Penumbral Lunar Eclipse of 2038 Dec 11

Ecliptic Conjunction = 17:31:37.0 TD (= 17:30:13.2 UT)
Greatest Eclipse = 17:44:59.9 TD (= 17:43:36.1 UT)

Penumbral Magnitude = 0.8046 P. Radius = 1.1906° Gamma = -1.1448
Umbral Magnitude = -0.2892 U. Radius = 0.6491° Axis = 1.0398°

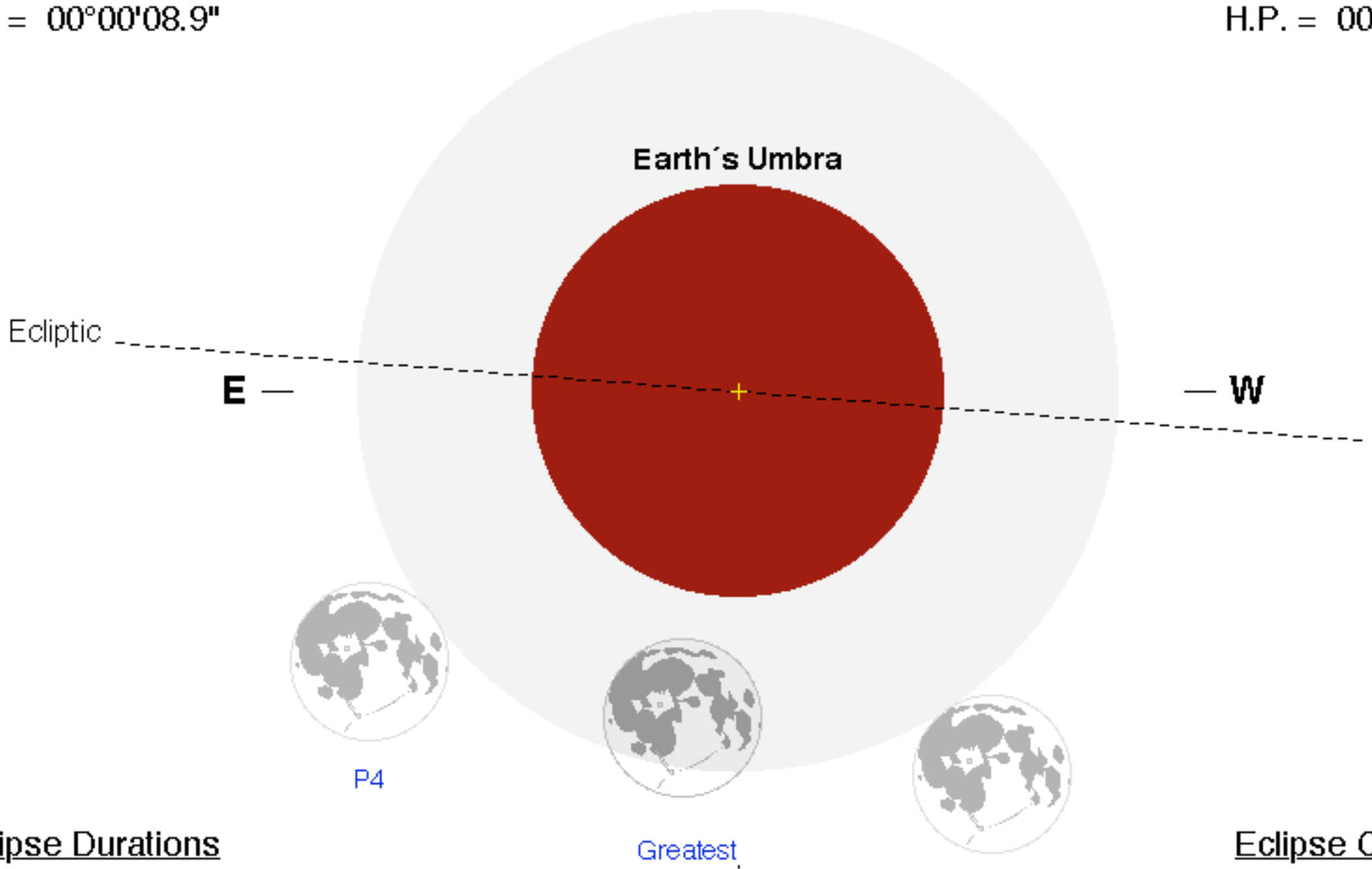
Saros Series = 116 Member = 59 of 73

<u>Sun at Greatest Eclipse</u>
(Geocentric Coordinates)

R.A. = 17h15m29.9s
Dec. = -23°02'24.2"
S.D. = 00°16'14.6"
H.P. = 00°00'08.9"

<u>Moon at Greatest Eclipse</u>
(Geocentric Coordinates)

R.A. = 05h16m16.9s
Dec. = +22°00'57.8"
S.D. = 00°14'51.0"
H.P. = 00°54'29.8"



<u>Eclipse Durations</u>

Penumbral = 04h18m27s

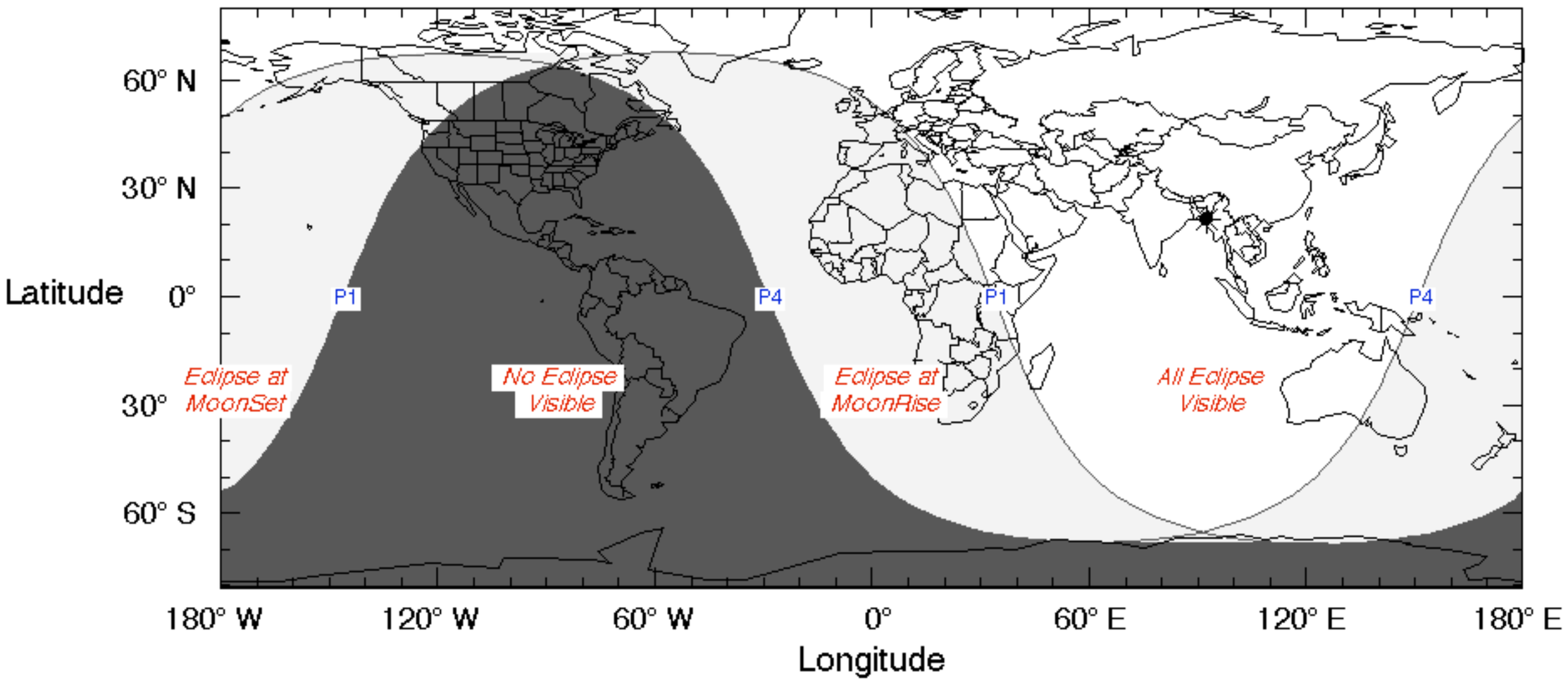
<u>Eclipse Contacts</u>

P1 = 15:34:24 UT
P4 = 19:52:51 UT

0 15 30 45 60
Arc-Minutes

ΔT = 84 s
Rule = CdT (Danjon)
Eph. = VSOP87/ELP2000-85

F. Espenak, NASA's GSFC
eclipse.gsfc.nasa.gov/eclipse.html



2009 Apr 29