



# **COFFS HARBOUR ASTRONOMICAL SOCIETY INCORPORATED**

## **MINUTES AND NOTICE OF MEETING**

### **MINUTES OF DECEMBER MONTHLY MEETING HELD AT BOAMBEE HALL, MONDAY 6 DECEMBER 2010 AT 7:00pm.**

**PRESENT:** 10 members and 1 visitor.

**MEETING OPENED:** 7:06pm with President, Win Howard in the chair.

**APOLOGIES:** Roger Cooper, Rita Mann

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

**BUSINESS ARISING FROM MINUTES:** Nil

**CORRESPONDENCE:**

**IN:** Nil

**OUT:** Nil

**GENERAL BUSINESS:**

- 1) Our treasurer advised that she would not be able to attend a few meetings in the coming year. She therefore requested an assistant to carry out her normal activities at those meetings. Gerjo van Rhijm kindly offered to take on that job and her offer was gratefully accepted by the meeting.

**REPORTS FROM MEMBERS:**

- 1) From Peter Moriz:
  - a) Peter successfully observed the comet (Comet Hartley 2, designated as 103P/Hartley by the Minor Planet Center) soon after the November meeting.

- b) Peter suggested having a society viewing night at his place. Members present were very interested and a Saturday night was suggested. We now have to decide which Saturday night. More on this as information becomes available.
- 2) From Robin Nicols: Recently observed Jupiter in more detail than ever before. Robin was not able to see the supposedly returning southern equatorial belt.
  - 3) From Win Howard: Regarding the return of the southern belt on Jupiter: from previous history, when it returns, it will do so very quickly.
  - 4) From Brett Connolly: some recent research by Roger Penrose refers to the big bang happening from 2 supermassive black holes colliding.
  - 5) From Terry Gill: A show on ABC1 last Thursday (2 December 2010 at 11am) explained a theory of the big bang very clearly. It was called Planet Science-Hawkin's Universe. Terry recommended that anyone interested in this type of theory would find this program very informative.

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

1. Comet Hartly 2 has had a massive surge in the quantity of cyanide found in its atmosphere. The quantity jumped fivefold over a week without a corresponding jump in dust. This is very unusual for comets. Read more at <http://news.discovery.com/space/comet-hartley-2-pumps-out-the-cyanide.html> if you are interested.
2. The Large Hadron Collider have achieved temperatures similar to those at the big bang. This was achieved by colliding lead ions rather than protons. The lead ions are much heavier. Some reports call these collisions "mini big bangs". One such article can be found at <http://www.geek.com/articles/geek-cetera/large-hadron-collider-successfully-creates-first-mini-big-bang-2010119/> .
3. Eris is one of the 5 dwarf planets (along with Pluto). It was discovered in 2005 and was believed to be about 25% more massive than Pluto, making it the ninth most massive body to orbit the sun. On 6 November 2010, three separate observing teams watched a transit of Eris in front of a known star. Their measurements indicate that Eris is not so big after all. It appears that Pluto may be slightly larger. Read more at <http://www.skyandtelescope.com/news/home/106861063.html> .
4. Jupiter's missing southern belt appears to be returning. On 9 November 2010 a white spot was seen where the belt used to be. This is predicted to be the start of the return of the belt. More details and images are available at <http://www.sott.net/articles/show/218264-The-Return-of-Jupiter-s-Southern-Equatorial-Belt> , which reports on progress a few weeks later.
5. NASA's Fermi spacecraft has verified the suspected "bubbles" of gamma ray emission from the central region of the Milky Way. These are a pair of 25000 light-year long lobes that appear to be perpendicular to the galaxy disc. There is no agreed explanation for the origin of these lobes and a few theories are being debated. More info on these can be found at <http://news.nationalgeographic.com/news/2010/11/101110-science-space-mystery-structures-gamma-rays-bubbles/> .

6. A team at the European Organization for Nuclear Research claim to have produced antimatter and kept it long enough to study it. They claim that 38 anti Hydrogen atoms have been kept for over one tenth of a second. They are now refining their technique and planning various experiments that they can do on these particles. Details at <http://www.pcmag.com/article2/0,2817,2372994,00.asp>.
7. Members may remember the Japanese spacecraft that landed in central Australia recently. Its mission was to collect matter from an asteroid and return it to earth. Despite many problems with the mission, some asteroid particles were collected and returned. Electron microscope analysis has indicated that the particles did come from the Itokawa asteroid. See <http://www.nasa.gov/topics/solarsystem/features/hayabusa.html> for more info.
8. Calculations indicate that the number of observed comets that are on an orbit that only brings them near the sun once is much greater than it should be. This is claimed to indicate that the sun has “stolen” some from other stars in the far distant past when other stars were closer.
9. The James Webb Space Telescope has had its launch date delayed. This is thought by many to be the replacement for the Hubble. There seems to be two problems causing the delay and both these relate to money and budget. It was originally planned for launch this year but now will be luck to go in 2015.
10. NASA’s Cassini probe near Saturn has detected Oxygen in the atmosphere of Saturn’s moon Rhea. This appears to be the first time Oxygen has been found in the atmosphere of another world.
11. Spectroscopic analysis of an exoplanet (GJ 1214b in Orphiuchus) indicates that the planet’s atmosphere could contain water. Life is not expected as the temperature would be too high.
12. A new calculation based on information from the Keck observatory in Hawaii indicates that the number of stars in the universe is larger than previously thought. The new estimate is about 300 000 000 000 000 000 000 000 (or  $3 \times 10^{23}$ ).

### **CLOSURE AND FUTURE MEETING TIMES:**

The next monthly meeting will be Monday 7 February 2011, again at Boambee Hall at 7:00pm, all members and interested persons are encouraged to attend. Members are again reminded that, as with all other previous years, there was no meeting scheduled for January.

Meeting closed at 8:33 pm.

### **VIEWING**

The sky was again very cloudy and uncooperative with astronomical pursuits when the meeting started. However we were pleasantly surprised to exit the hall and find an almost clear sky. Due to the inclement weather no one had brought a telescope but we had a successful session of naked-eye astronomy. This included observing the International Space Station as it made a bright, but very brief, appearance near the Pleiades cluster just before 9:00pm.

Terry GILL  
Secretary