



SCORPIUS

The Journal of the
Astronomical Society of Frankston Inc.
P.O. Box 596, Frankston, Victoria 3199

Volume VII, No. 3 1998

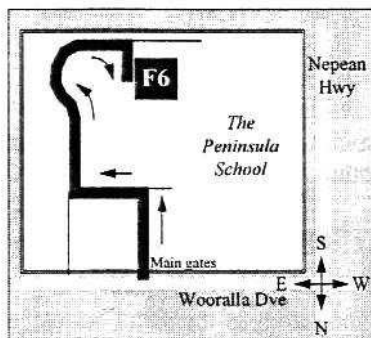
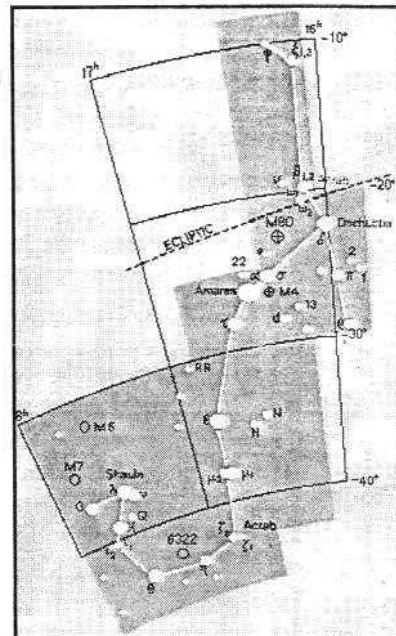
(May - Jun)

The Astronomical Society of Frankston was founded in 1969 with the aim of fostering the study of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general public. The Society holds a General Meeting each month for the exchange of ideas and information. Regular observing nights, both private and public are arranged to observe currently available celestial objects. For decades the Society has provided *Astronomy on the Move* educational presentations or observing nights for schools and community groups exclusively in the area bounded by Moorabbin, Dandenong and Tooradin.

Meeting Venue: Peninsula School, Wooralla Drive, Mt.Eliza (Melways map 105/F5) in room F6 at 8pm on the 3rd Wednesday of each month except December.

Internet: <http://www.peninsula.starway.net.au/~aggro>

Visitors are always welcome!



Annual Membership	
Full Member	\$30
Pensioner	\$25
Student	\$20
Family	\$40
Family Pensioners	\$35
Newsletter Only	\$10

DUE 1ST OF JANUARY EACH YEAR

President & Editor	
Peter Skilton	(03) 9776 5898
Vice President	
Peter Lowe	(018) 318 920
Treasurer	
Bob Heale	(03) 9787 1748
Secretary	
To be appointed by Committee	
Committee	
Ken Bryant, Roger Giller, Don Leggett, Richard Pollard, Ian Porter	

All phone calls before 8:30pm please.

FUTURE EVENTS

General Meetings:

Wed 20th May '98

Session 1: Video on *Sputniks, Bleeps and Mr. Perry*, telling the true story of the Russian Sputnik craft in 1957 and the attempts of a teacher to find out the truth behind its clandestine purpose.

Session 2: General informal chat.

Wed 17th Jun '98

Session 1: Ian Porter tells us of sinister denizens lurking in the dark in *Near Earth Asteroids*.

Session 2: General informal chat.

Wed 15th Jul '98

Session 1: Peter Skilton will provide a *Grand Tour Through the Solar System*, followed by any questions.

Session 2: *Show and Tell* session of member items of astronomical interest, including also items for sale/swap. Members are asked to bring along astronomical curiosities from freezer attire, Cheshire eyepieces and Foucault testers to Ponsett mounts, scopes and other paraphernalia.

Viewing Nights:

Members Only:

Sat May 23, 30 and Jun 20, 27 all at

The Briars, Nepean Hwy, Mt. Martha (Melways 145/E12).

If weather forecast for the Saturday looks bad, the Friday before may be used instead. New attendees must always confirm with Ian Porter on (03) 5985 4203 before attending. Follow the signs at *The Briars* from the Visitor Centre. Remember for security reasons you can only attend on planned Members' Nights, unless by prior arrangement with Ian.

Public, School & Community Groups Viewing/slide nights:

If you can assist, please contact the Secretary.

- The once-a-month basic public viewing nights at *The Briars* will continue on the first Friday of each month. The next nights are on Fri 5th June and Fri 3rd July both at 8pm. Assistants to go on the roster are now required, even if you can only spare time once every few months. Please contact the co-ordinator, Don, on 0359 85 4927.
- Langwarrin Park Primary school, Northgateway, Langwarrin, Melways 136/A4 at 8pm on Mon 11th May. About 90 Grade 6's expected, so help is required.
- Cranbourne North Primary school, Tucker St, Cranbourne. Melways 133/H3. At 8pm on Mon 25th May.

About 100+ grade 5/6 pupils and parents are expected. Help is definitely needed with telescopes and binoculars and a speaker.

- Mt.Martha Field Naturalists will have a talk on the Cranbourne Meteorites on 3rd Sep at *The Briars*. No help is needed with this one.

Phenomenal Events:

- The 18th NACAA (National Australian Convention of Amateur Astronomers) was held over Easter 10-13th Apr, with feedback being given at the monthly meeting by those members who attended.
- *Ballarat Astron. Soc.* are having their 40th anniversary on 8-10th May and all are invited to this exciting event. Dinner & viewing of David Malin astrophotos on the Fri evening at 6:30pm. On Saturday - talks, BBQ lunch, evening talk by David Malin & supper. On Sunday - talks & lunch. \$25/adult, \$15/junior registration; extra \$26/\$15 if Friday night dinner; and extra \$6/\$4 if Sunday lunch. Registration from Bill Fiddian of the BAS (phone 0353 432316, email wfiddian@cbl.com.au).
- Predictions for seeing the spacestation *Mir* are available at meetings or on the Internet. Seen a curious moving object in the night sky, or worried if it is spying on you? Our satellite expert, Ian Porter, can possibly put that paranoia to rest; just ask.
- Plans are afoot interstate for an annular eclipse expedition for 16th Feb, 1999 as the path crosses some 200km north of Perth. The Moon will cover over 99% of the Sun's surface for a period of 47 seconds, and a fine showing of Bailey's beads is expected. Please contact the editor for any expressions of interest. He will then pass this on to the organisers who are just canvassing for interest at this stage.

Social Events

- The pre-Equinox dinner at *The Dava* hotel on Thurs 19th Mar was attended by 13 who enjoyed a pleasant evening in good company.
- The BBQ on Sat 28th Mar at *The Briars* for the visit of the *Astronomical Society of Victoria* went ahead, despite no ASV

members showing! To be fair, the weather forecast was for a cool change with possible showers. However, at Mt.Martha the 9 optimistic society members who attended (and who have a healthy distrust of Melbourne forecasts for Peninsula weather) enjoyed 50% clear skies on a coolish evening, with the new gas barbecue being christened for the occasion.

- Members are invited to visit the Burwood Observatory, at 109 Parer Street, Burwood, of the *Astron. Soc. Vic.* on Sat 30th May around 7:30-8pm. This will occur regardless of the weather. Melways 60/K4. Please call Peter Skilton on the day if you intend attending, just in case of last minute cancellation.
- David Girling has snatched victory from the jaws of defeat by winning the race to erect his backyard split roll-off roof observatory, spurred on by the fact that his rival constructor in Langwarrin took annual leave from work to push his effort ahead and thereby try to win the race. David has promised an ASF welcome party at his site later in the year to celebrate, and is now busily preparing for some serious observing of Variable Stars, Jovian moon eclipses and minor planet occultations. Congratulations!

YOUR SOCIETY

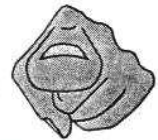
NEW MEMBERS

Welcome to the following new Society members:

Ashwin & Geoff Bishop
Betty Brady
Peter Darby
Phyl & Doug Gardener
Valda Hede

The ASF is one of the largest groups in Australasia. Membership is currently at 106. Please feel free to say hello at general meetings. Specialised badges, windcheaters, T-shirts, books & posters are available at meetings. Society name tags are free to new members who attend meetings. Members are able to borrow library books and are entitled to attend special viewing nights at *The Briars* where you can discover the secrets of the night sky.

HELP NEEDED



Articles, features, book reviews, member observations and points of general interest for this journal are always welcome. New contributors are encouraged. For example do a bit of reading and pass on some information, but remember not to plagiarise. Hand written material is fine; computer text files are perfect.

The next *Briars* working bee to control the grass and generally clean up will be on Sat 6th June at 10am, followed by a BYO food and drink lunchtime barbecue. Friends and relatives welcome.

We are still on the lookout for a plumber and an electrician to help connect our observatory site at *The Briars*. All offers from members will be gratefully accepted. Also the bricks, sand and cement are at *The Briars*, now all we need is someone skilled enough to do a reasonable job of designing and building a brick barbecue. Can you help? Do we also have any woodworking skills (or, indeed, spare timber) to help make some picnic tables (like those in public parks) for the *Briars* site?

Remember that society circular metal logo badges are available from Committee members for just \$6 at any meeting.

SECRETARY'S JOTTINGS

The survey of member preferences (33% responded) from February's meeting indicated an overwhelming preference by a factor of 5 for Saturday *pm* for conducting Social events, ahead of Sunday *pm* & Wednesday *pm* coming a distant next. This data will be helpful in planning future events so as to try and maximise enjoyment. The more detailed survey at the March meeting on all aspects of the society had an 18% response rate, and feedback was highly favourable, possibly surprising when you realise that you cannot possibly please everyone all the time. For example, newer members like things that more astronomically established members might find tedious. You should see a few good ideas raised by the membership being implemented in the coming months. If you have other ideas, please remember the suggestion box at meetings, or just drop a line.

We must apologise for the late arrival of recent Scorpius editions, and hence the missing of some advertised dates for those who do not attend the monthly general meetings. The extremely unusual delay in receipt by members was due to both a significant car accident on the way to copy the edition, and due to subsequent computer teething problems with our new process of address labelling for the mail-out, which will save hours on the previous way of producing these. If you noticed a message of 'RENEWAL DUE' on the last edition, and your enquiries with the Treasurer showed this to be unfounded, we apologise and hope to have any bugs in the new system resolved soon.

David Girling has now retired from co-ordinating *The Briars* members' nights. We thank him for his efforts over the last couple of years. The reins have been kindly taken up by Ian Porter, who is now the *Briars* co-ordinator. His telephone number appears on the first page of this edition. The Society's internet page is still being developed, with a rip-snorter of a page developed by Andrew Klop being a bit too large for the comfort of the service provider. Options are being considered.

The Society's bid for a grant from Frankston council has been unsuccessful this year, with local community groups asking for six times more money than the council had available for 1998 distribution.

Ian Cuthbertson and Ian Freeman-Wright have kindly offered their services with photocopying of future newsletters at the Frankston Council premises. The feasibility of having them professionally laser printed is also currently being investigated by Committee.

Long standing member, and past President, Peter Norman was in hospital recently, but is now recovering after successful surgery. We look forward to seeing him up and about at a

monthly meeting soon.

LOCAL GRAZE

On Sun 5th Apr, a lunar graze path was predicted to pass through the Frankston/Berwick region, with several local members able to observe and time it from their homes. The ASV also participated. If you recall, a graze is when a background star skims along the edge of the Moon, and hence ducks into and out of the lunar



Part of the audience at the March meeting. Meeting photos are courtesy of Peter Lowe.

valleys and mountains. By timing when the star appears or disappears it is possible to work out the shape of these features. In fact it is the most accurate method other than by sending

astronauts there. Unfortunately for this graze, no observers were able to see the star beforehand! It appears that the star was in fact an unrecognised variable star, and hence fluctuates in brightness over time, and the graze just happened to coincide with one of its dimmer periods at about magnitude 9. Thanks anyway to the participants for trying: Ken Bryant, David Girling, Peter Skilton, Bruce Tregaskis, Jim Blanksby, Alfred Kruijshoop.

RECENT MEETINGS

March's meeting was chaired by the President and attended by 45 on a clear night. Bob Heale presented *Sky for Month*, including a prediction of a close alignment in the sky of Venus and Jupiter later in the month. Ian Porter presented the launches for the month, including Global Star, a

next generation series of mobile phone satellites, and the first Teledesic internet satellite of Bill Gates'. Immediately after, the whole group adjourned outside to the car park to see a predicted Mir pass over, then reconvened to continue. Peter Lowe then related about the asteroid reported in the media as possibly going to collide with Earth in the next decade or so. Peter Skilton related details of solar eclipse reports received from Jim Blanksby and from that of a friend of Bruce Tregaskis, and of the reported discovery of a chain of 5 large impact craters in a row from 214 million years ago. Several members reported seeing the occultation of Saturn by the Moon visually, by binoculars, and by video camera, as predicted last meeting (Sue Stoner reported the event was in fact 1 hour later than predicted as a daylight savings correction was clearly missed), with the event being low on the horizon. After teabreak, everyone assembled to hear Peter Lowe speak on *Life in Space*, with no takers for the 2nd session on basic astronomy. The evening finished at 10:45pm after many questions.

April's meeting was chaired by the Vice-President (who raced back from NACAA in Sydney) and was attended by 50. Bob Heale presented *Sky for the Month*, and Ian Porter presented the launches for the month. After teabreak, everyone assembled to hear David Girling speak and show slides on the construction and commissioning of his new backyard observatory. The evening finished at 10:30pm.

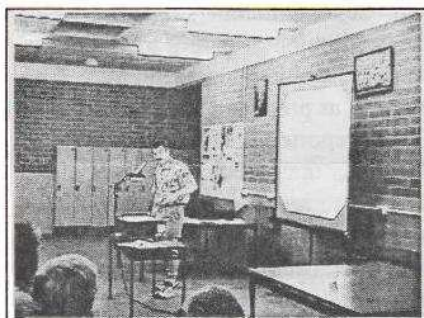
DID YOU KNOW THIS TRADITION?

All of our monthly meetings start with an attendance book and a wooden *question-and-suggestion* box being passed around the attendees. But why is it so?

The attendance book is part of Society tradition, and is really for the benefit of future historians who might be researching the history of a former member who becomes famous or infamous for some reason. It is not a constitutional requirement to the best of my knowledge.

The anonymous *question-and-*

suggestion box is used to provide ideas for either future *Scorpius* articles (indeed the very format of this publication has been shaped by suggestions), or for answering in future monthly meetings, or is used for discussion by Committee on suggested Society improvements (such as recently on buying a loan telescope for member borrowing). Nearly every contribution to this box spurs action in some form, provided we understand it. Just remember that all comments are read and something comes of them, so please continue to contribute your valuable ideas.



Ian Porter waxes lyrically about Bill Gates at the March meeting.

Thanks to the following members who participated in one or more of the viewing nights below: Ken Bryant, John Cleverdon, Ian Cuthbertson, Roger Giller, David Girling, Bob Heale, Don Leggett, Peter Lowe, Richard Pollard, Ian Porter, Peter Skilton, Sue Stoner, Bruce Tregaskis.

The 1st Mornington Scout Group of 35 attendees was visited on 5th Mar, with Richard Pollard delivering the talk under totally clouded skies.

The next night was the first of our ongoing series of pre-booked monthly public viewings at *The Briers*. About 20 attended under 50% cloud, with an informal Q&A session starting the evening, followed by telescope viewing. Feedback indicated the evening was considered a success, but slight modifications were made for the next monthly night held on 3rd Apr, which saw 40 attend with also an excellent turnout of member telescopes. Unfortunately the sky was completely clouded over after dusk. Peter Lowe and Peter Skilton provided the talk, with the former revelling in the chance to answer questions posed on astrology and spiritualism with regards to astronomy. The next night

on 1st May saw 30 in attendance on a clear night with telescope viewing first-up, just in case of encroaching cloud. The same duo provided the talk. It was a cold, but clear night.

On 12th Mar, the society visited Camp Manyung for St. Francis Xavier school. Over 110 attended on a very hot and very overcast evening, with unfortunately only a talk possible because of the overcast sky conditions.

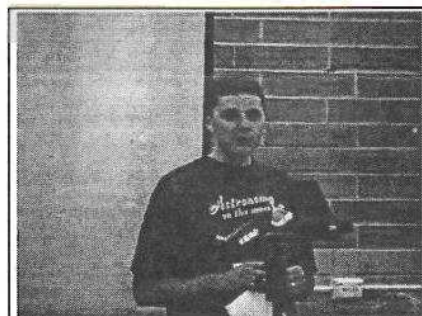
LIBRARY MATTERS

The library has acquired the following constellation of new books on the best seller list which are available for borrowing:

Cambridge Illustrated History of Astronomy, edited by Michael Hoskin. This is an expertly written and lavishly illustrated reference book that offers a unique account of astronomical theory and practice from antiquity to the present day.

Orbit: NASA Astronauts Photograph the Earth, by Jay Apt, Michael Helfert, Justin Wilkinson. This book is incredibly colourful with large photos from Earth orbit, and provides a very real sense of the wonder and majesty that astronauts experience as they gaze upon our world from above.

Beginners Guide to Astronomy, by Patrick Moore. Colourful and simply answers all the beginners' questions of astronomy from choice of instrument to using simple star charts.



Peter Skilton introducing the March meeting at the Peninsula School.

The Last 3 Minutes, by Paul Davies. The library already has a book on the first 3 minutes of the Universe, now you can learn what the last 3 minutes of the Universe will be like. This book explores the latest evidence for how the

Universe will end (bang or whimper), and what are the philosophical implications.

Collins Pocket Guide to Stars and Planets, edited by Ian Ridpath, Wil Tirion. Excellent portable guide to the night sky. Includes charts of all the night sky constellations, notes on interesting objects within each, sky maps throughout the year for anywhere on Earth, and comprehensive info on choosing binoculars, telescopes and an overview on the nature of objects in the Universe.

Stone Circles: Mysteries of the Ancient World, by Aubrey Burl. A guide to the stone circles, like Stonehenge, of the UK that were built up to 300 generations ago and whose purpose is explored in the book.

The Structure of the Universe, by Paul Halpern. For the curious layperson, cosmology and theoretical physics are explained and questions answered as to what is the missing dark matter, does the Universe have structure, and will it expand forever or someday collapse?

New Edition Philips Moon Map. This fold-out map shows the near-side of the Moon for the backyard observer, with over 500 features named and indexed, and showing all spacecraft landing location sites from all nations.

Supernova: The Violent Death of a Star, by Donald Goldsmith. In simple and enlightening terms, explains how stars die eventually, and chronicles the demise of Supernova 1987A in the Large Magellanic Cloud, which many members would have witnessed with their eyes in 1987 and beyond.

Kathy Stabb

JUST FOR STARTERS

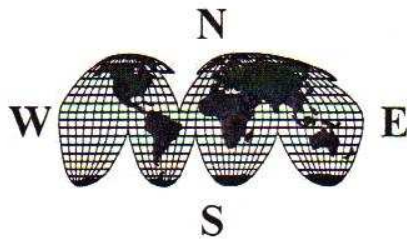
RIGHT ASCENSION AND DECLINATION

Objects in the night sky can be found using a star map, in much the same way as a town can be found in a terrestrial map or atlas. In the case of an Earth-based atlas, locations on our planet are identified by a unique combination of a *Latitude* and a

Longitude. Imagine yourself in a spacecraft in Earth's orbit looking back down at the Earth, and there is an imaginary string net drawn over the Earth, and positioned for argument's sake at say 10 metres above the ground (see diagram).

The horizontal lines on the net are *Latitude*, and the vertical lines are *Longitude*. North is up, South below, West is to your left, and East is to your right. By historical convention, the zero mark for the vertical lines is taken as Greenwich in the UK, and the zero mark for the horizontal lines is taken as the Earth's equator. A town's position can then be uniquely determined from which of the horizontal and vertical lines pass through it.

Now imagine yourself beamed down to the Earth's surface and now positioned beneath this net, flat on your back looking upwards into the night sky. North is still up, South below, West is now to your right, and East is to your left. Instead of calling the horizontal lines *Latitude*, they are called *Declination*, and the vertical lines are now no longer *Longitude*, but rather *Right Ascension*. When you see a star in the sky, you can now uniquely find its position by quoting its *Declination* and *Right Ascension*. The story is only slightly more complicated in that the zero mark of the vertical lines is no longer Greenwich (as this town is not above the net, but below it), so a new zero point is chosen in the sky using a reference above the net, and the net rotated round to align with it.



The zero point for the *Right Ascension* is called the *Vernal Equinox*, or sometimes the *First Point of Aries*, and originally pointed to the constellation of

Aries in the night sky, though nowadays points to *Pisces* due to wobbles in the Earth's axis

over long periods of time. Its choice as the zero point is quite arbitrary, much as Greenwich is. The zero point for *Declination* is still taken as the Earth's equator.

IN THE NEWS

NEW NOVA DISCOVERED

A new nova was discovered in late March in Sagittarius, shining around magnitude 7. Observers keen to follow this "new star" as it dims over the next several months can ask for a chart to locate it. Advice on how to make measurements can be obtained at monthly meetings.

A nova is a binary star system of two stars in orbit around each other, where one star is drawing material off the other. Eventually the in-falling material reaches a critical density and undergoes massive thermonuclear explosions, greatly increasing the light levels from the system, and making it more readily observable from Earth. Eventually the outburst dies down, and the brightness returns to baseline levels.

UNIVERSE'S INFRARED BACKGROUND RADIATION DISCOVERED

Data from instruments on the Cosmic Background Explorer satellite (COBE) have already yielded a precise map of the microwave background radiation, left over as an echo from the Big Bang when our Universe was born. But now an *infrared* background glow has also been found.

Unlike the cosmic microwave background, which at millimetre wavelengths outshines everything else in the Universe, the infrared background is masked by infrared light from dust in our solar system, stars and interstellar dust in the Milky Way and, for ground-based instruments, emission from the Earth's atmosphere and from the instrument itself. The COBE mission overcame the last two problems by observing from space using a small telescope and instrument cooled to within a few degrees of absolute zero.

The background infrared glow across the entire sky is believed to have been produced by dust warmed by all the stars that have existed since the beginning of time.

The telltale fossil infrared radiation puts a limit on the total amount of energy released by all the stars in the Universe. Astronomers believe this will greatly improve development of models explaining how stars and galaxies were born and evolved after the Big Bang.

The COBE instruments scanned half the entire sky once a week, over a 10-month period from Dec 1989 to Sep 1990. Astronomers then modelled and subtracted the infrared glow from nearby objects in our solar

system, our Galaxy's stars, and vast clouds of cold dust between the stars of our Milky Way.

Solar system dust was easy to identify in the data because its brightness changed from week to week as Earth orbited the Sun. The interstellar dust of our Galaxy was identified in the data because it has structure, and so looks different across the sky. Light from stars was removed using a detailed model based on counts of the many types of stars in the various parts of the Galaxy. When infrared light from these sources was subtracted from the all-sky maps, the astronomers found a smooth background of residual infrared light in the 240 and 140 micrometre wavelength bands in "windows" near the north and south poles of the Milky Way, which provided a relatively clear view across billions of light years of space.

The discovery reveals a surprisingly large amount of starlight in the Universe cannot be seen directly by optical telescopes, perhaps due to stars being hidden in dust, or being too faint or too far away to be seen. The intervening dust absorbs their light, then re-radiates in the infrared region, causing the background glow.

OGLE AWAY

In an earlier edition of the newsletter (No.6 1993), Australian astronomers detected what they believe to be MACHO (Massive Compact Halo) objects in our neighbouring galaxy, the *Large Magellanic Cloud*. A MACHO was detected by the way it bent and lensed starlight around itself, causing the

background star to slowly brighten then fade again as the dark, unseen, object passed in front of it. The brightening and fading were perfectly symmetrical and independent of the colour of the light monitored, ruling out variable stars as the cause of the phenomenon.

Recent advances in Chile have developed a system connected to a 100 cm telescope known as OGLE (*Optical Gravitational Lensing Experiment*) to hunt these lensing events down. Many millions of stars have to be monitored continuously in order to pick up the one or two possible events per year. Comparing these stars with previously measured brightnesses is therefore very time consuming, even for large computers. Therefore until recently, only a few discoveries have been made since the number crunching was the main hurdle, taking many, many months.

Now, the new system can monitor up to 6 million stars a night and compare all of them with past measurements on the same day. It then automatically sends a message around the world on the Internet to any astronomers listening, alerting them to any newly discovered possibilities that have changed in brightness. In this way, numerous more events have been found, when viewing in the direction of the centre of our Galaxy. The rapid turn around also allows larger and better telescopes to be pointed towards these dark distant objects in an attempt to better understand them.

One observed event is of special interest, as it seems to have been of a binary star system being the lens. Lensing caused by a single object as the lens causes a symmetrical upside down 'U' shape brightening in the background star's light curve. The observed object gave a double 'U' shape, indicative of 2 objects in between the background star and Earth.

Analysis of this dark double system has yielded the masses of the component as being 50% and 80% that of our Sun, located some 10,000 to 16,000 light years away. A fairly typical, ordinary association. The dim stars are also probably ordinary matter, not some exotic dark matter substance as has been suggested by some scientists.

The discovery of these lensing events to date is slightly higher than expected if you assume a spherical distribution of stars in the central core of the Milky Way. It therefore suggests that the centre is really shaped like a bar with the longer axis pointed at 15 degrees to our line of sight. So much for the mental picture of the Milky Way as a "fried egg" appearance.

ICE AT MOON'S POLES

There is a high probability that water ice exists at both the north and south poles of the Moon, according to data returned by NASA's *Lunar Prospector*. The presence of water ice at both lunar poles has been shown by the spacecraft's neutron spectrometer. However, the Moon's water ice is not concentrated in polar ice sheets like on Earth. Instead, the data are consistent with the presence

of water ice in a large number of craters at only a 0.3 percent to 1 percent mixing ratio in combination with the Moon's soil.

Assuming a water ice depth of about half a metre (the depth to which the neutron spectrometer can penetrate) it is estimated that there are 10-300 million tons of ice. This quantity is dispersed over 10,000-50,000 square kilometres of ice-bearing deposits across the northern pole, and an additional 5,000-20,000 square kilometres across the southern polar region. Furthermore, twice as much of the water ice mixture was detected by Lunar Prospector at the Moon's north pole as at the south.

The reserve of ice could provide sufficient water to support a community of 2,000 people for well over a century on the lunar surface, without recycling. However, an effective method to mine the water crystals from within this large volume of soil would have to be developed if it were to become a real resource for drinking water or as the basic components of rocket fuel to support any future human explorers.

FEATURE

THE 1998 SOUTH PACIFIC STAR PARTY

In the outback beyond the Blue Mountains, west of Sydney, lies a relatively unknown but significant astronomical sacred site. The place lies about an hour's drive north of Bathurst and is called "Wiruna".

This is the dark sky observing site for the Astronomical Society of NSW (ASNSW) and every year amateurs gather from far and wide to the ASNSW South Pacific Star Party (SPSP). My wife, Vivienne, and I have been making the 1000 km annual pilgrimage for the past five years and despite varying astronomical successes have always had a great time.

The SPSP is basically a social event with amateur astronomy as a central theme and this year over 260 people registered as participants, and with well over 100 telescopes on the observing field there was plenty for everyone. I have only taken a telescope once to the SPSP. On our first trip I took my Celestron 8 but never bothered to set it up, preferring instead to roam from telescope to telescope. There is a simple camaraderie here as every form and degree of amateur astronomy is available. From my viewpoint I find that every telescope has a story. Every owner is more than pleased to tell you about their pride and joy and of course show off their personal astronomical favourites at the observing field.

It has been interesting to watch the developments in amateur astronomy at different SPSP's. This year I would call the "Year of the LED". Looking around the field the distinctive LED red could be seen flickering, flashing or wandering everywhere and it is obvious that the red LED is now an entrenched component of amateur instrumentation.

Surprisingly there were fewer than expected CCD cameras. A few were present but not in great numbers. I suspect the problem

of reliable power for the CCD and computers is still holding back this equipment.

One thing the ASNSW has finally learned to do is how to appease the right Gods. For years, proceedings always started with a fiery sacrifice to ensure observing success, however, they have just not quite got their act together. On the first year, they burnt a telescope as a sacrifice to the rain-god and sure enough they got rain. Last year they sacrificed a telescope to the cloud-god and you guessed it they got cloud. This year they burnt an effigy of the President of the White Light Society and got dark skies with a scattering of cloud. I wonder how long it will take them to realise that if they sacrificed to the Bright Star-God they would be rewarded with clear nights full of stars. They can be a bit slow up North!

I shouldn't talk out of place here as the ASF committee has yet to discover these advanced forms of weather control for our viewing nights!

The 1998 SPSP has become a regular feature in the Australian amateur astronomy calendar and this year saw amateurs from all states except WA, although last year saw WA represented.

The ASNSW has gone from strength to strength with each successive star party and the facilities they are developing at the Wiruna site are well on the way to becoming world class. At present they have permanent sleeping facilities including a toilet/shower block (yes, very hot water!), a hall to house 100+ people, extensive camping areas

and BBQ facilities. From my viewpoint all that's needed now is reliable power to the observing field and you would have astronomical heaven.

One final additional success story to the SPSP is an initiative by the local scout group to provide catering facilities. Last year they experimented with hot doughnuts and cocoa after 10pm and egg & bacon sandwiches for breakfast. Believe me it takes real drawing power to drag amateurs away from their telescopes in the middle of a beautiful clear night but you should have seen the queues. This was so successful they made enough money to send, all told, four additional scouts to the last World Jamboree. This year they went the whole hog (if that's the sort of image you want for this type of story!) and provided 24hr hot meal catering. Although business slowed a bit after 3am, I'm told it was another great success and obviously set to be a permanent feature of future SPSP's.

All in all the 1998 SPSP was a lot of fun and well worth the two days driving to get there. Every year we again meet old friends and make a few new ones on the way. I'm already planning what to take next year. I wonder if we can get an ASF contingent?

Peter Lowe

{ed: Peter provided photos of his experiences at the SPSP, and these may appear in a later edition}

MEMBERS VISIT ASV HEATHCOTE SITE

On the 21st Feb, myself and two other representatives of the ASF, Sharron Fletcher and Bob Heale, had the pleasure of attending the ASV's 75th

Anniversary Star Party at their dark-sky site near Heathcote in central Victoria.

After sampling some of the fine outdoor cuisine on offer (spit roast and salad) we took the opportunity to inspect the varied array of telescopes that had been set up ready for the night's viewing. And varied they were. One of the most striking was a home built refractor, a 6 inch f/22, which attracted many a curious eye, and even the comment that perhaps it would possibly look more at home in one of Saddam Hussein's bunkers!

As darkness fell, more and more astro-buffs appeared with scope in hand and, once set up, I estimate there would have been 50+ telescopes and twice as many people, although by this stage many were enjoying the "Sky for the Night"; an in-depth what-to-look-for talk with Perry Vlahos.

I have to say I have been guilty of not being too excited about the darkness of the sky at Heathcote, but that was probably due to only ever being there once before. This night it was superb. Suffice to say, it even attracted a favourable comment or two from Bob!

I spent the majority of the time at the eyepiece of Sharron's 8 inch Dobsonian, and managed to stumble across the Flame Nebula (NGC 2024) in Orion completely by accident. Being an eternal optimist, and realising I could do with a few more inches of aperture, I then attempted the "Holy Grail" of objects, the Horsehead Nebula. Regrettably, even with all the optimism and averted vision I could muster, it eluded me on this occasion. Oh, well. Nothing ventured, nothing gained. Just quietly, I don't think anyone else saw it either...

The fact that I had to return to Dandenong that night meant I was a little pressed for time, so I took the chance to see as much as I

could through as many instruments as I could, and thanks to the generosity of the attendees I saw many stunning sights both old and new (to my eyes, anyway). After bidding farewell to my friends I departed one happy camper. Thanks to all at the ASV for a great time and rest assured, in the words of Arnie, "I'll be back".

Richard Pollard

STARS

Stars twinkling in the night
Filling up the sky with pin-point light
Watching and waiting
For someone to look upward in awe.
For someone wondering
How? What? When? Why?
For someone to come discovering,
Exploring their gas balls of heat,
Light, knowledge, life.
If we ever explore the galaxy,
What will we find?

Trent Veitch

CENSORED!

Don't try getting to the magazine *Sky and Telescope* at internet address <http://www.skypub.com> from a school PC if "net minder" software censor programs have been installed. This is the type of program that stops children searching on such topics as *sex, adults-only and x-rated*. *Sky and Telescope* reports that because of the frequent appearance of the words "naked eye" on its web pages, some of these censor programs have completely blocked access!

FOR SALE

Newtonian telescope, N10 inch, equatorially mounted. \$850, call Carl Moser on 03 5975 1350 any time if interested in purchasing.

OPPORTUNITIES FOR STUDENTS

Members are reminded of scholarships offered for 15 and 16 year old students, and

teachers throughout Australia, to attend the excellent *Australian International Space School* in NSW from 11-15th July. Topics covered will include space science, rocketry, technology, astronomy, engineering etc.

Applications must be received by 30th May, and can be obtained from Vanessa Robson, AISS, 1/19 Tarlington Place, Smithfield, NSW, 2164 (phone 02 9609 4212). Our Society has endorsed one candidate before, who successfully got into this outstanding opportunity. If you are interested, please see Peter Skilton after you have received the details. Don't be shy.

The CSIRO Parkes Radio Telescope conducts a week of work experience each year for 12 students in astronomy. Age range is unknown. Room and board are free, but students must pay for travel to Parkes in NSW. Details from R. Marcus Price, Officer in Charge, Parkes Observatory, PO Box 276, Parkes NSW 2870, Email rmprice@atnf.CSIRO.au.

FROM AROUND THE PLANET!



Leading Astronomical Societies exchange each other's newsletters to assist in sharing items of interest. This column grabs some of the highlights of recent receipts. You can find out more in the library.

Astron. Soc. Mount Isa (QLD) - This is our first receipt from them. They are moving from a biannual to a bimonthly newsletter, which includes impressive colour photos. Last year they conducted public nights on comet Hale-Bopp and with the CSIRO Double Helix Club. They have a new roll-off roof observatory, called Moondarra (located at Lake Moondarra), which opened in April 97, equipped with two impressive equatorially mounted scopes (a 15cm refractor and a 9cm refractor equipped with solar filter for observing the Sun). Viewing has been dogged by "monsoon clouds and cyclones"! The grounds are fenced and grassed, and include several permanent piers for members' scopes, with a gas BBQ on-

site. They conduct school/group nights at their observatory.

Astron. Soc. South Aust. (SA) - Article on nearby Kapteyn's Star in Pictor. A supernova club has been founded by aficionados who intimately know an assigned constellation each. Article on seeing Iridium satellites. The Society's web page is now sponsored by a commercial ISP service provider. Introducing an online Email list for online members who wish to be informed of late breaking events and news. Detailed article on solar disturbances and their effects on Earth. Planning to build a 36 inch remote-controlled scope, with Mt. Stromlo assisting in its design and mirror construction (planned for 2001). They have moved their 15 inch Dobsonian from Stockport to Douglas Scrub that is being developed as an Observatory. Articles on supernova hunting, the variable star beta Canis Majoris, comet Tilbrook and Sirius.

Astron. Soc. New South Wales (NSW) - Holding a telescope clinic to allow members to tune up their scopes. More on planetary nebulae, this time in Fornax. 10 year history of their Wiruna site is documented (meaning "Sunset") in detail, which was purchased from a late member's estate bequest. The site is now well developed in terms of buildings and usage by observers. Their Crago observatory on Bowen Mountain (they have a 50 year lease there) has had new rollers installed. Member reports of strange lights in the sky in October 97 are believed to be due to the Casini launch dumping fuel. History of eta Carinae variable star given, which in 1843 was visible in daylight hours. Article on Aboriginal myths & legends. Background on observing asteroid occultations. Neat southern planetaries in Grus, Carina and Volans exposed. They are starting a solar observing group and preparing for this year's Star Party.

Ballaarat Astron. Soc. (Vic) - Their observatory is managed by a committee of the City of Ballarat council since late 1996. Several improvements and repairs have been made to the grounds, including car park lights, bird proofing, new lino and woodwork maintenance. A 12 inch Newtonian is to be dedicated to the late

Ian Thompson.

Sutherland Astron. Soc. (NSW) - Reviewing Stephen Hawking's *Brief History of Time* in a series of workshops (a chapter at a time). Review of scopes for observing the planets is given. The society is preparing to host this year's NACAA.

Latrobe Valley Astron. Soc. (Vic) - Had a star-b-que in December at Wirilda Park site. More on the May 5, 2000 line-up of planets in the sky. Background article on reflecting telescopes. Catch-up on Voyager 1 and 2 whereabouts in space. Their President is retiring after 10 years in the post. Internet material from the Hubble Space Telescope, and questioning of the supposed life found in the Martian meteorite in 1996.

Astron. Assoc. Queensland (Qld) - Have developed a code of conduct for members, who now total 87, and are putting together an internet home page. Article given on hunting stars in daylight, and practical experiences with a digital camera. More tips on telescope guiding with prime-focus astrophotography. The AAQ is negotiating for the rent of their clubrooms with their local council, who are asking for more money.

FINAL PRONOUNCEMENT - PARSEC

In many books, large distances in space are referred to in *light-years*, or the distance that a beam of light would travel in 1 year. In professional astronomy, however, the usual unit used instead is the parsec, pronounced "*parr-sek*". It is equal to about 3.2616 light-years, or a distance of about 30,857,000,000,000 kilometres, and is defined as the distance at which a star in space would make an angle of one arc second across a line having length equal to the average Earth-Sun distance. An arc second is 1/60th of an arc minute, which itself is 1/60th of a degree. There are 90 degrees in a right angle, or 360 degrees in a complete circle. The angle is therefore small.

If you have any Astronomical query that has been niggling you, drop it in the question box at a General Meeting and let us look into it for you.

E	C	N	E	R	E	F	M	U	C	R	I	C	N	T
A	D	T	E	L	E	S	C	O	P	E	O	A	H	E
E	S	N	E	I	C	R	E	T	A	R	C	E	C	E
R	S	T	E	C	A	T	I	B	R	O	O	A	R	M
U	A	S	R	G	L	D	W	A	X	R	F	E	R	O
T	T	R	W	O	E	I	I	N	Y	R	H	R	Y	U
A	E	O	L	S	N	L	P	G	U	P	E	O	T	N
R	L	E	U	D	D	A	N	S	S	O	N	T	I	T
E	L	T	N	R	A	O	U	O	E	W	A	A	V	A
P	I	E	A	L	R	R	M	T	S	P	W	T	A	I
M	T	M	D	T	I	T	P	A	M	T	H	E	R	N
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T	I	M	L	A	R	E	T	R	A	U	Q	D	S	T
N	R	E	C	R	E	S	C	E	N	T	E	R	Y	E
A	S	R	O	C	K	Y	E	R	O	L	K	L	O	F

COMPETITION: The astronomical words below are to be found in this puzzle, vertically, horizontally, forwards, backwards or diagonally. Cross out the words as you find them. The remaining letters form a 16 letter solution. All entries giving the correct 16 letter solution on the back of an envelope, and received at the Society's P.O. Box by the end of May 1998, will go into the draw to win a prize from the book section. The words are: *Aldrin, Armstrong, Astronaut, Calendar, Circumference, Crater, Crescent, Eclipse, Folklore, Gravity, Legend, Luna, Map, Meteors, Month, Mountains, Orbit, Phase, Quarter, Rilles, Rocky, Rotate, Satellite, Study, Surface, Telescope, Temperature, Theory, Tides, Wane, Wax.*



Left - ASF visit the Latrobe Astronomical society in 1998
 Photo - By John Cleverdon
 Far left - Peter Skilton & family
 Also - Roger & Marg Cleverdon
 Also - Ken Bryant
 Far right - Peter Lowe

If this box is ticked then membership needs renewing and this may be your last edition of the newsletter, so please contact the Treasurer in this case. Newer members who join late in a calendar year will have this time taken fairly into account when renewing in January, and should remind the Treasurer of this.

The infamous "face on Mars" has been finally photographed in close-up by the *Mars Global Surveyor* spacecraft that is currently orbiting the Red Planet. The face was originally viewed 20 years ago by the *Viking* craft, and has spawned numerous conspiracy theories over the years as to sinister cover-ups by NASA over intelligent life being already discovered on Mars. The most recent images taken from 444 kilometres above the surface on 5th April show that the face-like feature is nothing more than a simple geological formation; a mesa of wind-resistant rock that sports peaks, ridges and other features that made it appear to the more imaginative, in much lower photographic resolution, as having eyes, lips and a nose. The new pictures have a resolution of just over 4 metres per pixel. The same cameras are now trying to image the landing sites of both *Viking* spacecraft and the *Mars Pathfinder*, which released the *Sojourner* rover vehicle onto the surface last year.