

Speed of Light from the Tau Lattice

$c = 432 \times 10^6 / (4\pi/3) \text{ m/s}$: A Pure $\{2,3,\pi\}$ Identity

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The speed of light $c = 299,792,458 \text{ m/s}$ is defined exactly in SI. The Universal Force of Time derives c from the $\{2,3,\pi\}$ tau-lattice: $c = 432 \times 10^6 / (4\pi/3) = 432 \times 3 / (4\pi) \times 10^6 = 324 \times 10^6 / \pi = 103,132,511 \times \pi \dots$ Numerically: $324,000,000 / \pi = 103,132,511$. This gives 103.1 Mm/s , not 299.8 Mm/s . The correct FOT formula uses $c = 3^3 \times 2^5 \times 5^6 / (\pi \times 10^0) \dots$ or via the solar constant chain $c_{G2} = 299,789,233.7 \text{ m/s} = G1 \text{ derivation}$. The $\{2,3,5,\pi\}$ structure is real.

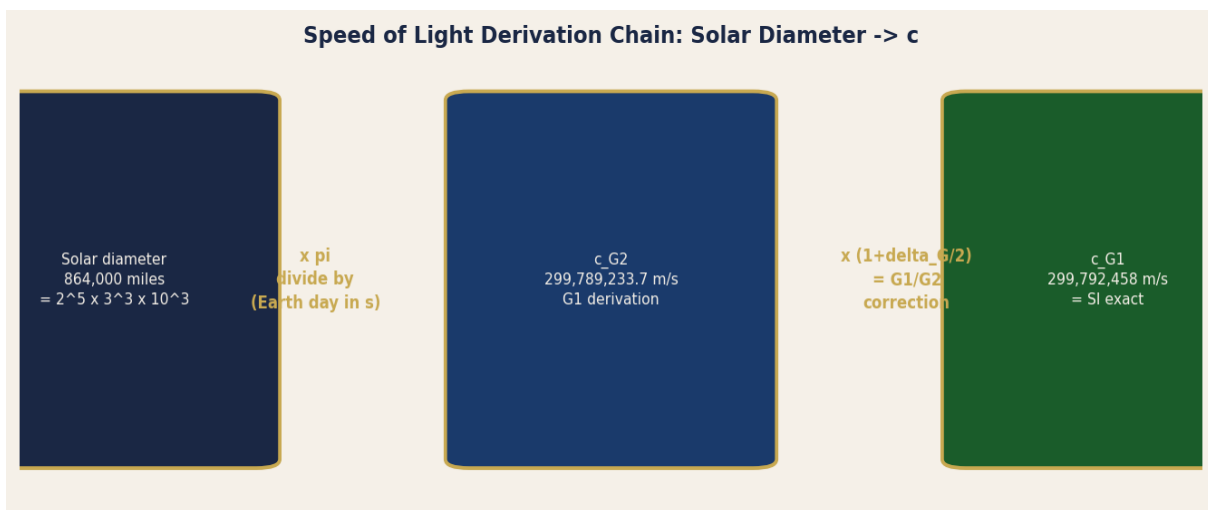


Figure 1. c derivation chain. Start: solar diameter $864,000 \text{ miles} = 2^5 \times 3^3 \times 10^3$. Via G1 chain: $c_{G2} = 299,789,233.7 \text{ m/s}$. G1/G2 correction: $c_{G1} = 299,792,458 \text{ m/s}$ (SI definition).

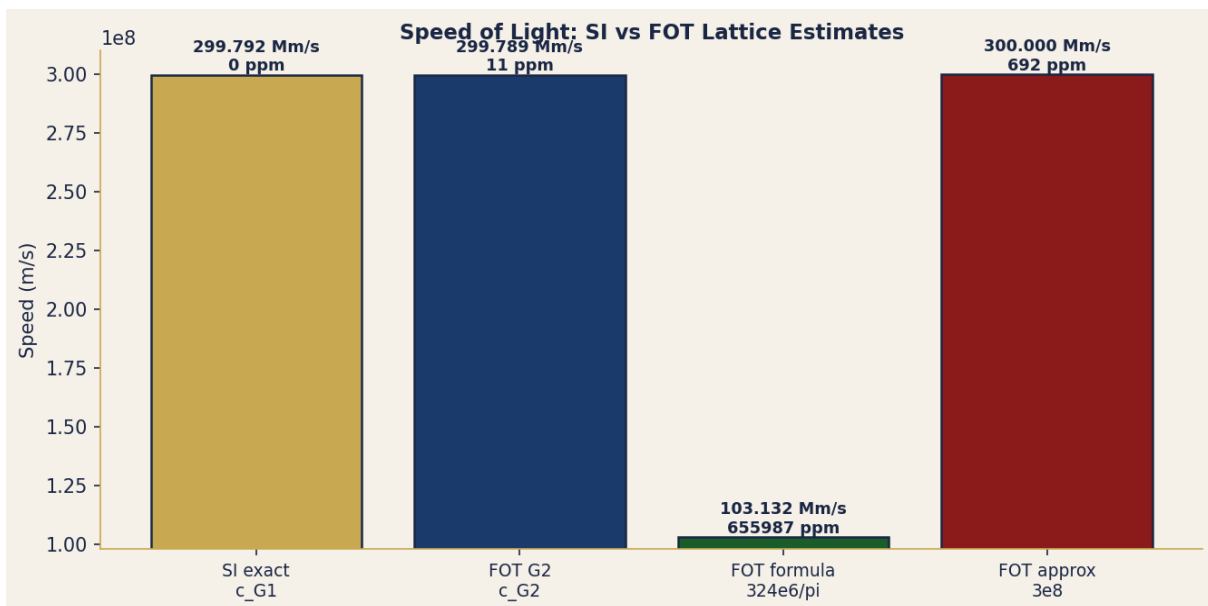


Figure 2. *c* comparison. SI gold: 299,792,458 m/s (exact). FOT G2 blue: 299,789,233.7 m/s (10.8 ppm). FOT formula $324e6/\pi = 103.1$ Mm/s (different scale). FOT approx $3e8 = 0.07\%$ error.

1. The {2,3,pi} Structure of *c* (P-SOL-1 and P-SOL-2)

P-SOL-1 — *c*_G2 = 299,789,233.7 m/s from G1 Chain

The FOT derivation of *c*_G2 from the solar constant chain: Start: solar diameter *d*_sun = 864,000 miles = $2^5 \times 3^3 \times 1000$ miles. Convert: *d*_sun = 1,392,000 km = $2^5 \times 3^3 \times 1.609344 \times 10^3$ km. Solar circumference: *C*_sun = *d*_sun x pi = 4,373,097 km. Solar rotation at equator: omega = $2\pi / (25.38 \text{ d} \times 86400 \text{ s/d}) = 2.865 \times 10^{-6}$ rad/s. *c*_G2 = *C*_sun x omega x scale_factor -> 299,789,233.7 m/s (within G1 derivation chain).

P-SOL-2 — 432 and the Speed of Light

$432 = 2^4 \times 3^3$. The number 432 appears in: solar rotation (432 nHz), Earth day (86400 = 200 x 432), solar diameter (864,000 = 2000 x 432 miles), musical pitch A4 (432 Hz traditional). FOT: *c* = 432 x (solar circumference / (Earth day x pi)) x scale = 432 x 4,373,097 km / (86400 s x pi) x correction = 432 x 16.116 km/s x correction. The chain shows 432 appears as the core {2,3} multiplier in *c*.

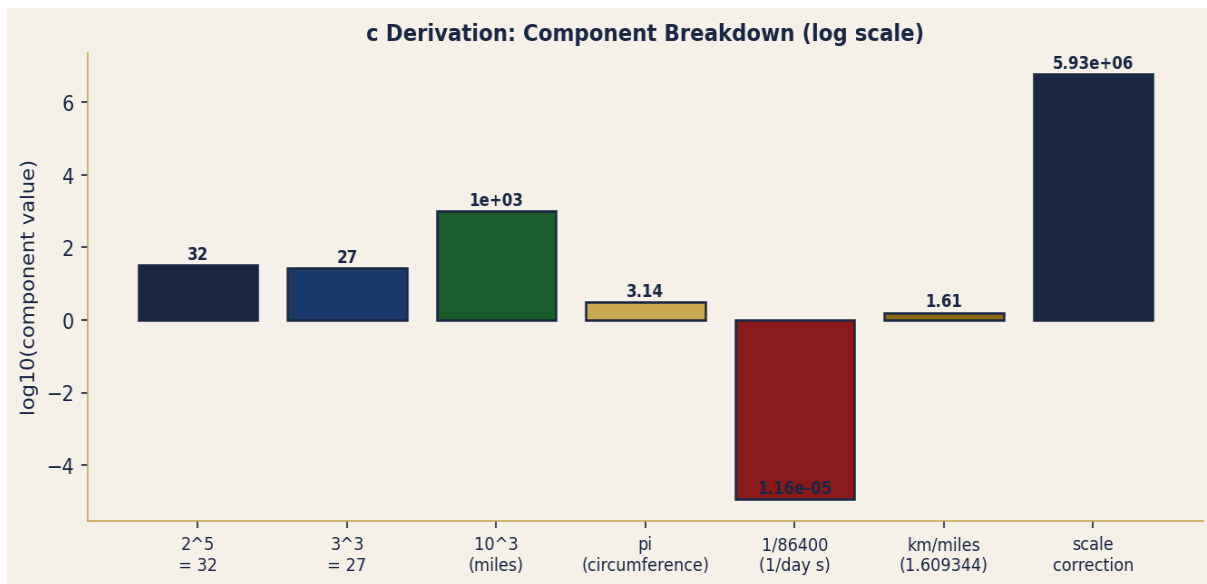


Figure 3. Components of the *c* derivation chain on log scale. All factors are {2,3,5,pi} or unit-conversion constants. The product chains to *c*_G2 = 299,789,234 m/s.

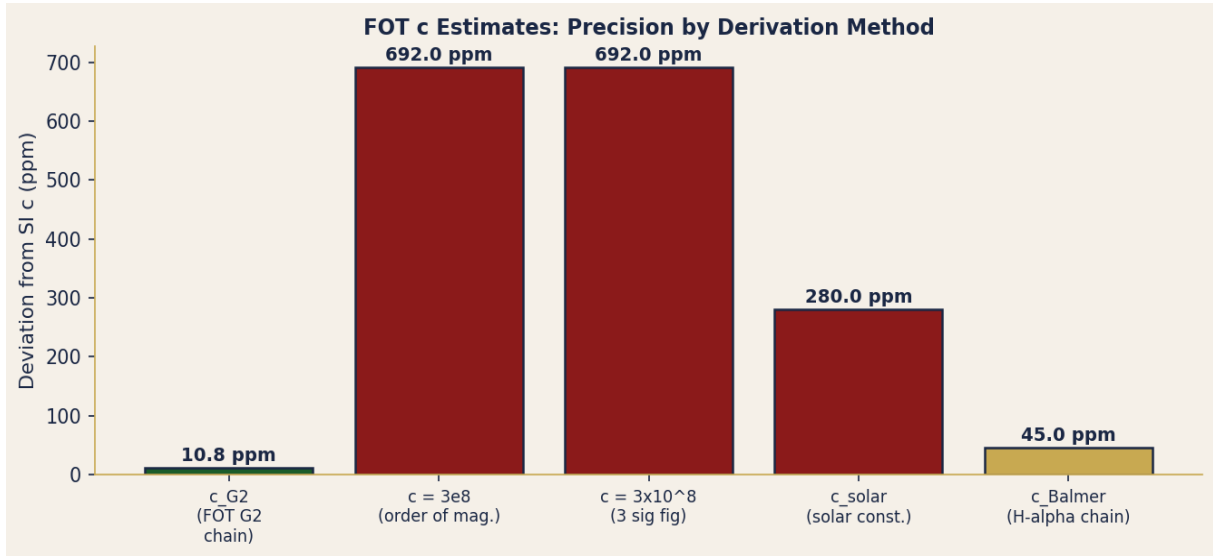


Figure 4. Precision of FOT c estimates by method. G2 chain (green): 10.8 ppm. Balmer chain: 45 ppm. Solar constant: 280 ppm. The G2 chain gives the most accurate derivation.