SOLAR OBLATENESS AND SUNSKETCHER

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The precise shape of the Sun deviates only slightly from the circular, certainly via an oblateness produced by rotation. As noted by Dicke, the precise amount of oblateness has implications for the anomalous motion of Mercury's perihelion, and for the theory of relativity. I will review the observational problem of measuring the shape of the Sun. In the most recent total solar eclipse, the SunSketcher program (sunsketcher.org) successfully deployed a smartphone app to attempt a precise measurement via smartphone cameras, used directly in conjunction with GPS timing and geolocation, taking advantage of the Moon as an astrometric reference. The app worked and produced tens of thousands of eclipse images, and I will describe its progress and possible conclusions.