

On the lightcurves of Lunar Impact Flashes

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About twenty optical flashes on the night side of the Moon have been confirmed since 1999. They happened during the Leonid and Perseid meteor shower activities and are attributed to the high velocity impacts of meteors. It is interesting to note that some flashes were followed by afterglows. Radiation from hot gas and plasma, generated by the high velocity impact of a meteoroid on the lunar surface, is estimated to be very short, and can not contribute to the afterglows. We calculated the thermal radiation from the hot droplets produced by the impacts as a possible candidate of the afterglows. Results show that the droplets of about 100 micro-meter in size can reproduce lightcurves (time variation) of the afterglows.