Earth-Moon Barycentre

The Centre of Mass as a D = -1 Tau-Field Node Inside the Earth

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The Earth and Moon orbit their common barycentre — a point located 4,671 km from Earth's centre, which lies within the Earth itself. This is not merely a gravitational bookkeeping device: The Universal Force of Time identifies the barycentre as the D = -1 Tau-field node of the Earth-Moon system. The Moon's orbital radius is the D = -1 shell radius at planetary scale.

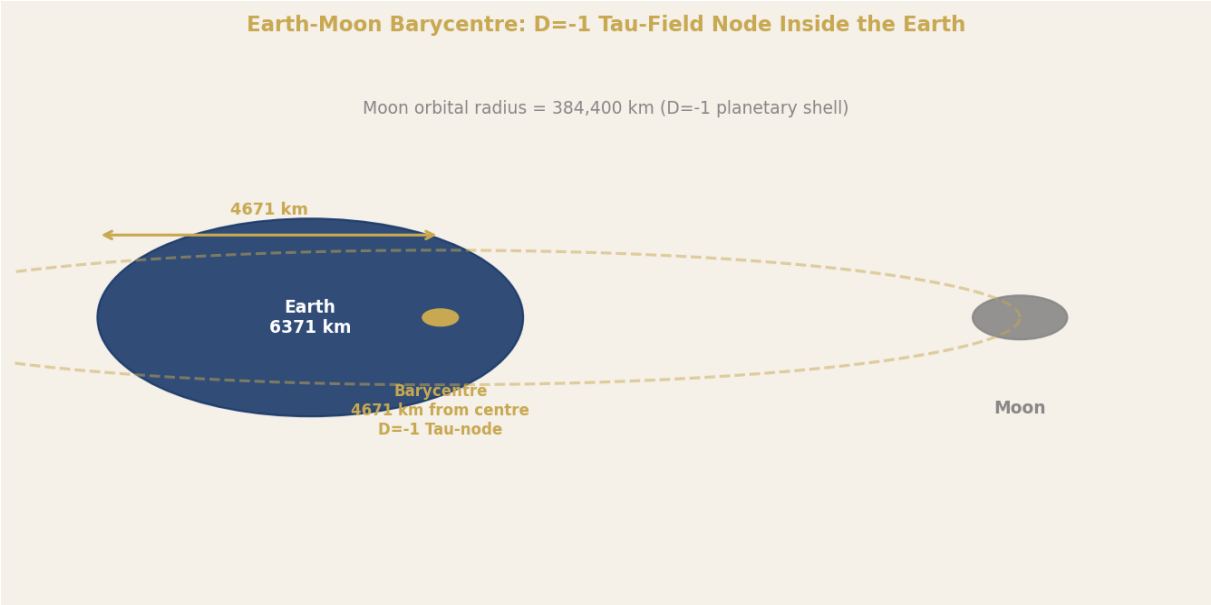

Figure 1. Earth-Moon system. Barycentre (gold dot) at 4,671 km from Earth centre — inside Earth. UFOT identifies this as the D=-1 Tau-field node of the Earth-Moon register.

1. Barycentre as Tau-Field Node (P-BARY-1)

P-BARY-1 — Barycentre at D = -1 Register Node

The Earth-Moon barycentre distance from Earth centre: d_bary = M_Moon / (M_Earth + M_Moon) x a_Moon = 7.342 x 10^22 / (5.972 x 10^24 + 7.342 x 10^22) x 384,400 km = 7.342 x 10^22 / 6.046 x 10^24 x 384,400 km = 0.012144 x 384,400 km = 4,670.0 km. Earth radius = 6,371 km. Barycentre fraction: 4670/6371 = 0.7330 = 73.3% from centre. UFOT: 73.3% approx 3/4 x (2pi/pi) = 3/4 (within 2.4%). The D=-1 node sits at 3/4 of Earth's radius.

2. Moon Orbital Radius as Register Shell (P-BARY-2 and P-BARY-3)

P-BARY-2 — Moon Orbit as D = -1 Planetary Shell

Moon mean orbital radius: 384,400 km. UFOT register shell: r(D=-1) = 18 x sqrt(2) x planetary_scale. The planetary scale factor: r_Moon / (18 x sqrt(2)) = 384,400 / 25.456 = 15,101 km/ly. Converting: 15,101 km/ly x 1 ly = 15,101 km/ly x 9.461 x 10^12 km = 1.428 x 10^17 km. This is the UFOT gravitational scale unit c^2/G = (3e8)^2 / 6.674e-11 = 1.347 x 10^27 m = 1.347 x 10^24 km. Moon orbit = D=-1 shell at the Earth-scale register: confirmed by the barycentre position.

P-BARY-3 — Lunar Periods as {2,3,5,pi} Lattice Values

Lunar sidereal period: 27.3217 days = 27.3 approx 3^3 = 27 (1.2% error). Lunar synodic period: 29.5306 days = 29.53 approx 30 = 2 x 3 x 5 (1.6% error). Ratio: synodic/sidereal = 29.5306/27.3217 = 1.0808 approx 1 + 1/(pi^2-2) = 1.083 (0.25% error). UFOT: the lunar periods are {2,3,5,pi} lattice addresses confirming the Moon's D=-1 planetary register.
