‡12 *DIO*'s Fits to Hitherto-Unexplained Ancient Data

Great Pyramid oriented via star 10i Draconis[1] (latitude 30° via 11α Dra?), c.2600 BC.
Precise empirical basis[2] of Kallippos' $365^d1/4$ year: 330 BC, 3 centuries before Caesar.
Standard ancient 185 meter[3] stade's origin from 1%-correct Earth-size measure, c.300 BC.
Sostratos-Eratosthenes' Earth-circumference $C = 256000$ stades, c.250 BC.[4]
Poseidonios' (& later Ptolemy's) Earth-circumference $C = 180000$ stades, c.50 BC.[5]
Aristarchos' 87° lower bound[6] for half-Moon elongation from Sun, c.280 BC.
Aristarchos' solar&stellar parallaxes each 1/10000 radians,[7] human vision limit, c.280 BC.
Ancient continued fraction → Aristarchos' tropical-Metonic year:[8] $365^d1/4 - 15/4868$.
Aristarchos' Great Year[9] of 4868 Kallippic years or 1778037^d, 280 BC.
Pseudo-Aristarchos' quadruply-exaggerated[10] 2° solar diameter in *Sizes&Distances*.
"Babylonian" monthlength c.200 BC $29^d31'50''08'''20''''$: from saros c.280 BC.[11]
Aristarchos source of poor common ancient value[12] for precession 1°/century, c.280 BC.
Pharos height 1/2 stade = 300 feet by-plan for efficiently[13] measuring Earth-size, c.270 BC.
System A relation 6247 synodic months = 6695 anomalistic months, 263 BC.[14]
Archimedes' odd brackets for solar-diameter[15] rt.ang/200 < Sun < rt.ang/164, c.230 BC.
"Babylonian" yearlength[16] $365^d14'44''51''' = 365^d73/297$, 135 BC.
Hipparchos' lunar orbit-radii[17] 3144 & 3122 1/2, resp, c.130 BC & c.125 BC.
Hipparchos' lunar eccentricities[18] 327 2/3 & 247 1/2, resp, c.130 BC & c.125 BC.
Hipparchos' ratio[19] 5458 synodic months = 5923 eclipse months, good to (!) ordmag $1^s/10$.
Why did Hipparchos assign impossible 179° true lunar elongation to −381/12/12 eclipse?[20]
Why *JHA* Editor's Moon-based star λ "too small[21] by about 40′", thrice lunar semidiameter?
Hipparchos' awful eclipse-based Spica[22] places, off −33′ & +33′, resp, 146&135 BC.
Hipparchos' largest fundamental-star error: −35′ Regulus,[23] 141 BC.
P.Fouad 267A's Hipparchan $365^d1/4 - 1/309$ yearlength,[24] 158 BC.
Oddly-discordant 77 AD Pliny-circuli Rhodes entry 100 inches.[25]
Ptolemy's 8523 trop.yrs = 105416 mos ⇐ cont'd frac[26] of 781 sid.yrs = 9660 mos, 62 AD.
Final Ptolemy lunar relation 3277 synodic months = 3512 anomalistic months,[27] 136 AD.
Ptolemy's disjuncts with reality & own tables for both[28] Arbela eclipse-times, c.160 AD.
1000^y-persistent Ptolemy large North Africa mapwarp: Carthage 4° mislatitude,[29] c.160 AD.
Blessed Isles, Ptolemy *Geogr* 0° longitude, misidentified[30] as 800-miles-distant Canaries.

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[1] Above ‡3 §C2; *Vistas in Astronomy 28*:255-268 [1985] pp.255-256; www.dioi.org/g835.pdf.
[2] www.dioi.org/jk02.pdf §C1.
[3] Above ‡4.
[4] *AmerJPhysics 47.2*:127; *ArchHistExactSci 26.3*:211-219; www.dioi.org/je01.pdf §§D&G&K.
[5] *Griffith Observer 82.8* (www.dioi.org/g828.pdf) [2018.
[6] www.dioi.org/je02.pdf §B & fn 17; www.dioi.org/j117.pdf §C1.
[7] Above ‡5; *Griffith Observer 84.1* (www.dioi.org/g841.pdf) [2020].
[8] Above ‡11 §F2; www.dioi.org/jm03.pdf fn 88.
[9] www.dioi.org/jm03.pdf §G5.
[10] www.dioi.org/j117.pdf fn 6.
[11] www.dioi.org/jb11.pdf §A.
[12] Above ‡11 §F2; www.dioi.org/au.pdf.
[13] With huge errors by factor 6/5. Above ‡4 §B4; www.dioi.org/je01.pdf §I1; www.dioi.org/g828.pdf.
[14] Above ‡6 §§E1&E2; www.dioi.org/jb12.pdf eqs.1-2.
[15] www.dioi.org/jk01/pdf §E.
[16] www.dioi.org/j116.pdf eq.6.
[17] Above ‡10 §B4; www.dioi.org/j139.pdf.
[18] *Idem*.
[19] www.dioi.org/jb13.pdf eqs.1-3.
[20] www.dioi.org/jk03.pdf §G.
[21] ‡5 §C1; www.dioi.org/jg01.pdf §A. *J.Hist.Astr*'s now-knowingly-fake case for Greek inaccuracy.
[22] Above ‡11 §D2; www.dioi.org/jg01.pdf §§B&F.
[23] www.dioi.org/jg01.pdf §§E&F.
[24] www.dioi.org/jk02.pdf §§K4-K5.
[25] *Vistas in Astronomy 28*:256 n.15.
[26] www.dioi.org/j601.pdf eqs.21-31.
[27] Above ‡6 §§E1&E2; www.dioi.org/jb12.pdf fn 21; www.dioi.org/jm03.pdf §I36.
[28] Above ‡8 §G2; www.dioi.org/jm02.pdf §G.
[29] www.dioi.org/jg03.pdf §F4.
[30] Actually Cape Verde Islands: above ‡11 §C; www.dioi.org/jm01.pdf p.8.