

Penumbral Lunar Eclipse of 2013 Oct 18

Ecliptic Conjunction = 23:38:46.7 TD (= 23:37:38.3 UT)

Greatest Eclipse = 23:51:25.3 TD (= 23:50:16.9 UT)

Penumbral Magnitude = 0.7649

P. Radius = 1.2270°

Gamma = 1.1508

Umbral Magnitude = -0.2718

U. Radius = 0.6917°

Axis = 1.0902°

Saros Series = 117

Member = 52 of 72

Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 13h35m31.9s

Dec. = -09°57'15.0"

S.D. = 00°16'03.4"

H.P. = 00°00'08.8"

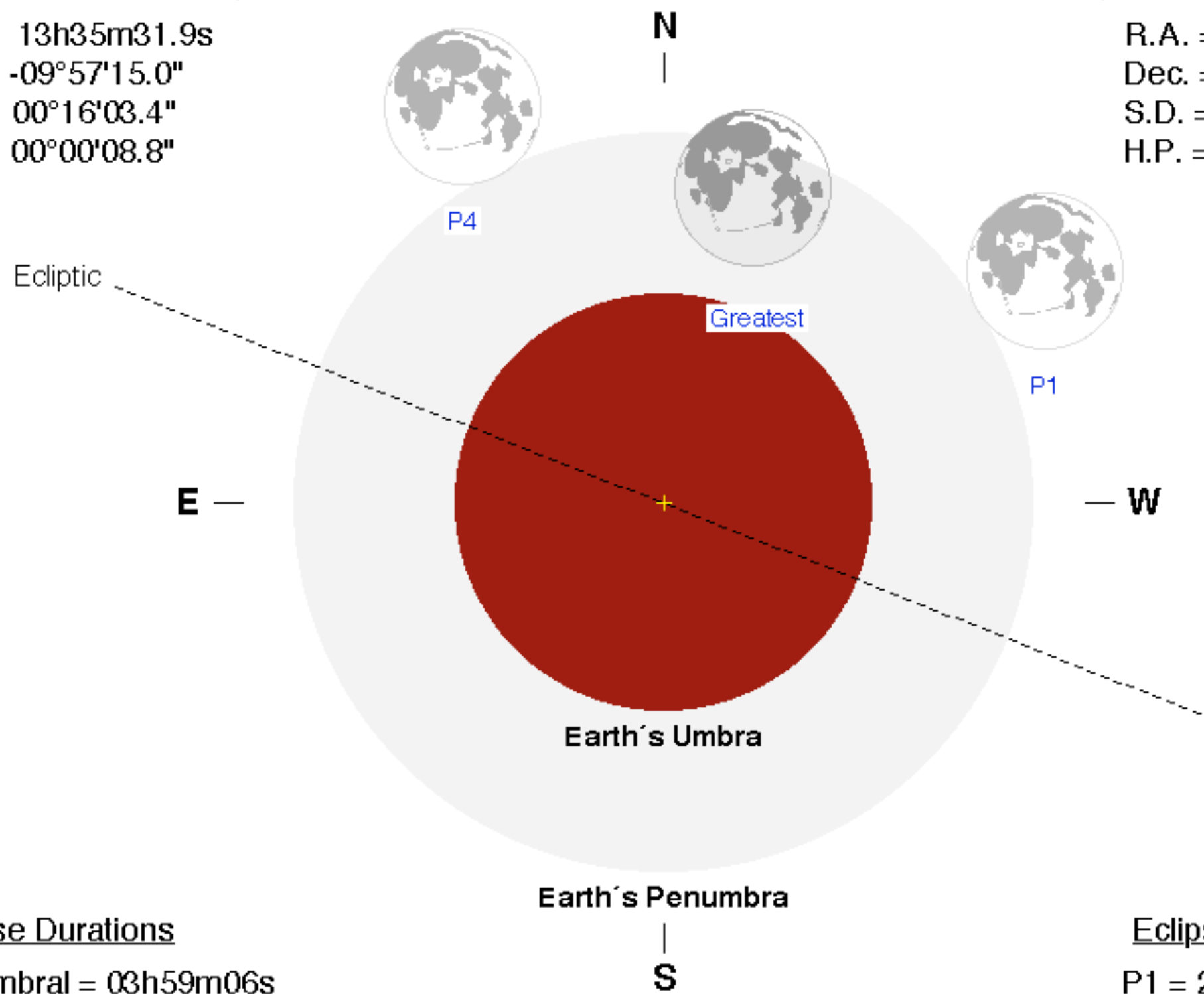
Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 01h34m19.6s

Dec. = +11°00'12.3"

S.D. = 00°15'29.3"

H.P. = 00°56'50.7"



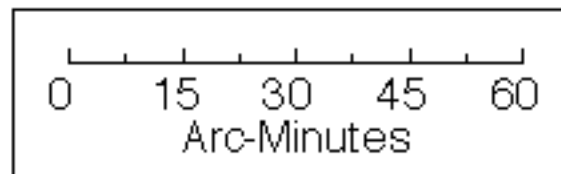
Eclipse Durations

Penumbral = 03h59m06s

Eclipse Contacts

P1 = 21:50:41 UT

P4 = 01:49:47 UT



$\Delta T = 68$ s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

F. Espenak, NASA's GSFC

eclipse.gsfc.nasa.gov/eclipse.html

