

BAA/ALPO TRANSIENT LUNAR PHENOMENA

Tony Cook

Firstly, thanks for David Darling for covering for me during May and June. Observations for May have been received from: Clive Brook (Plymouth, UK), Tony Cook (Nottingham, UK), Marie Cook (Mundesley, UK), Robin Gray (Winnemucca, NV, USA), Gerald North (Narborough, UK), Brendan Shaw (UK). Observations received for April-June are now on the web site.

For new members that David Darling has recruited to participate in simultaneous observation of the Moon from the ground and from ESA's SMART-1 I would just like to say welcome onboard to the TLP observing program! Altogether there are fifty observers who belong to ALPO, the BAA, or who have registered an interest. This newsletter forms part of the British Astronomical Association's Lunar Section Circular, and also the Association of Lunar and Planetary Observers: "The Lunar Observer". Both publications appear monthly. Our aim is to investigate transient lunar phenomenon (TLP), or as they say in America (LTP). TLP are typically faint transient coloured glows or loss of detail that pertain to a particular area. Theories to explain these reports have included out-gassing on the lunar surface, landslides, meteorite impacts etc. Undoubtedly most TLP are aberrations caused by normal terrestrial atmospheric effects e.g. spurious colour, poor seeing, and perhaps even poorly trained observers in the past. In 1978 Dr Winifred Cameron produced a NASA catalog listing 1463 of these reported events covering the years 557AD-1978. Our task is to try to observe these features again but under the same illumination angles (and if possible libration/viewing angles) in order to record their normal appearance. Hopefully we can then eliminate many of these reports and leave ourselves with a core set of reliable observations that we may then study analytically. Another aspect of the ALPO/BAA work is the tradition started in the Apollo era to observe the Moon at the same time it is being surveyed by spacecraft, so that in the unlikely event that a TLP is observed, it can be studied from both the ground and from spacecraft and then comparisons made with past TLP events. Joint observing programs have taken place with Apollo, Clementine and Prospector space missions and David Darling is in contact with mission scientists over near term future missions e.g. he has recently been in contact with the president of the Trans Orbital Company, involved in a private lunar mission: "Trail Blazer". David states that they were interested in a ground-based observing program with amateur astronomers. Trail Blazer is due for launch in Dec 2004.

Both Dr Julius Benton and David Darling have forwarded me an email from Michael and Lois van Son from Bremerton, Washington State, USA, who on 1st May 2004 at 19:34 PST observed a white flash on the Moon (comparable to Venus) in the upper Mare Serenitatis area. Was anybody else observing the Moon at this time? Although they could have witnessed an impact flash, one has to consider other possibilities such as sun glint from a satellite - this is still being checked out.

Raffello Lena (GLR) reports that he received an observation from May 1st from an Italian observer that suggested blue on the walls of Aristarchus at 22:20UTC. This coincided with the predicted repeat illumination conditions for a 1963 Dec 28 TLP observation by Olivarez where they reported "*in poorer moments of seeing, red on Aris. rim & Sch. Valley. Spurious seeing effect*". The NASA catalog of TLP gives this 1963 observation a very low weight. Alas at present I do not have any further information about the GLR observation, so it is difficult to say if the most likely cause is spurious seeing effects this time?

Although the UK was under quite a bit of cloud cover during the May 4th total lunar eclipse, BAA observers: Tony Cook, Marie Cook, Maurice Gavin, David Graham, Mark Kidger, Martin Mobberley, Gerald North, Damien Peach, and John Rogers have communicated what they saw. So far there are no reports of any impact flashes being seen. I took some video from the end of totality onwards, so can easily verify any reports of flashes. Francois Kritzinger (South Africa) reported seeing two bright spots during totality - probably these will turn out to be ray craters, but the image is still being checked out. Aadil Desai (Mumbai, India) reports that although most of the eclipse was invisible due to rain, he made it a pretty dark eclipse and noted the colour as grayish red at mid totality. Marie Cook (Norfolk, UK) estimated the eclipse to be Danjon 4 and bright orange at 20:43UTC. Mark Kidger made it Danjon 2. I guess the uncertainty can be explained by the low altitude of the Moon and local weather conditions.

A set of predictions for when the illumination only, or illumination and libration, for past TLP events repeats, can be found on the following web site:

<http://www.lpl.arizona.edu/~rhill/alpo/lunarstuff/ltp.html>

Please try to observe some of these as this will help to eliminate many past TLP reports.

If in the unlikely event you see a TLP, please call on Tony Cook's cell phone: +44 (0)798 505 5681 and he will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44!

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