

Ordinary Meeting, 2002 October 30

held at the Scientific Societies' Lecture Theatre, 23 Savile Row, London W1

Guy Hurst, President

Ron Johnson, Nick Hewitt and Nick James, Secretaries

The President opened the first Ordinary Meeting of the 113th session by inviting Dr Hewitt to read the minutes of the last OM of the previous session, which were approved by the audience and signed. Mr Johnson reported that no presents had been received. 37 new members were proposed, and the 32 members proposed at the September meeting were approved by the members present and declared elected. Mr Hurst invited any members who he had not already met to introduce themselves over coffee after the meeting.

Mr James announced that four papers had been approved by Council for publication in the Journal:

The Leonid meteor shower in 1999, by Neil Bone

Venus and the journal of Andre Gide, by Robert Steele

Mars at its nearest: E.A.L. Atkins on Madeira, 1924, by Richard McKim

Astronomical diaries and observations from the Great War, by Jonathan Shanklin

The President announced that the next meeting would be held at Savile Row, and would feature Robert Hutchingson. This would sadly be the Association's last meeting at this venue.

Mr Hurst expressed his congratulations to those members who had contributed observations of a Gamma Ray Burst (GRB) on October 4. These events fade beyond observation within hours of their appearance, and it was believed that this event had been the first GRB which amateurs had successfully observed. The President then invited Mr Neil Bone to speak about "The Leonid Years".

The Leonid Years

Mr Bone opened by expressing his hope that the 2002 Leonids would be well observed, commenting that a large number of BAA members had contributed high quality observations of this year's Perseid display. The speaker clarified the title of his talk by pointing out that the Leonid meteor shower can be observed every November, however the so-called Leonid years are those when the Earth passes through a particularly dense region of cometary debris, 1966 being the last spectacular display. A good display had also been observed in 1995, though this had not been on the scale of the famous storm activity of 1833. Sadly, the November skies had produced more rainstorms than meteor storms in recent years.

Although the 2002 shower was not expected to be on the scale of these spectacles, the speaker explained why observation was particularly worthwhile this year. In recent years the observed rate of the Leonid storm had leapt from EZHR 30 to 5000. A sophisticated modelling of the storm developed by McNaught and Asher suggested that storm activity would be observed during a brief window around 4am on 2002 November 19.

The Leonid shower is caused by the debris that comet Tempel-Tuttle leaves behind its tail at each return. The Asher-McNaught model relies upon modelling the distribution of debris in the orbit, based upon the observations of the Leonid storm in previous years. The first year of successful predictions had been 1999. In 2000 the model had predicted two peaks, one for the 1899 debris at 2h UT, and a second for the 1733 debris at 7.30h UT. This agreed well with the observed rates.

It was during the 2001 storm that the model was tested most stringently, estimating peaks at 10h UT on November 18 due to the 1766 debris, and at 18h UT for both the 1699 and 1866 dust. This had given US observers a superb opportunity to test the model, although the timings of the peaks were not favourable for the UK. Steve Evans and Andrew Elliot had made long exposure photographic observations, which the speaker highly commended. An observing team which included Shanklin, McGee et al. had made observations in agreement with the model from a Pulau site.

The Asher-McNaught model suggested that prospects for the 2002 return were rather more favourable for UK observers, and the speaker expressed his faith in these predictions. A peak due to the 1766 debris was expected at 3.50h UT, and since this was the same cloud that had given rise to the fireball display over the US in 2001, a brief storm lasting around 20-30 minutes was anticipated. The speaker urged observers to monitor from 2h UT through until dawn. The 19 day old moon 20° above the horizon would hinder observation of fainter meteors, although with the moon lying in Aries, on the opposite side of the sky from the Leonid radiant, it would be possible for many observers to hide it behind a tree or building.

Mr Bone urged members to make the most of this observing opportunity, since it was anticipated that there would not be another good Leonid shower until 2098. The speaker also requested observation of the Geminid shower, which would peak on December 14, and the Quadrantid peak on January 3-4. The latter had not received much attention since 1992, and was in urgent need of observation. Details of both of these events would be published in the December Journal.

Following the applause for Mr Bone's thorough and informative account, the President adjourned the meeting until 14.30 on November 30 at Savile Row.

Dominic Ford