NAVIST : SUN SIGHTS DURING AN ECLIPSE "BAD LIMB" CALCULATIONS

14 OCT 2023 N 28°00.0'/W 090°00.0' 17:46:00 UT ⊙GHA=090°00.002'

SUN accuracy ± 0.5" Moon accuracy ±4" (TT-UT= +69.7^s)

16:46:00

17:00:00,0 UT T= 0.0000 H

⊙ 52.38160° ☾ 52.38318° Δh -0.25228°

⊖ [52.11448]/161.25929° ⊕ [52.12932°]/161.41615° cos⊖ 0.61409 ΔZcos⊖ 0.09633°

☉ 51.84735° SD⊙ 0.26713 ☾ 51.87545 SD☾ 0.25387° Δh +0.28197°

18:30:00 UT T= 1.50000 H

⊙ 52.49823° ☾ 52.20832° Δh -0.54389°

[⊖ 52.23112°]/197.95586° [⊕ 51.95434°]/197.45279° cos⊖ 0.61248 ΔZcos⊙ -0.30812°

☉ 51.96400° SD 0.26712° ☾ 51.70037° SD☾ 0.25398° Δh -0.00966°

SD⊙ = $16.028' - 4.10^{-4}T$ SD☾ = $15.232' + 0.0044T$ $\overline{\Delta h} = -15.137' - 11.6644T$ $\Delta h = 16.918' - 11.665'T$

(-11.6648) (-11.6648)

ΔZcos⊖ = $5.7798' - 16.178'T$

UPPER LIMB : study $f(UL) = SQRT[\overline{\Delta h}^2 + \Delta Z\cos\theta^2] - SD☾$

LOWER LIMB : study $g(LL) = SQRT[\Delta h^2 + \Delta Z\cos\theta^2] - SD☾$

Results $f(LL)=0$ for T = 00:10:13,5 & 01:17:32,0 i.e [17:10:13,5 UT – 18:17:32,0 UT]

$f(UL)=0$ ∀ T NO SOLUTION ⊙UL always visible

KERMIT

on RSL, 04 October 2023