

# Total Solar Eclipse of 1605 Oct 12

Ecliptic Conjunction = 13:08:10.9 TD (= 13:06:18.6 UT)

Greatest Eclipse = 12:59:58.5 TD (= 12:58:06.2 UT)

Eclipse Magnitude = 1.0344      Gamma = 0.8022

Saros Series = 137      Member = 13 of 70

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 13h10m51.8s

Dec. = -07°31'58.7"

S.D. = 00°16'03.5"

H.P. = 00°00'08.8"

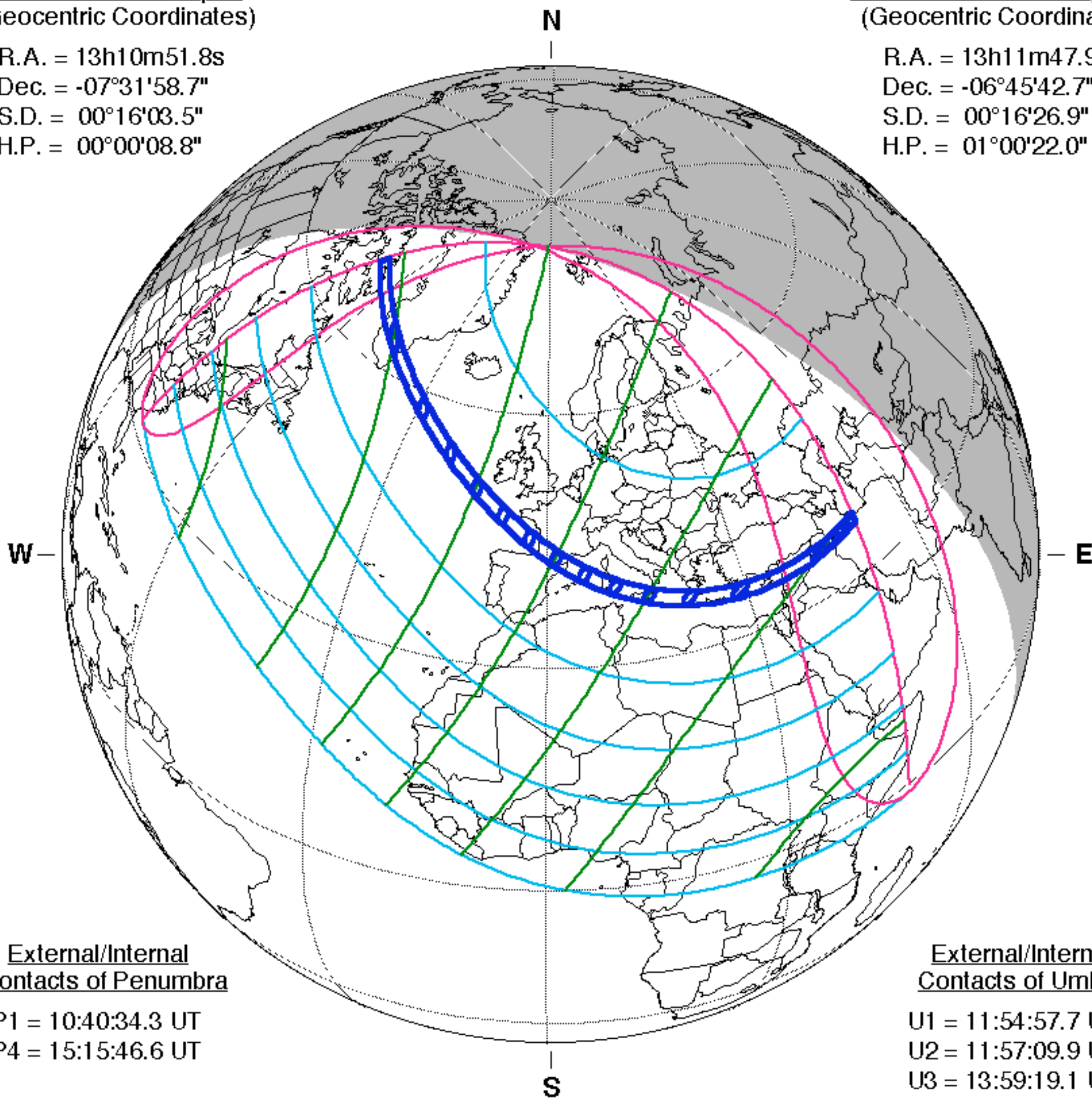
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 13h11m47.9s

Dec. = -06°45'42.7"

S.D. = 00°16'26.9"

H.P. = 01°00'22.0"



## External/Internal Contacts of Penumbra

P1 = 10:40:34.3 UT

P4 = 15:15:46.6 UT

## External/Internal Contacts of Umbra

U1 = 11:54:57.7 UT

U2 = 11:57:09.9 UT

U3 = 13:59:19.1 UT

U4 = 14:01:34.6 UT

## Local Circumstances at Greatest Eclipse

Lat. = 43°24.6'N

Sun Alt. = 36.4°

Long. = 000°37.2'E

Sun Azm. = 203.0°

Path Width = 192.5 km      Duration = 02m43.4s

## Constants & Ephemeris

$\Delta T = 112.3$  s

$k1 = 0.2724880$

$k2 = 0.2722810$

$\Delta b = 0.0''$        $\Delta l = 0.0''$

Eph. = VSOP87/ELP2000-82

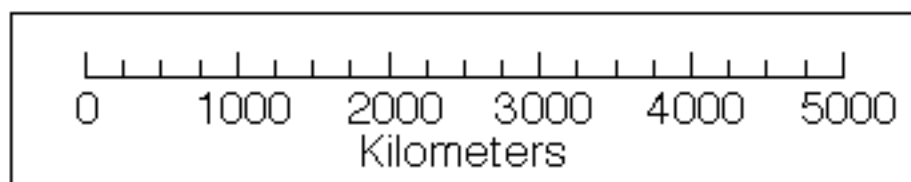
## Geocentric Libration (Optical + Physical)

$l = -3.08^\circ$

$b = -1.01^\circ$

$c = 23.78^\circ$

Brown Lun. No. = -3923



F. Espenak, NASA's GSFC

[eclipse.gsfc.nasa.gov/eclipse.html](http://eclipse.gsfc.nasa.gov/eclipse.html)