightness in a similar length of time.

DIARY DATES 2012

Monthly Meetings of the Nottingham Astronomical Society

Our programme for this year is shown below. Don't forget to check our website:
www.nottinghamastro.org.uk

for the latest information about the Society's meetings and for
further information about the talks and speakers.

Our meetings are held on the **FIRST THURSDAY** of the month,
at the British Geological Survey, Keyworth, Notts. NG12 5GG

Doors open at 7:30pm for 8pm start.

Thursday, 6th September 2012

Members' Evening - "All About Telescopes - a Practical Evening" (Visitors Welcome)

Thursday 4th October 2012

Talk: **"The Centre of our Galaxy - Black Holes, Rare Stars and Cosmic Mayhem "**

Prof Michael Merrifield
University of Nottingham

Thursday 1st November 2012

2012 Annual General Meeting

Thursday 6th December 2012

Talk: **" Climate Change and the Sun-Earth Connection"**

Dr Jim Wild
Space Plasma Environment and Radio Science Group
Lancaster University

ASTRONOMICAL DELIGHTS OF SUMMER

For me, the coming of the month of June means, as far as my hobby is concerned, the time of year when I do a spot of maintenance on my observatory and telescope. Mirrors are usually in need of cleaning, which I carry out in the hope that they will be usable for another winter season without the effort and expense of getting them re-aluminised – although with each passing year they become less efficient at their main job (light-gathering).

This year I repositioned the main mirror a little further back in the tube in order to make focusing easier with the Crayford mount I had acquired in 2011, and fitted two new (home-made) cradle brackets because one of the original brackets had broken. I didn't want to risk another day with the possibility of my 30-cm reflector crashing on to the observatory floor! These tasks were completed in early June, so it was now a matter of waiting for the skies to darken so that I could test the instrument after the adjustments. Of course, it turned out to be the wettest June on record (*what transit?!!*), so I didn't even have chance to observe the Moon, but the weather had improved by mid-July, and although true darkness had not yet returned, by staying up late I was able to begin observing deep-sky objects once again. The first one I turned my attention to was M13, the great globular cluster in Hercules. I was struck afresh by the beauty of this object, a dense cluster of thousands of stars, some of which appear to radiate from the centre in long curved lines. At a magnification of about 160x the cluster was easily resolved to its core. Although my 'scope has an aperture of nearly 12 inches, I'm sure an 8-inch instrument with mirrors in good condition would show just as much detail at the same magnification. By mid-August, close to New Moon, I was ready to attempt to image M13 with my DSLR camera at the prime focus of the telescope.



M13 imaged for 13.5 minutes
at ISO 400
on 2012 August 15

On the same evening I turned my attention to another well-known object, M57, the Ring Nebula in Lyra, and to a less well-known target, M71 in Sagitta, which apparently was once classified as a dense open cluster, but is now recognised to be globular cluster, seen among the many stars of the Milky Way – truly a rich part of the sky.



M57, imaged for 15 min at ISO 400



M71, imaged for 27.5 min at ISO 400

Of course, not all of summer's delights require the use of a telescope, and this is certainly true of the **Perseids**, the meteor shower that turns up faithfully every August. Maximum activity occurs around the 12th, but I was lucky enough to glance up and see a bright Perseid coming from the east and passing almost overhead at about 11 pm on the August 7th. I was in Norfolk that week, about 5 miles south of Cromer, with a particularly dark sky to the east, which was ideal. The night of August 12th turned out to be clear, so by 10 pm I had forsaken the TV coverage of the Olympic Closing Ceremony to go outside to watch the Perseids, which I found far more exciting. All of the meteors I observed were fast-moving, with many of them being bright, and leaving glowing trails that persisted for several seconds. My only regret was that I had left my Canon DSLR at home, otherwise I would have opened its shutter in the hope of capturing some of those events.

Incidentally, a friend who was actually in the Olympic stadium for the Closing Ceremony happened to spot a Perseid above the glare of the artificial lighting – which shows just how bright these meteors can be!

Roy Gretton

The Nottingham Astronomical Society: E - SERVICES

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

secretary@nottinghamastro.org.uk

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

SKYWATCHER TELESCOPE FOR SALE

SKYWATCHER telescope, 114mm aperture, 1000mm focal length, catadioptric Newtonian reflector, used only once and as new.



The owner reports a new instrument of the same type for sale on Ebay at about £130, but would be willing to accept £60 or near offer in this case.

Contact

Michael Neal
Nottingham Road
Keyworth

Tel: 0115 9375695

WANTED: Eyepieces

I am currently looking for 2nd hand Televue eyepieces to compliment my TV 101.

I am looking for mainly Nagler eyepieces but would be interested in other models in the Televue too.

I am situated close to Alfreton, Derbyshire. Thank you.

Paul Davies
Email: paul@graphic.demon.co.uk

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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Joe Sowerby

Dorothy Sowerby

Kevin Greally

David Anderson

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 2012

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

Subscriptions become due on 1st January. Half-price subscription is charged if joining after 1st July. 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 secretary@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.

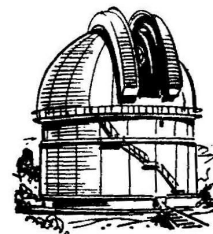
The Nottingham Astronomical Society

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NOTTINGHAM ASTRONOMICAL SOCIETY

Founded in 1946 for all interested in astronomy
Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies

Registered Charity No. 1066645
Member of the Society for Popular Astronomy
Supporter of the Campaign for Dark Skies



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	Concession	£12.50		£6.25	
	Partnership	£37.50		£18.75	

Concession = under-18 / full-time student / unemployed and receiving benefits

Partnership = two members living together as a couple at the same address

I wish my subscriptions to be eligible for Gift Aid **Yes / No**

Gift Aid declaration

(HMRC reference XR32048)

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I pay an amount of UK Income Tax and/or Capital Gains Tax at least equal to the tax that Nottingham Astronomical Society reclaims on my donations in the appropriate tax year.

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