

Six surface serene multiple reflected full Moon ...

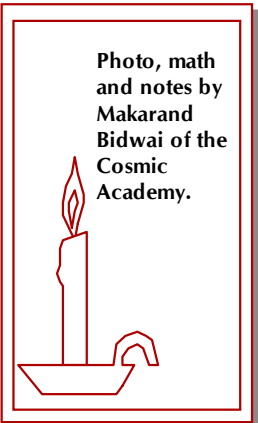
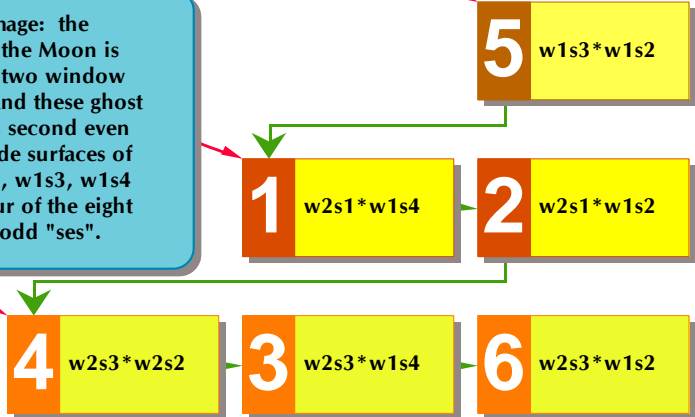
In the numbered boxes, the rows represent common first surfaces, and columns, second. Green arrow indicates toward innermost surfaces.



$n!, n = s-1.$
 $s = 4;$
 $n = 3;$
 & (factorial)
 $n! = 6$
 where "s" is the number of window surfaces, and "n!" are the multiple moon reflections.

Six surface serene multiple reflected full Moon ... Main Moon is over exposed, but reflections show some semblance of lunar topography ...

Surface identification and intensity of image: the outermost surface's ($w1s1$) reflection of the Moon is lost to the atmosphere. However, thick two window glasses have "eight" surfaces (slideup), and these ghost reflections used two at a time. First odd, second even surface. Let us call the outermost to inside surfaces of the two window shutters as $w1s1, w1s2, w1s3, w1s4$ and $w2s1, w2s2, w2s3, w2s4$. Only four of the eight surfaces are facing the full Moon ... the odd "ses".



Photo, math and notes by Makarand Bidwai of the Cosmic Academy.

Based on the above calculations, you can clearly see the three intensities for the three surfaces, the lowest intensity being from the image 6, as this image passes through the thick of window two with farthest internal light travel distances between two reflections. Not oddly enough, the images 1 and 2 and 3 are the most intense, as these are the only first surface reflections (i.e. the second window's Moon facing side for 1 and 2, with both reflections first surface for 1). Finally we have a medium intensity images 4 and 5. As their double reflections are made in the same glass. Remember, each of these images are suffering a double reflection. Based on this arithmetic, several more reflections could happen of the reflected images themselves, but the loss of intensity compared to the full Moon itself is almost two-thirds to three-fourths to four-fifth (light extinction) approximately for the first six, and given my ordinary Canon PowerShot S2 IS 5 MP camera on nightscene mode with 12x zoom without tripod, the ccd must not have registered the next intensity level. Window is liberally used for the sliding window shutter of the actual window. There ought to be subtle difference in intensities within the three intensity groups, but for the purpose of this article, we will ignore them. A kaleidoscope of sorts is effected by the window glass. However, refraction after image formation gives the pattern, which has almost only a line symmetry. Camera was away from the window "normal" for this image. Image was taken on July 1, 2007 at 3:17 EDT in Alexandria, Virginia.