COFFS HARBOUR ASTRONOMICAL SOCIETY INCORPORATED

MINUTES AND NOTICE OF MEETING

MINUTES OF APRIL MONTHLY MEETING HELD AT BOAMBEE HALL, MONDAY 1APRIL 2013 AT 7:00pm.

PRESENT: 10 members and 3 visitors.

MEETING OPENED: 7:04pm with President, Win Howard in the chair.

APOLOGIES: Nil

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

BUSINESS ARISING FROM MINUTES: Nil

CORRESPONDENCE:

IN: From Cambridge University Press Re: Books that they have available related to astronomy. The pamphlet was circulated at the meeting. Details available at their website by searching for "astronomy". Try http://www.cambridge.org/aus/catalogue/searchresult.asp?criteria=astronomy&sort=Y

OUT: Nil

GENERAL BUSINESS: Nil

REPORTS FROM MEMBERS:

1) From Terry Gill
   a) A month of disappointments with observations. At least four times Terry prepared to observe an event, only to have rain or full cloud prevent seeing it. Last night (31/3/13) there was an excellent pass of the Space Station but cloud again prevented its observation.
   b) Before the next meeting Terry will be going on holiday in far southwestern NSW. He hopes that while there the skies may be kinder for observation.

2) From Camilla Whaitiri: Camilla has had the Society telescope for two months and has had fun looking through it. She has recorded a number of entries in the log book and is now much more confident in its use.
3) From Frank Kennedy: Re: program on solar storms on SBS last night. The program dealt with how the sun worked and included solar flares and coronal mass ejections. It referred to an event in the 1970's when a large part of Canada was blacked out due to solar interference. This led to considerable discussion on solar activity and included reference to the Carrington event in 1859.
4) From Win Howard:
   a) On 16 March Win finally saw the brightest supernova of 2013 so far. It was in Lupus near to Centaurus (in NGC 5643). It was at 12th magnitude when Win saw it.
   b) A few items for people to look out for in the near future:
      i) On 26 April, just after 8pm there will be an occultation of alpha Librae by the moon. This star is a nice double star and keen observers should be able to see each one of the double disappear and reappear separately.
      ii) Saturn will be at opposition on 28 April.
      iii) There are two eclipses coming up:
         (1) 26 April, early in the morning. At Coffs this will only be a penumbral eclipse so will not be as spectacular as a full eclipse of the moon.
         (2) An annular eclipse of the sun on 10 May. The full eclipse is visible from far north Queensland but, even in Coffs, people can get out their eclipse glasses and solar filters for their scopes and see a part of the sun go behind the moon. Maximum eclipse should be near to 9am.
5) This last item generated considerable discussion about viewing the sun and the dangers involved to your eyesight. Needless to say the sun should NEVER be observed, even for an instant, without PROPER filtration.

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

1. Recent study indicates that the universe is slightly older than previously thought. This information comes mainly from the Plank satellite, studying the cosmic microwave background radiation. It is believed now that the universe is about 100 million years older than we thought. This changes the Hubble constant slightly and also the calculated ratio of matter : dark matter : dark energy. See http://science.nasa.gov/science-news/science-at-nasa/2013/21mar_cmb/ for more detail.
2. The recent fireball explosion over Russia has got a lot of people thinking about the risks of asteroid impact and what we can do about it. Read about one of these thoughts at http://www.smh.com.au/technology/sci-tech/asteroid-risk-real-says-former-astronaut-20130321-2gh28.html .
3. People are still studying the extinction of the dinosaurs event. It was thought that this was from the impact of a 10km asteroid. Recent study indicates that the worldwide levels of iridium and osmium in rock strata from that time, combined with the size of the crater, do not agree with this hypothesis. It is now thought that a 5km diameter comet is much more likely than a 10km asteroid. Comets

typically travel faster so a smaller one is needed to make the same size crater. http://now.dartmouth.edu/2013/03/dinosaur-killing-space-rock-was-a-comet-bbc/ has more.

4. As tentatively reported in previous minutes the scientists at CERN announce that as a result of experiments with the Large Hadron Collider they have found the elusive Higgs Boson particle that was predicted by Peter Higgs in the early 1960's. It is expected that at least one Nobel prize should come from this discovery.
5. The biggest radio telescope on the planet at the moment is now operational. It is called ALMA and is an array of 66 dishes in the Atacama Desert in Chile. One of the purposes of ALMA is to zoom in on distant galaxies that warrant further study. The resolution and sensitivity of ALMA far surpasses any other radio telescope currently operating.
6. On Mars Curiosity has drilled a hole in a rock and analysed the drillings. It found quantities of Hydrogen, Oxygen, Potassium, Nitrogen and Carbon. These are many of the elements that are often called the building blocks of life.
7. One of the most studied objects in deep space is the crab nebula in Taurus. This nebula is the remnant of a supernova in 1054. From time to time it appears to flare up. Another flare was detected by the Fermi Gamma Ray telescope on 3 March. Read more at http://www.skyandtelescope.com/news/Crab-Nebula-Flares-Mysteriously-195985621.html .
8. Neutron stars have always been thought of as about 20km in diameter. New research indicates that this may be an overestimate and that their true size is in the range 10- 13km.
9. A more accurate measurement of the distance to the Large Magellanic Cloud indicates that it is about 3 light years further away than thought. This measurement came from over 10 years of measurement and observation. As with point 1 above this affects and refines the Hubble Constant and mass-energy ratios in the universe.

CLOSURE AND FUTURE MEETING TIMES:
The next monthly meeting will be Monday 6 May 2013, again at Boambee Hall at 7:00pm, all members and interested persons are encouraged to attend.

Meeting closed at 8:30pm.

VIEWING
The sky was once again fully clouded over with brief injections of intermittent rain. We did actually see Sirius and a part of the saucepan for a few seconds.

Terry GILL
Secretary