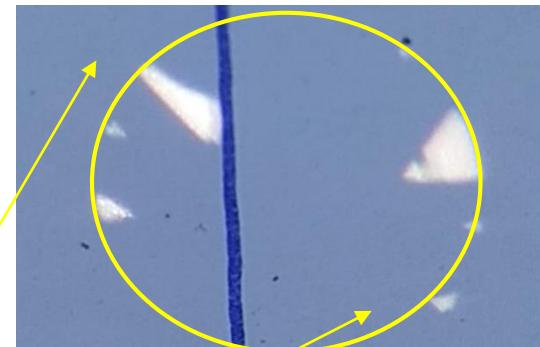


Solar Diameter in Central Eclipses through Projection

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1. Traditional Eclipse projection: all relevant Baily's beads are visible, also in annular eclipses. Mini-scopes 18 to 50 mm don't burn. The solar projection video with the smartphone is good.



3. 10 arcsec/pixel
one-inch image
18 mm scope
diffraction limit = 6 arcsec
is a good combination.
This frame is extracted from a
VGA 30 fps video.

5. The «beads» here are produced by the Sun through the star over the Vatican Obelisk, at the meridian transit.

2. A continuous steady video, starts before t2 ends after t3, **geo-localized**, allows Baily's beads timing. Each of them gives the position of the solar limb on the Lunar profile with a 0.01'' accuracy.



4. Large solar spots are visible, but the beads as small as 0.001 arcsec shine in the darkness.

6. Baily's beads projection's simulations at the Vatican Obelisk: September 2023. All [videos](#) are made in full daylight background, much worse than eclipse environment. Reference: [ATel #15991](#) (2023)

References: [Guidelines for measuring solar radius with Baily beads analysis](#) (2009)