ECLIPSES DURING 2023

By Fred Espenak

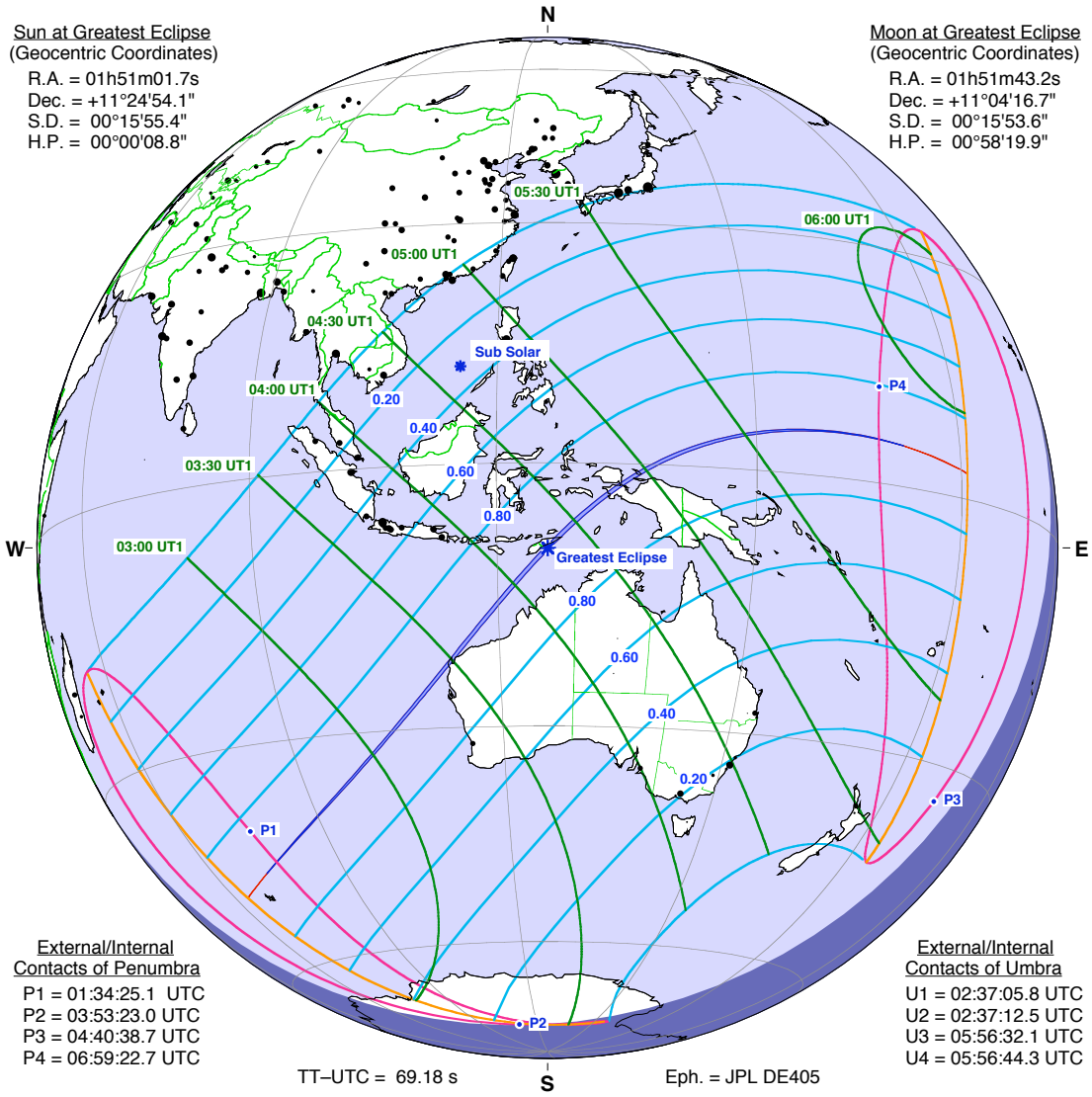
Figure 1

Hybrid Solar Eclipse of 2023 Apr 20

Greatest Eclipse = 04:17:56.0 TT (= 04:16:46.8 UTC)

Eclipse Magnitude = 1.0132 Saros Series = 129

Gamma = -0.3952 Saros Member = 52 of 80



External/Internal Contacts of Penumbra

P1 = 01:34:25.1 UTC
P2 = 03:53:23.0 UTC
P3 = 04:40:38.7 UTC
P4 = 06:59:22.7 UTC

External/Internal Contacts of Umbra

U1 = 02:37:05.8 UTC
U2 = 02:37:12.5 UTC
U3 = 05:56:32.1 UTC
U4 = 05:56:44.3 UTC

TT–UTC = 69.18 s

Eph. = JPL DE405

Circumstances at Greatest Eclipse: 04:16:46.8 UTC

Lat. = 09°35.7'S Sun Alt. = 66.7°
Long. = 125°46.8'E Sun Azm. = 334.0°
Path Width = 49.0 km Duration = 01m16.1s

Circumstances at Greatest Duration: 04:16:16.3 UTC

Lat. = 09°42.5'S Sun Alt. = 66.7°
Long. = 125°40.1'E Sun Azm. = 334.6°
Path Width = 48.9 km Duration = 01m16.1s

0 1000 2000 3000 4000 5000
Kilometers

Adapted from ***21st Century Canon of Solar Eclipses,*** Fred Espenak, 2016.