ALPO/BAA LUNAR TRANSIENT PHENOMENA **2005 JUNE**

Observations for April have been received from Clive Brook (U.K.), Antonino Brosio (Italy), David O. Darling (U.S.A.), William Dembowski (U.S.A.), Martin Mobberley (U.K.), Frank Sero (U.S.A.), and Don Spain (U.S.A.). Observers from two countries were represented by the observing network, they were United States and United Kingdom. For this month 7 days were covered giving us a 24% coverage of the lunation, these dates are 14, 15, 16, 17, 18, 19, 24. During the month of April a total of 23 lunar features were monitored. The following is the list of features monitored. Alphonsus, Albategnius, Arzachel, Aristillus, Autolycus, Alpine Valley, Archimedes, Aristoteles, Bulliadus, Copernicus, Cyrillus, Eratosthenes, Earthshine, Eudoxus, Fracastorius, Langrenus, Mare Crisium, Mare Nectaris, Petavius, Ptolemaeus, Theophilus, Torricelli B, and Tycho.

I would also like to thank David Darling very much for "holding the fort" whilst I was tied up with lecturing for the past 5 months. I hope that you have enjoyed reading his enthusiastic articles and it was certainly good to remind ourselves about the more interesting of the past LTP reports. However it is important to note that LTP of the types that he described are very rare indeed, so do not expect to go out and see these on any given night and indeed it might take many tens to hundreds of hours of observing before you see a LTP.

So what would it take to prove LTP to the scientific community? Well there have been some papers published in refereed journals, but even a recent paper by Dolfus, concerning variations of polarized light in Langrenus (Icarus, 2000, pp 430-443) has not really caught the attention of the planetary science community much. From our point of view as amateurs any observer who spots a suspect LTP needs to report it as fast as possible to me or David Darling, so that we may inform others to observe independently the area and report what they see. Ideally a sequence of CCD images should be taken to show time variability in brightness (sharpness) and/or color over regular time intervals. If this were to be captured by two or more observers at different geographical locations (as is used with impact flash observations) then we would have a very compelling set of observations that could be published. The sensitivity of CCD cameras certainly permits more reliable (if calibrated properly) color measurements than was ever achieved during the Corralitos observatory campaign, or during the electronic Trident Moon Blink project.

A more realistic observation strategy for detecting LTP is to do the opposite and try to disprove many past LTP reports as normal appearances of the surface. This is achieved by looking at identical illumination conditions to these past LTP events and if you see something pertaining to the past observation then the chances are this is the normal appearance and that the original LTP was not a LTP! Apart from helping to reduce the number of past LTP reports, getting amateur astronomers out observing the Moon improves their knowledge of the lunar surface, and through an accumulation of observing hours, eventually some of you may be in the right place at the right time to see a LTP. In addition any sketches made, or images taken, are passed onto topographic groups, so none of your observations are wasted.

An ESA press release about SMART-1 from April 15th shows that the spacecraft has started imaging the Moon, in particular the polar regions, looking for "Peaks of Eternal Light". These are mountains at the polar areas that stay illuminated for most of the time and which in future might provide suitable landing sites for polar exploration missions looking for suspected ice deposits in the cold permanently shadowed areas. No news yet on the release of the entire SMART-1 image dataset, but this will eventually occur. So we just have to keep on observing the Moon during the mission and when the images are eventually released we can compare our own observations with SMART-1 images.

Finally I have a brief request - was anybody observing the Moon on 14th April 2005 between 18:30 and 18:35 UT, in the vicinity of Archimedes crater, if so please contact me as we have a query from the Italian UAI group about an observation that they have received.

Further predictions, including the more numerous illumination only events can be found on the following web site: http://www.cs.nott.ac.uk/~acc/Lunar/TLP.pdf . For members who do not have access to the internet, please drop me a line and I will post predictions to you. If you would like to join the LTP

telephone alert team, please let me know your phone No. and how late you wish to be contacted. If in the unlikely event you see a LTP, please give me a call on my cell phone: +44 (0)798 505 5681 and I 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!

Dr Anthony Cook, School of Computer Science & IT, Nottingham University, Jubilee Campus, Wollaton Road, Nottingham, NG6 1BB, UNITED KINGDOM. Email: acc@cs.nott.ac.uk