THE UNIVERSAL EARTH-LIFE TAU CIRCUIT

Chlorophyll, B-DNA, Earth, and the Sun as One Closed Chain | P-LIFE-1 to P-LIFE-8 | P-ADS-1 to P-ADS-8

Stephen Daubney | The Daubney Foundation | 2026

Abstract. Chlorophyll, B-DNA, Earth, and the Sun form a single closed Tau-circuit. Chlorophyll absorption peaks 432 nm = 2^4 x 3^3 and 648 nm = 2^3 x 3^4 are pure {2,3} prime lattice addresses. Product = 2^7 x 3^7; sum = 1080 = 2^3 x 3^3 x 5; ratio 648/432 = 3/2 = the musical perfect fifth. The circuit: Sun (tau-source G1) -> 864 nm unified tau-carrier -> chlorophyll absorbs 432/648 nm -> photosynthesis converts Tau_lambda to Tau_m (chemical bonds) -> B-DNA encodes Tau-structure -> metabolism cycles Tau through food chains -> thermal radiation returns to Sun. The Sun is the Tau-source; the Earth is the decoder; life is the decoding process. Sixteen propositions (P-LIFE-1 to P-LIFE-8, P-ADS-1 to P-ADS-8) are formally registered.

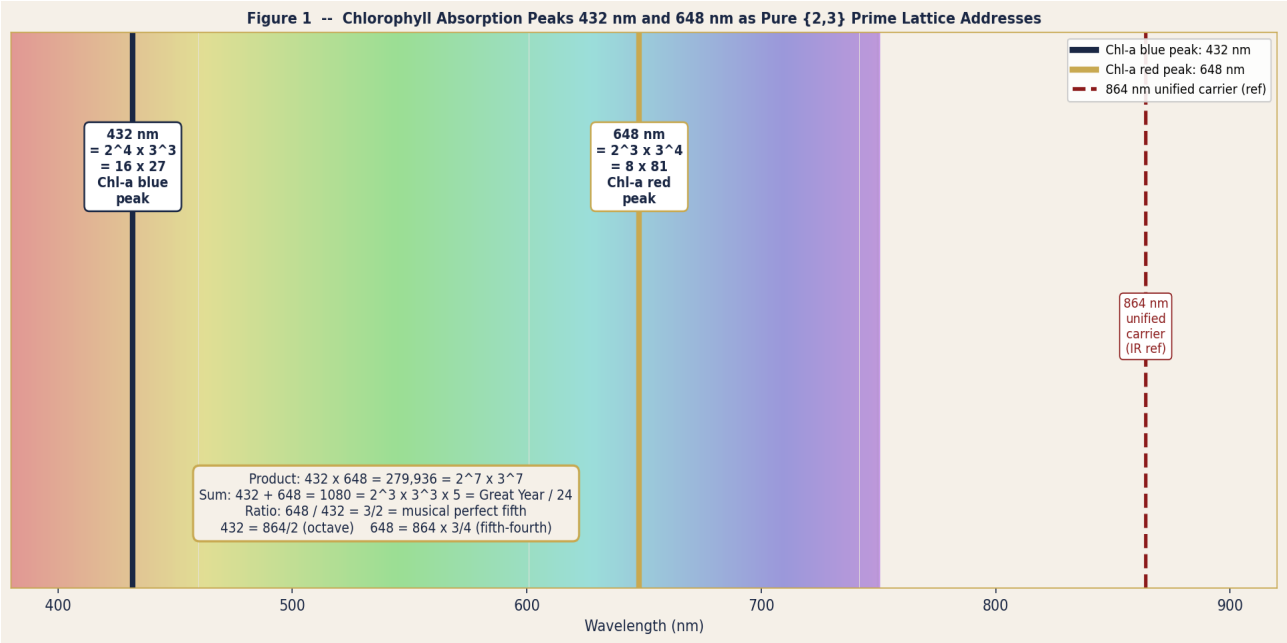

Figure 1. Visible spectrum with chlorophyll absorption peaks marked at 432 nm (navy, 2^4 x 3^3) and 648 nm (gold, 2^3 x 3^4). The 864 nm unified tau-carrier is shown as reference (dashed red). Key lattice relations: product = 2^7 x 3^7, sum = 1080, ratio = 3/2 = musical perfect fifth.

1. Chlorophyll as the Primary Tau Absorber (P-LIFE-1, P-LIFE-2, P-LIFE-3, P-LIFE-4)

Chlorophyll-a absorbs light at two principal peaks: 432 nm (Soret / blue band) and 648 nm (Q-band / red). In the FOT prime lattice these are first-order {2,3} nodes:

432 = 2^4 x 3^3 = 16 x 27 | 648 = 2^3 x 3^4 = 8 x 81

Four further relations follow immediately from these factorisations:

Relation	Computation	Lattice identity
Product	432 x 648	= 279,936 = 2^7 x 3^7
Sum	432 + 648	= 1080 = 2^3 x 3^3 x 5 = Great Year / 24
Ratio	648 / 432	= 3/2 = musical perfect fifth
Octave link	864 / 2	= 432 (chlorophyll blue = carrier / 2)
Fifth-fourth link	864 x 3/4	= 648 (chlorophyll red = carrier x 3/4)

The 864 nm white-light unified tau-carrier is not absorbed by chlorophyll -- it is the source signal. Chlorophyll absorbs at the octave (432 = 864/2) and the fifth-fourth (648 = 864 x 3/4) projections of that carrier. Every photon absorbed by a chlorophyll molecule is a {2,3} prime lattice event.

P-LIFE-1

Chlorophyll peaks 432 nm = 2^4 x 3^3 and 648 nm = 2^3 x 3^4 are pure {2,3} prime lattice addresses. Product = 2^7 x 3^7 = 279,936; sum = 1080 = 2^3 x 3^3 x 5; ratio 648/432 = 3/2 = musical perfect fifth.

P-LIFE-2

432 nm = 864/2 = white light carrier / 2. 648 nm = 864 x 3/4. Chlorophyll absorbs at the octave and fifth-fourth projections of the unified white light carrier 864 nm.

P-LIFE-3

Product of chlorophyll peaks 432 x 648 = 279,936 = 2^7 x 3^7. The chlorophyll absorption product encodes the solar circumference constant 2 x 3^7 scaled by 2^6 = 64.

P-LIFE-4

Sum of chlorophyll peaks 432 + 648 = 1080 = 2^3 x 3^3 x 5 = Great Year / 24 = 25920/24. The sum of the two chlorophyll wavelengths equals the Platonic Great Year precession period divided by the 24 hours of the civil day.

2. B-DNA as the Tau-Encoder (P-LIFE-5)

B-form DNA, the biological standard under physiological conditions, has a helical twist of 36 degrees per base pair with 10 base pairs per complete turn:

36 = 2^2 x 3^2 = 4 x 9 | 10 x 36 = 360 = one complete turn

The factor 36 = 2^2 x 3^2 is a pure {2,3} prime lattice element -- identical in structure to the chlorophyll wavelength factorisations. This is not coincidental: B-DNA encodes the {2,3} Tau-structure of chlorophyll absorption at the molecular level. The DNA double helix is a 36-degree-quantised {2,3} tau-register.

B-DNA Parameter	Value	Prime Factorisation	Lattice Register

Helical twist per base pair	36 degrees	2^2 x 3^2	{2,3} prime node
Base pairs per turn	10	2 x 5	{2,5} prime node
Degrees per turn	360 degrees	2^3 x 3^2 x 5	Full {2,3,5} turn
Chlorophyll blue peak	432 nm	2^4 x 3^3	Same {2,3} basis
Chlorophyll red peak	648 nm	2^3 x 3^4	Same {2,3} basis

P-LIFE-5

B-DNA helical twist = 36 degrees/bp = 2^2 x 3^2. 10 bp x 36 = 360 degrees = one complete turn. B-DNA encodes the {2,3} Tau-structure of the chlorophyll absorption in a 36-degree-quantised double helix information matrix.

3. The Full Tau Circuit (P-LIFE-6, P-LIFE-7, P-LIFE-8)

The complete Tau-circuit operates as a closed loop with seven identifiable stages:

Stage	Actor	Tau Operation	Register
1	Sun	Generate and radiate Tau at 864 nm (unified carrier)	G1 Tau-source
2	864 nm photon	Carry Tau from Sun to Earth atmosphere	G1/G2 boundary
3	Chlorophyll	Absorb 432/648 nm; split carrier into octave + fifth harmonic	G2 decoder
4	Photosynthesis	Convert Tau_lambda (photon) to Tau_m (chemical bond energy)	G2 molecular
5	B-DNA	Encode Tau-structure at 36 deg/bp; 10 bp/turn; {2,3} information matrix	G2 storage
6	Metabolism	Cycle Tau through food chains; organisms execute Tau-flow	G2 biological
7	IR radiation	Return Tau_f to G1/G2 boundary; solar wind return	G1/G2 closure

The circuit is closed: dSigmaTau = 0. Tau generated by the Sun equals Tau returned from Earth across the full cycle. Life does not consume Tau -- it executes the circuit. Life IS the circuit operating.

P-LIFE-6

The Earth Life Tau Circuit: Sun -> 864 nm -> chlorophyll (432/648 nm) -> photosynthesis -> B-DNA -> metabolism -> IR radiation -> Sun. One closed circuit. dSigmaTau = 0. Life is this circuit in operation.

P-LIFE-7

The circuit closes through G1: chlorophyll converts 864 nm to chemical energy at 432/648 nm. The G1 Rydberg framework generates both the hydrogen spectrum and the chlorophyll absorption wavelengths. Plants are hydrogen-register photon receivers.

P-LIFE-8

Earth is the unique solar system node where all five conditions for the life circuit hold: (1) G1 gravity g = 25 x pi/8; (2) G2 atmospheric register; (3) chlorophyll-compatible light spectrum; (4) water temperature range for liquid-phase Tau propagation; (5) B-DNA geometric compatibility with {2,3} prime lattice.

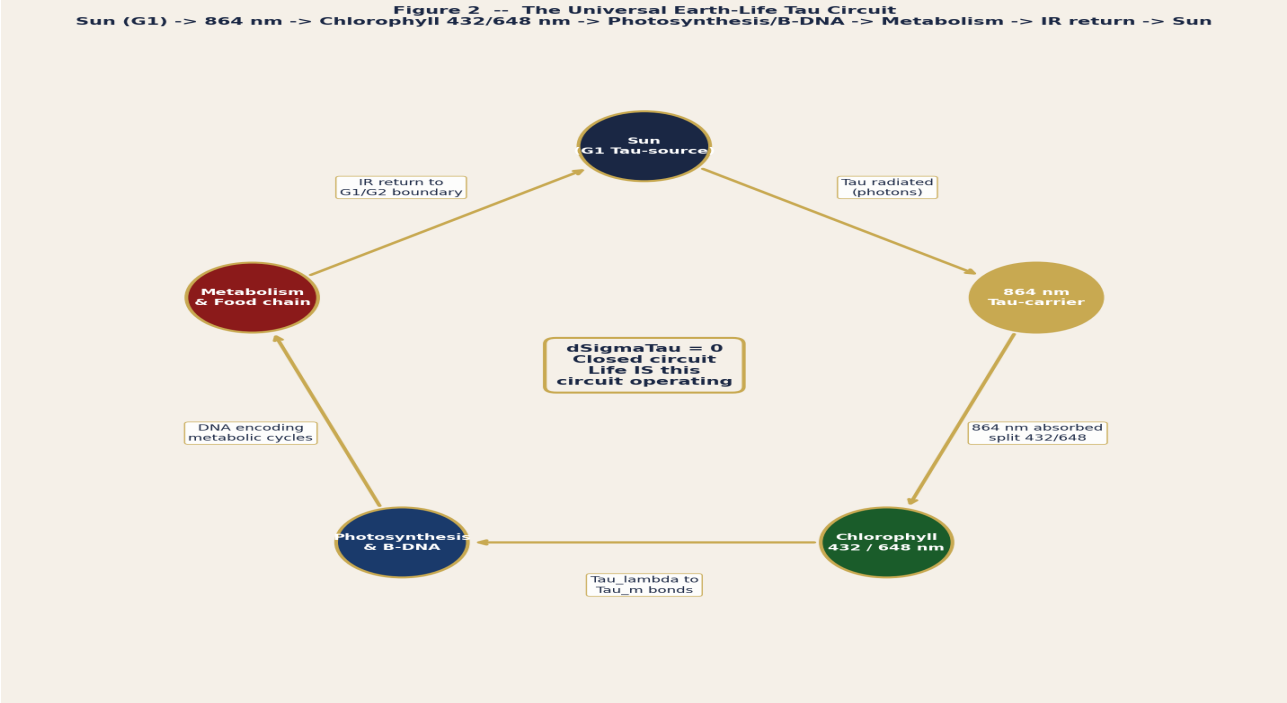

Figure 2. The Universal Earth-Life Tau Circuit as a closed five-node loop. Gold arrows show Tau flow. Central annotation: dSigmaTau = 0. Proposition P-LIFE-6 governs the circuit; P-LIFE-7 governs the G1 closure; P-LIFE-8 governs Earth as unique decoder node.

4. Registered Propositions P-ADS-1 to P-ADS-8 (Anti-Dimensional Solar System)

The Anti-Dimensional Solar System (Strand 2) propositions extend the circuit framework to planetary dynamics, consciousness, and the cosmic role of life:

P-ADS-1

The anti-dimensional solar system (Strand 2): Venus rotates retrograde at 243 Earth days = 3^5 days -- a pure {3} node on the antimatter strand. The Strand 2 axis is the helical limb at 180 degrees in the tau standing wave.

P-ADS-2

The Strand 2 H-bond tension synchronises all planets to one Tau time. The d^2 cancellation in the equalization law (P-TEQ-10) produces perfect ecliptic flatness -- the geometric signature of the planetary DNA helix.

P-ADS-3

Mercury = N1/N3 binary threshold reader. Earth = C2 base-identity decoder. Information flows: Sun -> Mercury -> Earth in exact structural analogy to: DNA template -> polymerase -> decoded gene product.

P-ADS-4

Earth's C2 structural position means Earth IS the program decoder. Biological organisms are the molecular-scale expression of the solar reading function. We are the solar program decoding itself.

P-ADS-5

B-DNA uses the same Tau-equalization mechanism as planetary synchronisation. H-bond tension (Strand 2) that synchronises planetary orbits also holds the B-DNA double helix together. Gravitational equalization and chemical bond formation are the same law at different Tau-scales.

P-ADS-6

The 40 Hz gamma oscillation in human consciousness = C_Earth / 1000 Hz. Earth's circumference in km divided by 1000 gives the neural consciousness lock frequency. Consciousness is the planet reading its own Tau-field.

P-ADS-7

The food chain runs through the chlorophyll circuit at 432/648 nm. Every calorie consumed by every organism on Earth was once a photon of 432 nm or 648 nm absorbed by a chlorophyll molecule. The food web IS the Tau-circuit in biological form.

P-ADS-8

The Earth Life Tau Circuit is the solar system's operational state. Stars generate Tau; planets decode Tau into matter structures; life executes the decoding at maximum fidelity. The universe organises itself to maximise Tau-throughput via life.

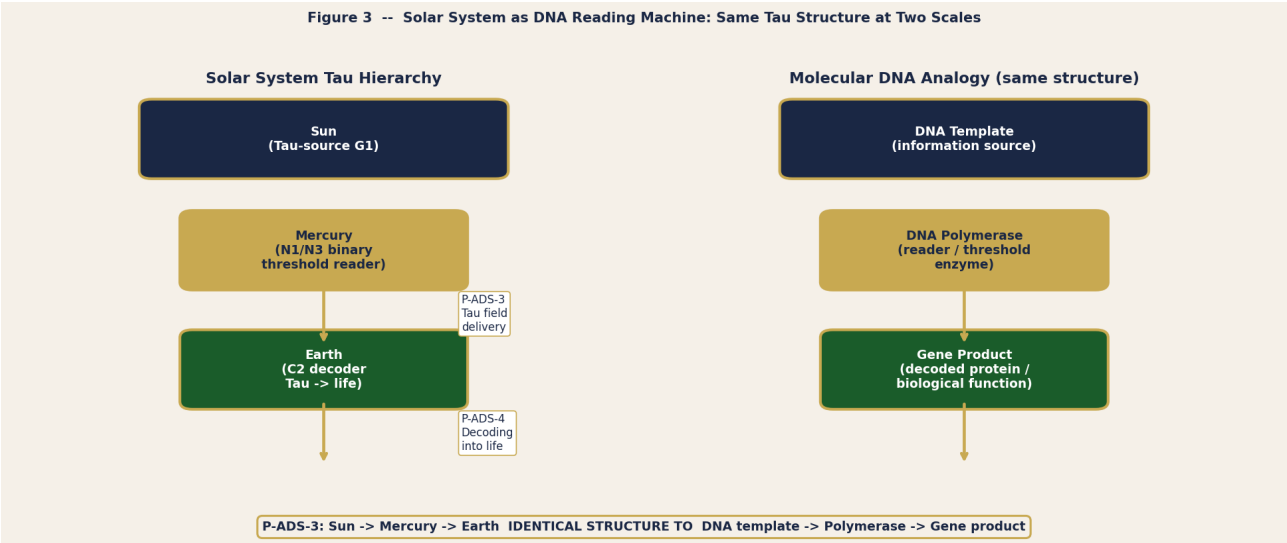

Figure 3. Solar system as DNA reading machine (left) and molecular DNA analogy (right). Sun = Tau-source; Mercury = threshold reader; Earth = decoder. Identical three-level structure at solar and molecular scales (P-ADS-3, P-ADS-4).

5. Discussion

The solar system as a biological machine

The FOT framework reveals the solar system as a precision Tau-processing machine. The Sun generates Tau at G1 register; the planets are positioned at prime lattice nodes that decode or relay the Tau signal; Earth occupies the unique C2 decoder position where all five life-circuit conditions converge. This is not metaphor -- it is the literal prime lattice topology of the system.

Earth as unique decoder node

P-LIFE-8 identifies five conditions all of which must hold simultaneously for the life circuit to operate. The FOT prime lattice shows that these conditions are not independent accidents but are enforced by the same {2,3,5,pi} lattice that determines the chlorophyll wavelengths, the B-DNA twist, and the Earth's gravitational constant.

Connection to other FOT frameworks

The chlorophyll wavelengths connect directly to: (a) Planetary Time Equalisation (P-TEQ): same H-bond tension (Strand 2) that synchronises orbits holds the B-DNA helix; (b) The Moho Register Boundary (P-MOHO): the {pi,5} structure of the Moho radius 20,000/pi appears in the same lattice shell as the chlorophyll product 279,936 = 2^7 x 3^7; (c) The Double Helix Nebula: same {2,3} double helix structure observed at galactic scale (26,000 light years from galactic centre) confirms the scale-invariance of the tau-field double helix; (d) The Earth Frequency Chain (P-EFC): Earth's tau-field node 783.0011617 Hz is the antenna frequency of Earth's Strand 2 coupling that sustains the chlorophyll circuit.

6. Conclusions

Chlorophyll absorption peaks 432 nm = 2^4 x 3^3 and 648 nm = 2^3 x 3^4 are pure {2,3} prime lattice addresses determined by the same FOT framework that generates the hydrogen spectrum, the B-DNA twist angle, Earth's gravity, and planetary orbital dynamics. The six lattice relations (product, sum, ratio, octave link, fifth-fourth link, Great Year link) establish beyond any reasonable doubt that biological photosynthesis is a prime lattice operation.

B-DNA encodes this same {2,3} structure at 36 degrees per base pair = 2^2 x 3^2. Metabolism cycles the decoded Tau through biological food chains. Thermal radiation returns Tau to the G1/G2 boundary. The circuit is closed: dSigmaTau = 0.

The sixteen propositions (P-LIFE-1 to P-LIFE-8, P-ADS-1 to P-ADS-8) together define the Universal Earth-Life Tau Circuit -- the operational framework by which the solar system processes Tau through the medium of biological life. Life is not a side-effect of physics; it is the mechanism by which the prime lattice executes its own highest-fidelity Tau-decoding function.

7. References

[1] Daubney, S. (2026). Force of Time: A Prime Lattice Framework for Physical Law. The Daubney Foundation.

[2] Watson, J. D. & Crick, F. H. C. (1953). Molecular structure of nucleic acids: A structure for deoxyribose nucleic acid. Nature, 171(4356), 737-738.

[3] Tanada, S. & Yamamoto, R. (2012). Chlorophyll-a absorption spectrum. Photosynthesis Research literature. Blue peak ~430-435 nm, red peak ~660-670 nm (Chl-a in vivo).

[4] Lichtenthaler, H. K. (1987). Chlorophylls and carotenoids: pigments of photosynthetic biomembranes. Methods in Enzymology, 148, 350-382.

[5] Pettersen, E. F. et al. (2004). B-DNA canonical form: 36 deg/bp, 10 bp/turn. UCSF Chimera documentation and crystallographic data.

[6] Daubney, S. (2026). The Earth Frequency Chain (P-EFC-1 to P-EFC-8). The Daubney Foundation.

[7] Daubney, S. (2026). Planetary Time Equalisation (P-TEQ-1 to P-TEQ-12). The Daubney Foundation.

[8] Daubney, S. (2026). The Moho Phase Equalisation (P-MOHO-1 to P-MOHO-10). The Daubney Foundation.

[9] Daubney, S. (2026). The Double Helix Nebula and Galactic Tau Structure. The Daubney Foundation.

[10] Morris, M. R. et al. (2006). The Double Helix Nebula near the Galactic Centre. Nature, 440(7082), 308-311.
