

Diameter of the Old Sun

The Urth list — 1 messages, 1 voices, 04 Mar 2002

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Michael Andre-Driussi — 04 Mar 2002, 00:17

Assuming that Lune Diameter = 2160 miles, and Orbit = 150,000 miles . . .

And using formula $S = 57.3 * D/R$

Shows us that the angular diameter (i.e., size in sky from Urth) of Lune is 0.82 degrees (compared with Moon from Earth as 0.52 degrees--bigger, but not quite doubled in size).

Supposing that the Old Sun is swollen (Supposition 1); further supposing that Lune can eclipse the Old Sun (Supposition 2); this implies that the angular diameter of Old Sun is around 0.82 degrees (compared to Sun's 0.53 degrees). What is the diameter of Old Sun?

$$0.82 = 57.3 * x / 92.960 \text{ million miles}$$

$$76.2272 = 57.3 * x$$

$$1.3303 = x = 1.33 \text{ million miles}$$

According to these figurings, Old Sun has a diameter of 1.33 million miles (2.14 million km), which translates into 0.014 AU.

If the above is correct, then there is little hazard of the planet we call Mercury being engulfed by the swollen star, since Mercury orbits at 0.38 AU.

=mantis=

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