SPACEWATCH
the newsletter of the Abingdon Astronomical Society

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"Aurorae – from the Sun to our Planet and Beyond"

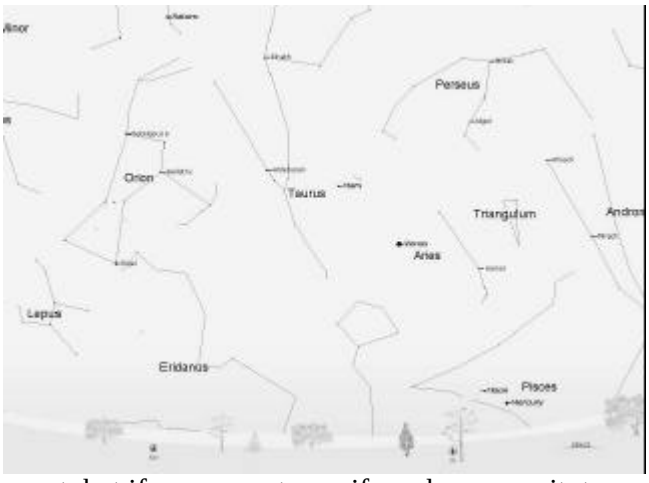
THE NIGHT SKY THIS MONTH

By Bob Dryden

The Sun reaches the spring equinox on 20th March at 06hr 49 min UT, so the nights become shorter than the days. At least it should be a bit warmer for observing (or so we hope).

Planets:
Most of the action this time involves the three nearest planets to Earth.

First, **Mercury**, which will be visible in the evening sky and, in fact, this will be its best showing in the evening for the whole of this year. It should be visible from about the second week of March, right through until April. Greatest elongation (ie: its furthest point from the Sun) is the 29th March when it will be at 0 magnitude and will set about 20.30 UT, which is a full 2 hours after the Sun. Mercury will be towards the



west, but if you are not sure if you have seen it, try and look on the evening of 22nd March. That night a thin crescent Moon will give you a guide as the planet will be just 5 degrees away. It will be the bright 'star' to the right, and just slightly lower than the Moon. They will be setting by about 19.30 so make sure you look early enough.

The second planet of interest at the moment is the dazzling **Venus**. It too reaches greatest elongation on 29th March, but is a full 46 degrees away from the Sun (as opposed to Mercurys 19 degrees) so it can be seen

in a dark sky, long after sunset. In theory, greatest elongation is the date Venus should show half phase (then it moves into the crescent phase which is when it really looks spectacular in a telescope), but it never does. A small project for the observer is to gauge when exactly half phase is reached. In an evening apparition like this one, that point is usually reached before the elongation date. What date do you thing it is reached? The first week of April finds Venus quickly approaching the Pleiades, and on the 3rd April it will be at its closest. The view in binoculars will be fantastic.

Our third planet if interest this period is good old **Mars**. Most people have forgotten Mars is still about, largely because it is nowhere as near as bright as it was last year, and telescopically the view is poor now. However, to the naked eye observer, Mars is rapidly approaching Taurus and by the end of March it passes between the Pleiades and the Hyades. The evening of 25th March presents a nice grouping of Mars, Pleiades, and a crescent Moon all close together. In fact, over the course of the evening, watch how the Moon approaches Mars. By the time the pair set at about 23.30 UT they will be very close together. In fact, the Moon does occult the planet shortly after they set but from the UK it will only be visible from the extreme northerly isles of Scotland.

The other two planets on view are of course **Jupiter** and **Saturn**. Both are very bright and above the horizon from the moment it goes dark. Saturn is still

in Gemini high overhead and Jupiter resides in Leo, over in the east as it goes dark.

Comets:
There are no major meteor showers or interesting occultations this time. There is still comet C/2002 T7 LINEAR to look out for though. It is still just below the Square of Pegasus in Pisces, but is getting lower and lower. However, it is getting brighter and brighter, so perhaps this will compensate for the decreasing altitude. According to the predictions, it could be as bright as 3.7 mag by early April, in which case binoculars should show it quite easily. It already has a small tail, so try and see how much of it you can see.

MOON PHASES:

Full: 6th Mar.; Last Qtr: 13th Mar.; New: 20th Mar.; 1st Qtr: 28th Mar.; Full: 5th Apr.

NASA's Space Place

Deep Space Network 2-for-1 Sale!

By Patrick L Barry

Call it a "buy one, get one free" sale for astronomers: Build a network of radio dishes for communicating with solar-system probes, get a world-class radio telescope with a resolution nearly as good as a telescope the size of Earth!

That's the incidental bonus that NASA's Deep Space Network (DSN) offers the astronomy community. Designed to maintain contact with distant spacecraft in spite of the Earth's rotation, the large, widely spaced dishes of the DSN are ideal for performing a form of radio astronomy called "very long baseline interferometry" (VLBI).

VLBI produces very high resolution images of the cosmos by combining the output from two or more telescopes. The result is like having a giant "virtual" telescope as large as the distance between the real dishes! Since bigger telescopes can produce higher resolution images than smaller ones, astronomers need to use dishes that are as far apart as possible.

That need dovetails nicely with the DSN's design. To maintain continuous contact with deep space missions, the DSN has tracking stations placed in California, Spain, and Australia. These locations are roughly equally spaced around the Earth, each about 120 degrees of longitude from the others-that way at least one dish can always communicate with a probe regardless of Earth's rotation. That also means, though, that the straight-line distance between any two of the stations is roughly 85 percent of Earth's diameter-or about 6,700 miles. That's almost as far apart as land-based telescopes can be.

"We often collaborate with other VLBI groups around the world, combining our dishes with theirs to produce even better images," says Michael J. Klein, manager of the DSN Science Office at NASA's Jet Propulsion Laboratory. "Since our 70-meter dish in Canberra, Australia, is the largest dish in the southern hemisphere, adding that dish in particular makes a huge difference in the quality of a VLBI observation."

Even though only about 1 percent of the DSN's schedule is typically spared from probe-tracking duty and scheduled for radio astronomy, it manages to make some important contributions to radio astronomy. For example, the DSN is currently helping image the expanding remnant of supernova 1987A, and Dr. Lincoln Greenhill of the Smithsonian Astrophysical Observatory is using the DSN dishes to explore a new way to measure the distances and velocities of galaxies.

And all this comes as a "bonus" from the dishes of the DSN.

To introduce kids to multi-wavelength astronomy, NASA's website for kids, The Space Place, has just added the interactive demo, "Cosmic Colors," at spaceplace.nasa.gov/cosmic .

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

NOTICES

New Society E-Mailing List

We have recently changed the hosting of the society's e-mailing list. NTL had disallowed messages from the previous list, hosted by Topica, due the amount of spam e-mail allowed by Topica. Since several of our members are on NTL they were effectively ex-communicated! The new provider, SmartGroups, is part of Freeserve (owned by Wanadoo). Since Wanadoo is an EU-based company they are covered by new anti-spam legislation. If you have not yet changed over, please do so soon, as the Topica list will be dropped in the next few weeks.

See the section about the mailing list later on for details of how to join the new list.

The new list allows browsing of messages via a web interface, so if you don't want your Inbox filled with society correspondence, you can opt to only view the messages at your leisure this way. It also offers certain other features, including: Group Email, Voting, Calendar, Database, Link Store, Classified Ads, File Store and Picture Albums - some of which could be quite useful.

The 26th Annual Astronomy Weekend, organised by Oxford University Continuing Education is being held over the weekend of the 26th – 28th March at Rewley House, 1 Wellington Square, Oxford. There are seven lectures over the Friday evening and the weekend, covering various topics on the subject of life in the universe.

The weekend costs £68 per person (non-residential no meals), £107 (non-residential with meals), £169 residential with meals (£147 if accommodation shared).

If you would like more information about this event please contact ppdayweek@conted.ox.ac.uk or telephone 01865 270380.

FURTHER DISCUSSION

The society's e-mailing list is used by members to comment on all things astronomical, as well as other related and not-so-related subjects. The list is also used to publicise "first-clear-night" observing evenings and for alerting members to hot observing news.

The list host has recently changed. Please make sure you are now on the new list hosted by SmartGroups, not the old list hosted by Topica, which will soon be dropped.

To view the messages on the web go to:
http://www.smartgroups.com/groups/abastro .

To subscribe to the list either go to this web page and click on "Join the Group" or send an email to abastro-subscribe@smartgroups.com . You will then receive all e-mails sent to the list. To post e-mails on the list: send an email to abastro@smartgroups.com . To unsubscribe: send an email to abastro-unsubscribe@smartgroups.com

Don't forget the Society's web site:
www.abingdonastro.org.uk

Our webmaster, Chris Holt is always on the look-out for members photographs to put on there. Don't forget you can read back copies of SpaceWatch on the web site too.

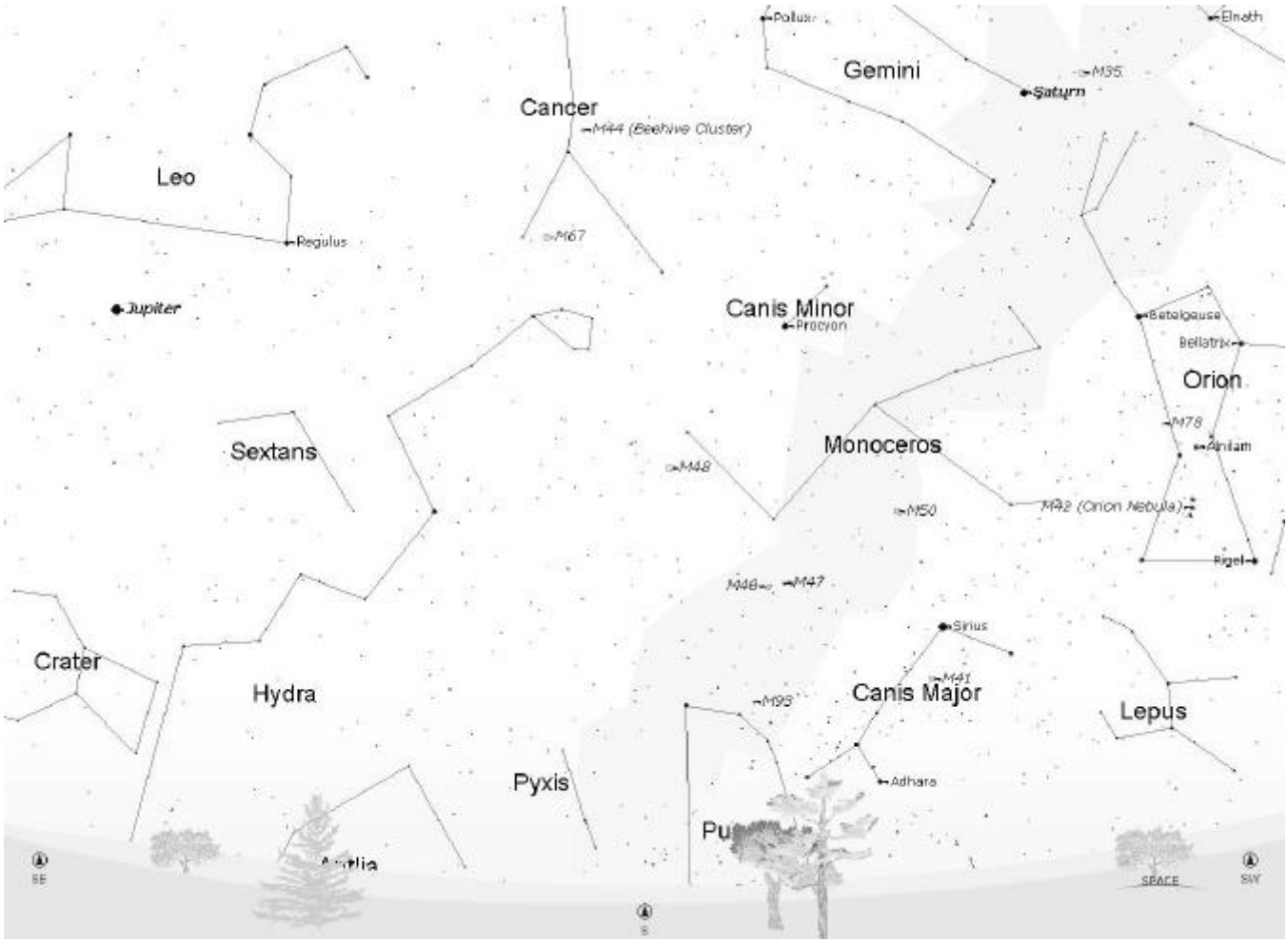
DATES FOR YOUR DIARY

15th to 17th Mar. (FCN): 8pm. Observing Evening, in Abingdon

5th Apr. 2004: 8pm. Talk by Dr Nick Hewitt (BAA Director Deep Sky), "Cosmic Recycling- An Amateur's Perspective"
PLEASE NOTE THAT THIS IS THE FIRST MONDAY OF APRIL, NOT THE SECOND ONE WHICH IS EASTER MONDAY.

The editor of "SpaceWatch" is Andrew Ramsey, who would very much appreciate your help and contributions. Please send any news, observations, photos, etc. to:
Mail: A.T.Ramsey, 35 Cope Close, OXFORD, OX2 9AJ.
E-mail: AbiAstro@ATRamsey.com Phone: 01865 245339

STAR CHART



The star chart above shows the view looking south at 9pm next Saturday evening. Orion is unmistakable in the south-west, Saturn above left of Orion in Gemini, Jupiter in the south-east just below the easily recognised Leo.

The ragged grey band from centre bottom to top right is the Milky Way.

Try looking for the Messier objects listed. They are all open clusters apart from the two diffuse nebulae in Orion.

The chart is also valid for about 9pm BST on the 30th .