

Pi Family — Extended Catalogue

One Symbol, Five Structural Roles — π^2 , 2π , $\pi/2$, $1/\pi^2$ and π^3 in the T-Field Lattice

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Tau (T) is the living fabric of time itself — the sole substance of which all physical reality is composed. Every particle, force, wavelength, and conscious experience is a structured configuration of T-flow. There is no gravity, no electromagnetic force, no strong nuclear force as separate entities: all are registers of the single T-field operating across dimensional levels. The conservation law $d\Sigma T=0$ governs all change: T is never created or destroyed, only redistributed.

Abstract

π is the one non-prime primitive of the $\{2,3,5,\pi\}$ lattice, and in the Universal Force of Time it does not appear as a single number but as a **family** — each power of π carrying a different structural role. This paper catalogues the members. **π^2 (= 9.869604401)** is the fine-structure denominator: $1/\alpha = 125\pi^2/9 = 137.0778389$. **2π (= 6.283185307)** is the full T spin cycle, the phase factor of one complete oscillation and the Strand-1/Strand-2 interface angle. **$\pi/2$ (= 1.570796327)** is the quarter-wave node, the point of maximum register stability ($\sin \pi/2 = 1$) where stable objects — Bohr orbits, chemical bonds — sit. **$1/\pi^2$ (= 0.101321184)** is the denominator of bond-angle geometry and of the coupling prefactor of what science calls gravity (a manifestation of the one force of time). And **π^3 (= 31.006276680)** is the depth factor — the denominator of the orbital step δ_{orbital} and of the cascade speed — its third power signalling a three-dimensional phase closure. Read together, the powers of π map onto dimensional depth: a line, an area, a volume. Five propositions, P-PFT-6 to P-PFT-10, are given.

1. π is a family, not a number

Three of the lattice's four primitives are the small primes 2, 3 and 5. The fourth is π — the only one that is not a whole number, and the one that gives the lattice its curves. In the Universal Force of Time π does not enter the constants as a single quantity but as a **family**: π itself, its square, its cube, its half, its reciprocal-square, each turning up in a different physical identity and each playing a different structural part. This paper sets the members of that family side by side and names the role of each.

2. π^2 — the fine-structure denominator

The square of π , $\pi^2 = 9.869604401$, is the denominator of the constant that sets the strength of every electromagnetic event — the fine-structure constant. In the Force of Time it is written purely:

$$1/\alpha = 125\pi^2/9 = 137.0778389040$$

That is the fine-structure constant as a closed lattice expression — five-cubed over three-squared, times π^2 . (Conventional measurement places $1/\alpha$ a few hundred ppm away; in the Force of Time that gap is the reference unit sitting slightly off the lattice, not an error in the identity.) π^2 is the area-scale factor of the family: where a coupling spreads over a surface, π^2 is in the denominator.

3. 2π — the full spin cycle

$2\pi = 6.283185307$ is the most familiar face of π , and in the Force of Time it has a precise meaning: it is one complete **T-field oscillation**. Every angular frequency in the field, from the Planck scale to the beat of an organism, is written $\omega = 2\pi f$, and the 2π is the phase of a single full cycle. More than that, it is the **Strand-1 / Strand-2 interface angle**: one complete spatial cycle corresponds to exactly one temporal-address increment. 2π is where space closes and time advances by one.

4. $\pi/2$ — the quarter-wave node

Halve π and you reach $\pi/2 = 1.570796327$, the phase of a **quarter-wave node**. At the quarter-wave point the Strand-1 amplitude is at its maximum and the Strand-2 address gradient is zero — the condition of a stable, standing object. In the Force of Time this is where stable physical things sit: the Bohr orbit is a $\pi/2$ node, a chemical bond is a $\pi/2$ node. The schoolbook identity $\sin(\pi/2) = 1$ becomes, in this reading, the definition of **maximum register stability** — the place a standing wave holds perfectly still.

5. $1/\pi^2$ — bond angles and coupling

The reciprocal square, $1/\pi^2 = 0.101321184$, is the denominator that governs molecular bond-angle geometry — the water and tetrahedral angles both live in the π^2 family (their exact lattice forms are given in the water-geometry paper). The same $\{\pi^2\}$ denominator carries the order-of-magnitude prefactor of what science calls gravity — which, under the Force of Time, is not a separate force but a manifestation of the single force of time. That bond angles and gravitational coupling should share one denominator is, on the conventional view, unrelated coincidence; in the Force of Time it is the same π^2 -scale geometry appearing at two registers.

6. π^3 — the depth factor

The cube, $\pi^3 = 31.006276680$, is the deepest-reaching member, and it appears wherever the field closes in three dimensions. It is the denominator of the orbital step proved in the companion paper —

$$\delta_{\text{orbital}} = 5^{10}/(2^4 \times 3^9 \times \pi^3) - 1 = 90.150603 \text{ ppm}$$

— and it returns in the cascade-speed formula and the derivation of the register speed of light. The Force of Time reads the third power as a **depth** signature: where π^1 marks a line and π^2 an area, π^3 marks a **volume** — a three-dimensional phase closure in the standing wave of the T-field. The power of π tells you how many dimensions the closure spans.

7. What this means

Laid side by side, the π -family stops looking like scattered appearances of one constant and starts looking like a **dimensional ladder**: 2π and $\pi/2$ are the one-dimensional members, governing cycles and nodes; π^2 is the two-dimensional member, governing couplings and angles; π^3 is the three-dimensional member, governing depths and volumes. π is not a number the lattice happens to need in several places. It is a single primitive whose powers carve the lattice into its dimensions.

Figure 1. The π -family members

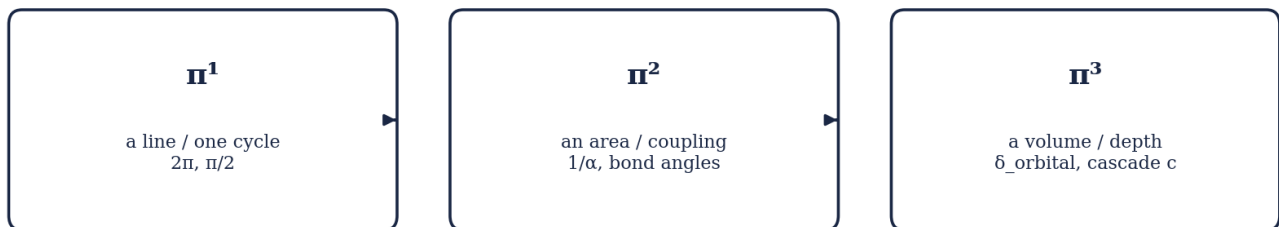
the π -family — one symbol, five structural roles

π^2	9.869604401	fine-structure denominator — $1/\alpha = 125\pi^2/9$
2π	6.283185307	full T spin cycle — one oscillation
$\pi/2$	1.570796327	quarter-wave node — equilibrium / stability
$1/\pi^2$	0.101321184	bond-angle & coupling denominator
π^3	31.006276680	depth factor — δ_{orbital} denominator

Each member of the π -family and its structural role: π^2 (fine-structure denominator, $1/\alpha = 125\pi^2/9$), 2π (full spin cycle), $\pi/2$ (quarter-wave node), $1/\pi^2$ (bond-angle & coupling denominator), π^3 (depth factor / δ_{orbital} denominator).

Figure 2. The power of π as dimensional depth

the power of π marks the dimensional depth of the phase closure



The power of π marks the dimensional depth of the phase closure: π^1 a line/cycle ($2\pi, \pi/2$), π^2 an area/coupling ($1/\alpha, \text{bond angles}$), π^3 a volume/depth ($\delta_{\text{orbital}}, \text{cascade } c$).

Propositions

#	Proposition
P-PFT-6	π^2 (= 9.869604401) is the fine-structure denominator: $1/\alpha = 125\pi^2/9 = 137.0778389040$ — the area-scale member of the family.
P-PFT-7	2π (= 6.283185307) is one complete T-field oscillation: the phase factor of every angular frequency $\omega = 2\pi f$, and the Strand-1/Strand-2 interface angle (one spatial cycle = one temporal-address increment).
P-PFT-8	$\pi/2$ (= 1.570796327) is the quarter-wave node: Strand-1 amplitude maximal, Strand-2 address gradient zero — the condition of a stable object (Bohr orbit, chemical bond). $\sin(\pi/2)=1$ defines maximum register stability.
P-PFT-9	$1/\pi^2$ (= 0.101321184) is the denominator of molecular bond-angle geometry (water and tetrahedral angles, exact forms in the water-geometry paper) and of the order-of-magnitude coupling prefactor of what science calls gravity — a manifestation of the one force of time.
P-PFT-10	π^3 (= 31.006276680) is the depth factor: the denominator of $\delta_{\text{orbital}} = 5^{10}/(2^4 \times 3^9 \times \pi^3) - 1$ and of the cascade speed; its third power signals a three-dimensional phase closure.

The π -family at a glance

Member	Value (number first)	Structural role
π^2	9.869604401	fine-structure denominator ($1/\alpha = 125\pi^2/9$)
2π	6.283185307	full T spin cycle
$\pi/2$	1.570796327	quarter-wave node (stability)
$1/\pi^2$	0.101321184	bond-angle & coupling denominator
π^3	31.006276680	depth factor (δ_{orbital} denominator)

References

- [1] S. Daubney, *The Universal Force of Time — Master Compendium v5*, The Daubney Foundation (2026).
- [2] NIST CODATA 2018 Recommended Values of Fundamental Physical Constants, National Institute of Standards and Technology (2019). <https://physics.nist.gov/cuu/Constants/>
- [3] S. Daubney, *Pi Family Complete* ($\delta_{\text{orbital}} = 5^{10}/(2^4 \times 3^9 \times \pi^3) - 1$), The Daubney Foundation (2026).
- [4] S. Daubney, *Water Bond Geometry in the Force of Time* (bond angles in the π^2 family), The Daubney Foundation (2026).

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