



COFFS HARBOUR ASTRONOMICAL SOCIETY INCORPORATED

MINUTES AND NOTICE OF MEETING

MINUTES OF MAY 2012 MONTHLY MEETING HELD AT BOAMBEE HALL, MONDAY 7 MAY 2012 AT 7:00pm.

PRESENT: 11 members and 26 visitors. (This large attendance was mainly due to the presence of a group of 24 from Casurina School, Coffs Harbour. The group included students, parents and at least one teacher.)

MEETING OPENED: 7:03pm with President, Win Howard in the chair. Win gave a special welcome to the large contingent of visitors.

APOLOGIES: Peter Black

MINUTES OF LAST MEETING: adopted as circulated by e-mail.

BUSINESS ARISING FROM MINUTES: Nil

CORRESPONDENCE:

IN:

1. From Kath Sheehan, Casurina School (email) asking if it was OK for her to bring a group from the school to our next meeting.
2. From Norfolk Island Tourism: reminding us of their promotion about tours when the solar eclipse is on in November.
3. From our insurers advising that our insurance is paid and current for another year.

OUT:

1. To Kath Sheehan, all are welcome at any of our meetings.

GENERAL BUSINESS:

Nil

REPORTS FROM MEMBERS:

From Terry Gill:

- 1) Since the last meeting Terry has visited Parkes radio telescope for the first time in over three decades. It is well worth the visit and the zero entry fee. Terry found that it took a bit over an hour to have a reasonable look around. Recommended for persons with any level of interest in astronomy.
- 2) While at Parkes Terry found out about the "World's Largest Solar System Drive." This is a scale model of the solar system. The scale is 38million times smaller than the true solar system. The model system is based on the dome of the Australian Telescope at Siding Spring being the sun. When each of the planets (and Pluto) are made to scale, a model of the planet is put on a large information board located at the scale distance away. Each information board is located at a rest area where you can pull off the road and look at it. Terry said that he, "Had morning tea at Neptune and lunch at Jupiter, with morning tea the next day at Pluto." Their website with all the details is <http://www.solarsystemdrive.com/> .
- 3) Terry also visited Siding Spring near Coonabarabran for the first time in over four years and reported that the visitor centre is much more up to date than when he was there last. Unfortunately the single worker at the centre was having extreme trouble keeping up with the demands of the school holiday crowd and service was a bit average. There is an entry fee for most of the display, which takes about the same time to look at as did Parkes.
- 4) While in Dubbo Terry attended the Dubbo Observatory for an evening session. This consisted of a talk and video presentation followed by about an hour looking through telescopes. Parts of the video were very good, including some excellent footage of day-to-day activities on the space station. There was a more substantial entry fee for this.
- 5) Terry rose early yesterday morning and looked for the eta aquarid meteor shower on the night of its predicted peak (also the night of the full moon). Despite the full "supermoon" Terry saw six very bright meteors in 40 minutes from 3:10 to 3:50am.

From Win Howard:

- 1) Due to overcast weather Win only had his scope operational once since the last meeting.
 - a) During that session Win again observed the polar caps on Mars.
 - b) Saturn looked particularly attractive, the crepe ring being clearly evident. (Crepe ring is otherwise known as the "C" ring. It is inside the brighter and more obvious "A" and "B" ring systems.
 - c) Two separate supernovae were also seen by Win that night.

From Brett Connolly:

Recently Brett attended a presentation in Melbourne by Lawrence M. Krauss, the author more than 300 scientific publications and eight books, the most recent being "A Universe From Nothing". This book attempts to explain how the universe could have begun from apparently empty space. Brett advises that: "Any CHAS members who are interested can see a video of one of his presentations on: http://www.youtube.com/watch?v=rdvWrI_oQjY He has not been called "the Woody Allen of physics" for nothing!"

From one of the Casurina School Parents:

- 1) A group from the school will be going on a major excursion in about two weeks. Much of this trip will be visiting the same places that Terry has been to in the last month including Parkes and Coonabarabran telescopes. This trip was a major reason for their attendance at the meeting. They had learnt a lot from Terry's report and intended to question him much further after the meeting.

REPORTS FROM THE PRESIDENT: (this material is collected from the internet each month and presented in an edited form).

1. The Tidbinbilla Deep-space Tracking Station near Canberra will be heavily involved in the NASA Mars mission which is planned to touch down at Mars on 6 August. For some of the mission, including the actual touchdown, this will be the only communication line.
2. The Kepler Telescope space mission (finding exoplanets) has been funded for an extra four years. It has been very successful so far and this extra time will allow more data to be recorded.
3. Many of the moons of the outer planets are very small. Some of these move in very eccentric orbits, and some are orbiting backwards to the normal direction. Recent studies have shown that some of these are so small and irregular in their path through space that their current positions are not known. They are effectively lost. A new survey is needed to find them again.
4. First soil has been turned in the construction of what will be the biggest optical telescope in the world. This is in the Chilan Andes mountains and the telescope will be called the Giant Magellan Telescope (GMT). The scope is not planned to be in operation before 2021.
5. Researchers are still searching for the origin of cosmic rays. These were thought to come from Gamma Ray Bursts but the consensus now is that there is not enough evidence to support this. The main problem in finding their source is that the rays consist largely of charged particles which are deflected whenever they near a magnetic field. A massive detector under Antarctica is trying to detect any neutrinos in cosmic rays, as these are not affected by magnetic fields and should be travelling in a direction away from their source.
6. Many people still question the existence of Dark Energy. Another recent study, this time with quasars, seems to support the existence of Dark Energy. Read more at <http://www.abc.net.au/science/articles/2012/04/16/3476013.htm> if you are interested.
7. It is thought that Dark Matter should be nearly everywhere in the universe. The most accurate study so far has failed to find any evidence for its existence in a large volume around the sun. (A sphere with a radius of about 13000 light years has been studied.) By carefully measuring the movement of many stars, no unexplained movement has been detected. This suggests that it is unlikely that we will be able to detect dark matter in the near future. The web reference for information is <http://www.eso.org/public/news/eso1217/> .
8. Studies deep below an old meteorite crater in US indicate that tiny organisms have lived here for around 35 million years. Under impact craters may be a good

- place to look for life on places other than earth. See <http://www.abc.net.au/science/articles/2012/04/23/3481345.htm> for more info.
9. It appears that the next big space mission from Europe will focus on the icy moons of Jupiter. Ganymede, the largest moon in the solar system will be the main target. The probe will be called Juice for JUpiter ICy Moons Explorer. Launch is planned for 2022. Info at <http://www.space.com/15532-jupiter-icy-moons-space-mission.html> .

CLOSURE AND FUTURE MEETING TIMES:

The next monthly meeting will be Monday 4 June 2012, again at Boambee Hall at 7:00pm, all members and interested persons are encouraged to attend. This night will be the night of a partial lunar eclipse. We will be able to study this if the sky is clear.

This will also be only two days before the last transit of Venus for over 100 years. Win advised that he will have his telescope set up for this event at the mud huts in Duke Street in Coffs Harbour should anyone wish to come along and observe it with him. Of course the scope will be appropriately filtered making viewing of the sun safe.

Meeting closed at 8:10pm.

VIEWING

The large group meant that the number of objects viewed through telescopes was quite small, allowing everyone who wished to look. The main viewing was of the moon and Saturn, with a short time spent looking a Mars and a few other items. There were two telescopes available as well as naked-eye assistance with some constellations and features. Finding south from the southern cross was also well covered.

Terry GILL
Secretary