Brightness of Mars: 2007-2014

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Mallama (2007) published a photometric model of Mars covering the Johnson U, B, V, R and I wavelengths. The writer has continued to measure that planet's brightness. There are two objectives to this study: 1) look for long-term brightness changes on that planet and 2) monitor cloud abundances during the cloudy period ($45° < L_s < 135°$). The second objective is possible because clouds are brighter than the bare terrain. During northern spring ($0° < L_s < 90°$), Mars was close to its expected V-filter brightness in 2007-08, 2009-10, 2011-12 and 2013-14. This is evidence that long term albedo changes for the planet as a whole have not occurred. During the early northern summer, the situation is a little different. Mars was 0.05 magnitudes dimmer than expected in 2009-10 but was close to its expected brightness in 2011-12 and 2014. A lower number of clouds could explain the dimming in 2009-10. Preliminary brightness measurements in the R, I, J (1.25 μm) and H (1.65 μm) in 2014 will also be presented.