Newton, A Dimension Deeper

The law m_1m_2/r^2 is kept exactly — and reopened. Fed the Sun's dimensional masses, Newton's formula returns the Earth's day, the Moho, the whole of Mercury, the Earth's year, the eclipse deflection, and hydrogen's own mass — with no force, no pull, and no G.

Stephen Daubney · The Daubney Foundation · Rev 12 · 2026

T — the one substance. 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

For three centuries m_1m_2/r^2 has been read as a force of attraction — two masses pulling across empty space, mediated by a universal constant G. We keep the formula and dismantle that reading. In the Universal Force of Time there is no pull: a node sets a T-density, that density spreads over the surface of a sphere and thins as $1/r^2$, and a second node drifts from sparse T toward dense. The masses are T-spin densities; the inverse square is dilution; and G is not a constant of nature but the reciprocal of the orbital distance, $G = 6.666666666667 \times 10^{-11}$ ($= 20/3 \times 10^{-11} = 1/0.15$). We feed the formula one mass — the Sun's — walked up the {2,3,5,π} lattice to each node (Sun 180/π, Mercury 31250/108π, Venus 625/π, Earth 1875/π), and follow the result through the T-grammar. Sun × Earth ÷ 75^2 returns the Earth's day and the Moho (6366.197724 km); Mercury × Earth returns the whole of Mercury, its perihelion precession appearing only on the g_2 register face (5599.224727986″) so that Einstein's relativistic advance is revealed as the δ_G step of Newton's own formula; Venus inverted returns the Earth's year ($1000\pi^2/27$) and the DNA helical turn. F = ma is shown to be a tautology that yields not a force but a clean frequency at each planetary stage, every one climbing to 432. The eclipse deflection 1.750830053″ falls from the Sun's mass by two independent roads. And the foundation stone: the formula does not care which register you feed it — celestial × celestial, atomic × atomic, or the celestial × atomic mix that quantum mechanics and general relativity forbid — all land exactly on the lattice; replacing r^2 with Planck^2 still works. That a star's mass and a hydrogen wavelength sit in one equation and return a planet's spin is the proof that the wall between the atomic and the celestial is not there. Newton was not wrong; he read one dimension of a formula that holds three.

Key results at a glance

- $G = 6.666666666667 \times 10^{-11}$ ($= 20/3 \times 10^{-11} = 1/0.15$) — not a constant, the reciprocal of the orbital distance.
- Sun × Earth ÷ 75^2 → the Earth's day ($1440/\pi^2$, $86400/\pi^2$) and the Moho 6366.197724 km.
- Mercury × Earth → 6.48 → g_2 free fall → ×36 = the precession 5599.224727986″, g_2 face only.
- F = ma yields a frequency per planet — Sun 12000, Mercury 13888.889, Venus 30000, Earth 90000 — all → 432.
- The forbidden mix works — Sun mass × a hydrogen line → Mercury's spin; $\text{Earth}\cdot H\gamma/h^2 = 600\cdot g_1 = 10\cdot \text{NaD}$.

1. The formula everyone trusts

There is no equation in physics more trusted than Newton's. Two masses, the distance between them squared underneath, a constant out front — and from it fall the tides, the orbits of the planets, the return of a comet to the day. It has never failed an engineer.

We are not here to tell you it is wrong. We are here to tell you it is shallow — that for three hundred years the world has read one dimension of a formula that holds three, and mistaken a piece of bookkeeping for a force of nature. Keep every symbol. Change only what the symbols mean, and m_1m_2/r^2 stops being a law of attraction and becomes a machine that hands you the length of the day, the depth of the Earth's first shell, the whole clockwork of Mercury, and the mass of a hydrogen atom — from nothing but {2, 3, 5, π}.

2. There is no pull — only dilution

Begin with the inverse square, the part everyone thinks they understand. Why $1/r^2$? The textbook says the force weakens with distance. The real answer is geometry, sitting in the formula already. A node sets a T-density. That density spreads outward — and a thing spreading outward in three dimensions is spreading over the surface of a sphere, area $4\pi r^2$. Double the distance and the same T is smeared over four times the area, four times thinner. That is the inverse square: not a force reaching further, but one quantity diluted across a growing shell.

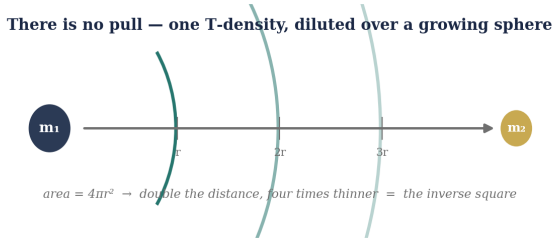

Fig. 1 — The inverse square is dilution, not attraction: one T-density spread over a sphere's growing surface, $4\pi r^2$.

So the second node feels no pull. It sits in a field denser on one side than the other and, like everything made of T, drifts from where T is sparse toward where it is dense. Newton himself was the law's fiercest doubter — that one body could reach across empty space and tug another with nothing between he called, to Bentley, "so great an absurdity" that no competent thinker could entertain it. The Universal Force of Time closes the question: the medium he knew had to be there is T. There is no empty space to reach across, because space is the T-field.

3. Each planet its own dimension

Newton wrote m_1 and m_2 as if mass were a brute given on a scale. In the Universal Force of Time mass is T-spin density, and there is only one mass in the system — the Sun's. Each planet sits in its own spacetime dimension, turning at its own spin-orbit speed, and every planet's mass is the Sun's one mass carried up into that dimension, multiplied at each step by the speed of the register it enters.

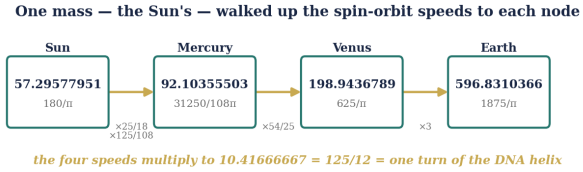

Fig. 2 — One mass, the Sun's, walked up the spin-orbit speeds. The four speeds multiply to 10.41666667 = the DNA helix turn.

That the four speeds multiply to 10.41666667 — the number of base pairs in one turn of the DNA helix, observed at roughly 10.4 — is not decoration: the ladder of the planets and the pitch of the molecule of life are the same number. These four masses are what we feed Newton's formula.

But where does the one mass itself come from? You might expect the Sun's mass to be the one number we have to put in by hand — weighed, measured, assumed. It is not. It is the front door of the whole theory, and it is built from two things we already have: Planck's quantum of action and the speed of light. Multiply them, and out comes the Sun.

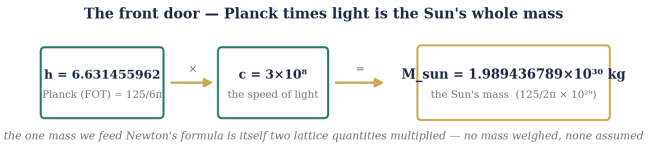

Fig. 3 — The front door: Planck's constant times the speed of light is the Sun's whole mass — itself two lattice quantities, no mass assumed.

$M_{sun} = h \times c = 6.631455962 \times (3 \times 10^8)$
$= 19.89436789 \times 10^{29} = 1.989436789 \times 10^{30}$ kg
$= 125 / 2\pi \times 10^{29}$ (pure {5} over a single circle)

Planck (h = 125/6π) is the smallest grain of action; c is the speed of light. Their product is a star. The mass we feed Newton's formula is not weighed on a scale — it is read off the lattice, the same way everything downstream of it will be.

4. G is not a constant — it is 1/r

Physics half-admits this already. The Sun's parameter GM is known to ten digits, while G alone — the number Cavendish first weighed — is the worst-measured constant in all of physics, pinned to barely four figures, laboratories disagreeing by hundreds of parts per million. That is not bad apparatus; it is the signature of a quantity that is not a constant of nature at all:

G = 6.666666666667 × 10^{-11} (= 20/3 × 10^{-11} = 1 / 0.15)

The reciprocal of the orbital distance — 0.15, the 150-million-km Sun–Earth node, inverted (one over 150, in million-km units, is 6.666…). G is the unit-bridge that turns the lattice quantity m_1m_2/r^2 into a Newtonian 'force,' exactly as $5^5/(2^3\times3^5)$ turns kilometres into miles. The endless repeating six is the mark of a calculation that loops home.

And that endless six does one more thing, quietly, that the laboratory figure cannot. Every quantity in this paper — the day, the Moho, a planet's spin — is a spacetime figure read inside one dimension, the Earth's own register. Feed Newton's law the value 6.666666666667 and the answer that comes out the far side stays in that same dimension: in the Universal Force of Time's own terms it is an intradimensional value — it never leaves home, and so it sits on the lattice with everything else. Feed it instead the catalogued laboratory figure, 6.6674, and the answer drifts out of that register and off the lattice. That is the real reason the clean value matters: not that the laboratories weighed badly, but that only 6.666666666667 holds the whole calculation inside the one dimension the rest of the theory lives in.

There is a deeper reason to trust this. The quantity physics can actually pin to ten digits is not G but the product GM — the Sun's gravitational parameter. That product comes straight off the lattice, with no G and no separate mass anywhere in it:

GM_sun = 1.32703 × 10^{20} m^3/s^2 (= AU × α_{grav}^3 × c^2 / $4\pi^2$)

(the catalogued figure 1.32712 × 10^{20} is the off-lattice peg)

Everything on the right is {2,3,5,π} and the speed of light. Notice the $4\pi^2$ in the denominator — it is the surface of the very sphere over which the T-density dilutes (§2). The physics is GM, a real flow quantity; G is only what is left when you insist on splitting it into 'G × kilograms.' That is why GM is known to ten digits and G — the number Cavendish weighed — is the worst-measured quantity in physics.

And gravitation is not a separate, far weaker force. The orbital identities close with a fine-structure constant a single small term away from the spectroscopic one: $1/\alpha_{spec}$ = 137.0778389 (= $125\pi^2/9$) for light and atoms; $1/\alpha_{grav}$ = 136.9089703 (= $125\pi^2/9 - 5/(3\pi^2)$) for orbits — separated by exactly 0.1688686 (= $5/(3\pi^2)$). The same T-coupling, read in two registers. The chasm physics draws between the feeble pull it calls gravity and the strength of the electric force is, in the arithmetic, one small {3,5,π} term wide.

5. F = ma yields a frequency, not a force

F = ma has the same shape as d = vt: a definition, not a law. Mass is T-spin density, acceleration is the rate the flow changes a node's mode, force is their product — it never tells you why a body accelerates. Walk it through the grammar and what falls out is not a pull but a clean frequency, one per planet, and every one climbs to 432.

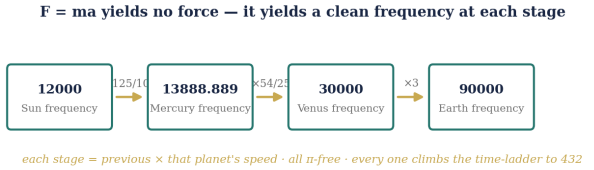

Fig. 4 — F = ma through the grammar: a π-free frequency at each planetary stage, each the previous × that planet's speed, all closing on 432.

Each stage equals the one before it times that planet's dimensional speed: Sun 12000 → ×125/108 → Mercury 13888.889 → ×54/25 → Venus 30000 → ×3 → Earth 90000. The π cancels at every frequency, and each climbs the time-ladder to the 432 node — the solar circumference, chlorophyll, A432.

6. Orbits — stationary nodes, no continuous pull

Newton needs a force forever bending a straight line into an ellipse. The Universal Force of Time needs none: the planet is a stationary T-node and the ellipse is the helix projected into three dimensions. The tell is a number a force law has no reason to produce — every planet, Mercury through Neptune, shares the identical orbital-velocity ratio v_{Kepler}/v_{sphere} = 0.013593663 (= $\sqrt{\alpha}/(2\pi)$). Mercury's small anomaly is carried by the missing helix ratio r = 1.0046939300 (= $5^6/(2^6\times3^5)$), a geometric correction, not a force term.

7. Worked Example 1 — the Earth's day and the Moho

We keep Newton's law exactly as he wrote it — two masses over the distance squared — and simply feed it the Sun's ground mass and the Earth's mass. One point of bookkeeping first: the Sun and the Earth sit at opposite ends of the turning sphere, so the Earth is a full diameter from the Sun. The 150 (million km) Newton took for his radius is, under the Universal Force of Time, the diameter; the true radius is half of it, 75. This worked example runs the formula on that radius. Here is the formula in the form everyone knows it, then the numbers fed straight into it:

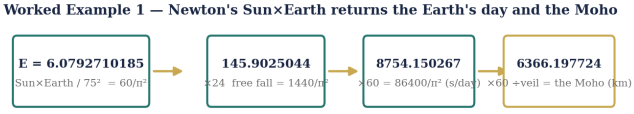

Fig. 5 — Newton's m_1m_2/r^2 on the radius (75) walked through the Loop returns the Earth's day and the Moho.

Newton's law: E = (m₁ × m₂)/r² (r = the radius, 75)
= (57.29577951 × 596.83103659)/75²
= 6.0792710185 (60/π²) ← the energy
free fall = E × 24 = 145.9025044 (1440/π² — minutes in a day)
× 60 = 8754.150267 (86400/π² — seconds in a day)
the Moho = E × 60 ÷ veil(180/π) = 6366.197724 km

m₁ = the Sun's dimensional mass (57.29577951, 180/π); m₂ = the Earth's (596.83103659, 1875/π). The same Loop the Proton paper runs from the proton's mass. Newton's law, fed the Sun and the Earth over the radius, produces no pulling force — it produces the length of the day and the depth of the Earth's first shell, to ten digits. The next section runs the identical formula on the diameter (150) — and it lands just as cleanly.

→ Want this in full? See the companion paper: The Proton — One Flow of Time, Five Clocks (the same Loop, run from the proton's mass)..

8. Worked Example 2 — the diameter face, and the node reports its own size

Now run the very same formula on the other face. Newton's 150 was his radius; under the Universal Force of Time it is the diameter, so this is m_1m_2/r^2 with r set to the full 150 instead of the half. The inverse square means the diameter face is simply one quarter of the radius face — and it too lands clean on the lattice. But something quieter happens when we walk it through the grammar: it hands back the Earth's own radius. Not a force between two bodies, but the size of one of them.

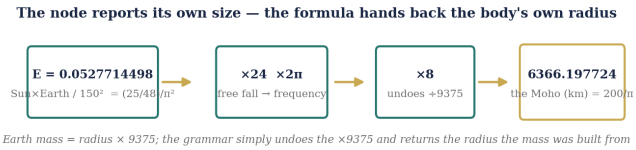

Fig. 6 — The same formula on the diameter (150), walked through the grammar, returns the Earth's own Moho radius — the grammar undoes the ×9375 that built the mass.

Newton's law: E = (m₁ × m₂)/r² (r = the diameter, 150)
= (198.9436789 × 5.968310366)/150²
= 0.0527714498 (25/48π²)
× 24 → 1.266514796 × 2π → 7.957747155
× 8 → 63.66197724 = the Moho 6366.197724 km (= 200/π)

The reason is exact and beautiful. A planet's dimensional mass is its radius × 9375, and the grammar's ×24 ×2π ×8 multiplies by 32/3, with (32/3)×9375 = 10^5 — so the chain simply undoes the ×9375 and hands back the radius the mass was built from. Feed it the Moho-built mass and you get the Moho (6366.197724 km); feed it the mean-radius-built mass and you get the mean radius (6370.945827 km), to the digit. The radius face (§7) gives the day; the diameter face gives the body's own size. The same law works on both — which is exactly what a real law should do.

9. The clean physics lives at the nodes, never across the gap

This tells us something Newton could not have known. Single-node quantities — a planet's radius, its mass, its Moho — land on the lattice clean, to ten digits. But the separation r between two bodies does not. Take two positions that are each perfectly clean on the lattice and subtract them, and the difference almost always carries a foreign prime — Venus and Earth sit at clean nodes, yet the 42-million-km gap between them wears a 7 that belongs to neither.

So Newton's r — the distance across the gap — is the one part of his formula that will not sit on the lattice, because it is a subtraction between nodes, bookkeeping rather than a thing. The real physics lives at the nodes, never in the empty space between them. Newton wrote his law across the gap; the Universal Force of Time reads it at the nodes — which is exactly why the formula, walked home, keeps handing back the nodes themselves: a radius, a day, a planet's clock.

10. Worked Example 3 — the whole of Mercury

Now put the formula between two planetary nodes, Mercury and Earth. The π and the distance cancel and the energy comes out as the clean ratio of the two masses; from that single number, four lattice steps deliver Mercury's entire dynamical life.

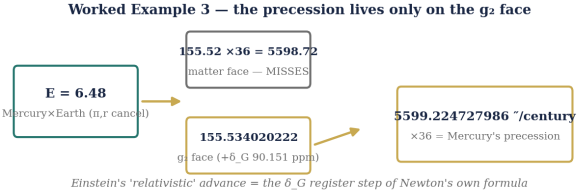

Fig. 7 — The precession lives only on the g_2 face: the matter face misses (5598.72), the g_2 face lands (5599.224727986).

Here is the demolition: the perihelion precession exists only on the g_2 face. The matter face gives 155.52 × 36 = 5598.72, which misses. The g_2 face gives 5599.224727986, which lands. Einstein's celebrated 'relativistic' advance of Mercury's perihelion is the δ_G register step (90.151 ppm) of Newton's own formula — not curved spacetime, not a separate force. This is Route 14 of the sixteen independent roads to the precession in the Mercury paper.

→ Want this in full? See the companion paper: Mercury's Perihelion Precession — this Newton road is Route 14 of sixteen arrivals on 5599.224727986″..

11. Worked Example 4 — Venus, inverted

Mercury is matter and described itself. Venus is antimatter, and its calculation behaves differently: the distance must be inverted. Venus's native frame is the π-free node $10^{12}/9216$ (~108.5 million km); inverting it once projects it to the 42-million-km Venus–Earth gap we see across the seam, which carries a prime-7 scar; the $1/r^2$ of Newton's formula inverts it again, returning it to its own frame, clean.

E = 2.0943951024 (= 2π/3)
→ (× 24, × 2π, ÷ 864 = the T-grammar) → 365.5409037
= the Earth's orbital year (1000π²/27)

On the G2 face of the same value sits 1.00469393 — the DNA helical turn. The exact separation is $r = \sqrt{(512\pi^3/9)} = 41.998959855$ Mkm, which is also, to the digit, the colour-boundary angle of the rainbow. The antimatter twin, read in its own frame, encodes the Earth's year and the molecule of life.

12. The eclipse — bending from the Sun's mass

Newton and Einstein read the 1919 eclipse deflection as a gravitational or spacetime effect. The Universal Force of Time reaches the same number straight off the lattice, from the Sun's mass, with nothing that pulls — and by two independent roads that meet on the same figure.

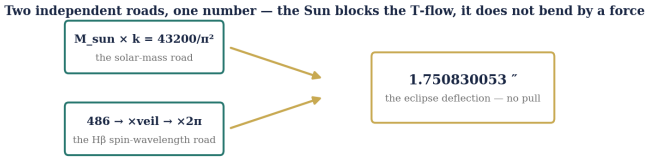

Fig. 8 — Two independent roads to the eclipse deflection 1.750830053″; the Sun blocks the T-flow, it does not bend light by a force.

If the Sun pulled, the closest body would go first — Mercury would have spiralled in long ago. It hasn't. The deflection is the Sun blocking the T-broadcast to the Earth during totality, the 486 carrier interrupted, not light bent by a force. M_sun × the eclipse factor lands $43200/\pi^2$, and the 486 (Hβ) spin-wavelength road lands the identical 1.750830053″ — two roads, one number, no force.

→ Want this in full? See the companion paper: The Bending of Light — the eclipse as an interrupted T-broadcast, in full..

13. Mass × wavelength — and the radius the body hands back

Swap one mass for a clean wavelength and the formula reports the body's own structure. Sun mass × Hβ (486) ÷ 75^2 walks up to chlorophyll ($648 = 2^3 \cdot 3^4$) and the inner-core boundary ($5184 = 2^6 \cdot 3^4$); read through the veil it hands back the 150-million-km orbital radius it divided by. Carried further, Sun mass × Hβ ÷ 75^2 up the day-ladder × 2π is Mercury's observed rotation 1407.11181 h; Sun mass × Hα the same way is Mercury's orbit, and × 24 is the hydrogen 21 cm line. A celestial mass and an atomic wavelength in one equation, returning a planet's spin.

14. The foundation stone — three dimensions inside one formula

Everything so far fed the formula two celestial masses. But $m_1 m_2/r^2$ has room for three kinds of multiplication, and each stays true to its own register. This is the structural heart of the paper.

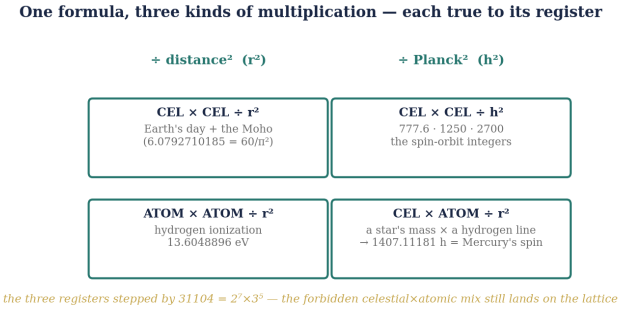

Fig. 9 — One formula, three multiplications, the two denominators (r^2 and Planck²) — every cell lands on the lattice, including the forbidden mix.

Modern physics keeps two rule-books that are never allowed to meet: the very small — spectral lines — is the province of quantum mechanics; the very large — stars and planets — is the province of general relativity. They share no force, no units, and a century of brilliant minds has failed to join them. We put a star's mass and a hydrogen wavelength into the same equation — a thing both rule-books forbid as meaningless — and the answer comes out exactly on the {2,3,5,π} lattice, a planet's measured period. The three registers are stepped by $31104 = 2^7 \times 3^5$. The atomic and the celestial are not two worlds; they are one register-structure a calculation may walk freely between.

There are exactly four. Each is set out below under its own heading, worked in full — the two masses, the division, then the same walk every time: ×24 to the free fall, ×2π to the frequency. Read all four. By

the time you reach the conclusion you will already have seen it proved.

1. NEWTON'S FORMULA — celestial × celestial

Two star-system masses, nothing atomic. This is Newton's own law, written exactly as he wrote it, doing exactly what he built it for. We run it on both faces of the distance: the radius (75) and the diameter (150) — because Newton's 150 was, under the Universal Force of Time, the diameter, and the law lands clean on either one.

Newton's law: $E = (m_1 \times m_2)/r^2$
m_1 = Sun's mass 57.29577951 (180/π)
m_2 = Earth's mass 596.8310366 (1875/π)
radius (r = 75): E = 6.079271019 (60/π²)
diameter (r = 150): E = 1.519817755 (15/π²)
radius face: × 24 → 145.9025044 → × 2π → 916.7324722

→ the radius face lands on the Earth's day (86400 s) and the Moho, the Earth's own equalisation shell; the diameter face is exactly one quarter, equally on the lattice. No pull — one law, working on both faces, handing back a clock and a radius.

2. NEWTON'S FORMULA — celestial × atomic wavelength

Now the move physics forbids: a star's mass multiplied by a hydrogen emission line — a celestial quantity and an atomic one in the same equation. It should be meaningless. It isn't.

Newton's law: $E = (m_1 \times \lambda)/r^2$
m_1 = the Sun's dimensional mass = 198.9436789 (625/π)
λ = the hydrogen Hβ line = 486
$(m_1 \times \lambda)/75^2$ = 17.18873385 (54/π) ← the energy
× 24 = 412.5296125 (1296/π) ← the free fall
× 2π = 2592 (the π cancels exactly) ← the frequency

→ lands on Mercury's rotation. A hydrogen line and a solar mass return a planet's spin.

3. NEWTON'S FORMULA — atomic wavelength × atomic wavelength

Two hydrogen lines, no mass at all. Both wavelengths are π-free, so the answer is pure {3,5} — it never leaves the atomic register, and it returns the atom's own binding.

Newton's law: $E = (\lambda_1 \times \lambda_2)/r^2$
λ_1 = the hydrogen Hβ line = 486
λ_2 = the hydrogen Hα line = 656.1
$(\lambda_1 \times \lambda_2)/75^2$ = 56.68704 (3^{11} / 5^5) ← the energy
× 24 = 1360.48896 ← the free fall
÷ 100 = 13.6048896 eV ← hydrogen's ionisation energy

→ lands on hydrogen's own ionisation energy, 13.6048896 eV — the atom answering in its own currency.

4. NEWTON'S FORMULA — atomic × atomic ÷ Planck's constant squared

The last step throws away r^2 — the distance, Newton's whole denominator — and puts Planck's constant squared in its place. No distance left in the formula at all. It still works.

Newton's law, $r^2 \to h^2$: $E = (\lambda_1 \times \lambda_2)/h^2$
λ_1 = Hβ = 486 λ_2 = Hα×10 = 6561 (3^8)
h = Planck (FOT) = 6.631455962 (125/6π), h^2 = 43.97620818 (15625/36π²)
$(\lambda_1 \times \lambda_2)/h^2$ = 72508.43427 ($2^3 \cdot 3^{15} \cdot \pi^2$ / 5^6) ← the energy
× 24 = 1740202.4 ← the free fall
× 2π = 10934014.3 , then × 60 → 656040858

→ loops straight back to its own Hα line (6561 × 10^5): the atom is a stationary node with nothing beneath it, so the calculation returns where it began.

Four headings, four worked calculations, four landings on the lattice — a day and a planet's shell, a planet's spin, an atom's binding, and an atom's own line. Same-register pairs cancel the π to clean integers; cross-register pairs strand exactly one π. The denominator can be a distance or Planck's constant with equal success — the inverse-square was never the physics. There is no dimensional line between the atomic and the celestial. They all work on the same law.

15. Cross-dimensional — the surviving π is the free fall

There is a tell in the arithmetic. Multiply two same-register operands and the π cancels to a pure {2,3,5} integer. Cross the registers — a planetary

mass against a hydrogen line over Planck² — and exactly one π survives, and that residue is the free fall g_1 itself.

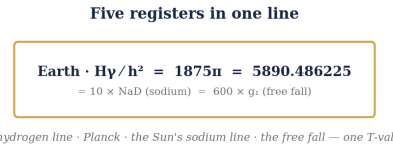

Fig. 10 — Five registers in one line: a planetary mass, a hydrogen line, Planck, the Sun's sodium line, and the free fall.

Earth × Hγ ÷ h² = 1875π = 5890.486225 = 10 × the sodium D line (NaD) = 600 × the free fall g_1 (25π/8). Five registers — planetary mass, hydrogen emission line, the quantum, the Sun's Fraunhofer line, and the free fall — closing to machine precision in a single value. Same-register products cancel π to integers (777.6, 1250, 2700); cross-register products strand one π, and that surviving π is the free fall itself — what science calls gravity, here a manifestation of the one T-flow.

16. Why the atom is empty — one emptiness at two registers

If there truly is no wall between the atomic and the celestial, the same picture should hold at both ends, and it does — in a place mainstream physics has never been able to explain. The atom is almost entirely empty: a tiny dense nucleus, a single electron impossibly far out, and a vast nothing between. Quantum mechanics tells you where the electron is likely to be found; it has never told you why the gulf is there at all. It is accepted as a brute fact.

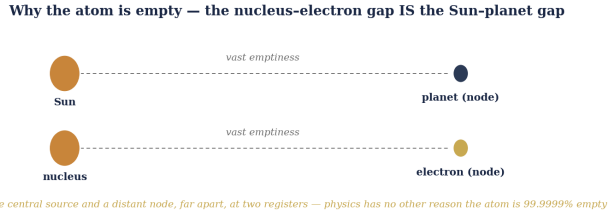

Fig. 11 — The atom is a solar system: a dense central source, a distant node, and the same vast emptiness between, at two registers.

The Universal Force of Time answers it in one line. The nucleus sits where the Sun sits — the dense central source, the place time is generated. The electron sits where the planets sit — the node, far out in the thinning field. The atom is a solar system; the emptiness inside the atom and the emptiness of the solar system are one emptiness, written at two registers. A node sits far from its source for the same reason a planet sits far from the Sun. The structure transfers exactly — a small dense source, distant nodes, a great void between; each register sets its own spacing, so this is a structural identity, not an identical ratio. The point that cannot be argued away is the one physics could never supply: it has no reason the atom is empty, and the solar-system identity hands one over for free.

17. Conclusion

Newton's law is kept, every symbol intact, and reopened. There is no pull and no empty space for a force to cross — only one substance, T, and the arithmetic of how its density flows. Fed the Sun's dimensional masses, m_1m_2/r^2 returns the length of the day, the depth of the Moho, the whole clockwork of Mercury with its precession as a register step, the Earth's year from Venus inverted, the eclipse deflection, and — when a hydrogen line is allowed to stand beside a star's mass — a planet's spin and hydrogen's own binding energy. G is the reciprocal of the orbital distance, not a constant of nature. What science calls gravity is the T-flow that clocks the planet and sets the radius at which its spacetime speeds equalise. Newton was not wrong. He read one dimension of a formula that holds three. The full machine — every chain, every register — follows in the Appendix.

→ Want this in full? See the companion paper: The Master Compendium — the full Universal Force of Time..

References

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[3] I. Newton, letters to R. Bentley (1692–93); Philosophiæ Naturalis Principia Mathematica (1687).
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A note on the numbers.

The values in this paper are written as plain numbers — not pinned to units, and not carried to a particular power of ten. This is not loose notation; it is the physics. Under the Universal Force of Time a quantity is not the property of one dimension: the same T-value shows up as a wavelength in an atom, a span of time in the heavens, a mass in a nucleus, an angle in an orbit — one number wearing different coats. That is why a hydrogen line can stand beside a star's mass in a single equation and return a planet's spin — they were never separate quantities. We therefore do not solve for a result 'to the power of' anything in one register and stop. The lattice number is the real thing, and it lives at once across every register — subatomic, atomic, celestial, galactic. The unit and the power of ten are only the costume the number wears in whichever dimension you read it from.

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Appendix — The Complete Machine

Every chain at full precision; the physical number leads, the {2,3,5,π} form follows.

A1. The dimensional mass chain — one mass, the Sun's, walked up the speeds

node	spin-orbit speed	mass (value)	lattice form
Sun	25/18 = 1.38888889	57.29577951	180/π
Mercury	×125/108 = 1.15740741	92.10355503	31250/108π
Venus	×54/25 = 2.16	198.94367886	625/π
Earth	×3	596.83103659	1875/π
product of speeds	—	10.41666667	125/12 = DNA helix turn
Earth ÷ 9375	—	6366.197724 km	20000/π = the Moho

A2. Worked Example 1 — the Loop on E = 6.0792710185 (Sun × Earth ÷ 75²)

face	operator	value	lattice form / meaning
energy	Sun×Earth/75²	6.0792710185	60/π²
flow of time	× 24	145.9025044	1440/π² (minutes in a day)
seconds	× 60	8754.150267	86400/π² (seconds in a day)
frequency	flow of time × 2π	916.7324722	2880/π
the Moho	E × 60 ÷ veil	6366.197724 km	20000/π

A3. Worked Example 3 — the whole of Mercury from E = 6.48 (g_2 flow of time 155.534020222)

quantity	operation	value	lattice form
g_2 flow of time	6.48 ×24 ×(1+δ_G)	155.534020222	$5^6 \cdot 100/9\pi^3$
perihelion precession	ff × 36	5599.224727986 ″/century	$5^6 \times 100/9\pi^3 \times 36$
orbital period	× π/200	87.95241636 d	$5^6/18\pi^2$
rotation period	× 2/3 (the 3:2 lock)	58.63494424 d	$5^6/27\pi^2$
rotation (hours)	× 2π → ×24/2π	1407.24 h	$125000/9\pi^2$

The matter face misses (155.52 × 36 = 5598.72); the precession exists only on the g_2 face — Einstein's relativistic advance = the δ_G step (90.151 ppm).

A4. F = ma — the four-stage frequency law (each = previous × that planet's speed; all π-free → 432)

stage	energy	frequency	ladder destination
Sun	250/π = 79.57747	12000 = $2^5 \cdot 3 \cdot 5^3$	×60×60 → 432×10^5
Mercury	31250/108π = 92.10356	13888.889 = 125000/9	→ 432×10^6
Venus	625/π = 198.94368	30000 = $2^4 \cdot 3 \cdot 5^4$	→ 933,120,000
Earth	1875/π = 596.83104	90000 = $2^4 \cdot 3^2 \cdot 5^4$	→ 2,799,360,000

A5. The foundation stone — three multiplications × two denominators

combination	example	result
celestial × celestial ÷ r²	Sun × Earth / 75²	Earth's day + the Moho (60/π²)
celestial × celestial ÷ r²	Mercury × Earth	the whole of Mercury (6.48 → 5599.22″)
atomic × atomic ÷ r²	Hβ × Hα / 75² ×24	hydrogen ionization 13.6048896 eV
celestial × atomic ÷ r²	Sun × Hβ / 75²	Mercury's rotation 1407.11181 h (forbidden mix)
celestial × celestial ÷ h²	Earth × Sun / h²	777.6 = $2^5 \cdot 3^5$ (spin-orbit integer)
celestial × celestial ÷ h²	Earth × Mercury / h²	1250 = $2 \cdot 5^4$
celestial × celestial ÷ h²	Earth × Venus / h²	2700 = $2^2 \cdot 3^3 \cdot 5^2$
celestial × atomic ÷ h²	Earth × Hγ / h²	1875π = 600·g_1 = 10·NaD (five registers)

A6. Mass × wavelength — the cross-dimensional spectral chains

input	through the grammar	lands on
Sun × Hβ (486) / 75²	day-ladder ×2π	Mercury rotation 1407.11181 h
Sun × Hα (656.1) / 75²	×24 ×2π ×4π	Mercury orbit 87.9444881 d
Sun × Hα / 75²	orbit × 24	the 21 cm hydrogen line (21.107 cm)
Hβ × Hα / 75²	×24	hydrogen ionization 13.6048896 eV
Sun × Hβ / 150² (diameter face)	×24 ×2π ×8	chlorophyll 648; inner core 5184

A7. G and the two fine-structure constants

quantity	value	lattice form
G (UFOT)	6.666666666667 × 10^{-11}	20/3 × 10^{-11} = 1/0.15
1/α (spectroscopic)	137.0778389	125π²/9
1/α (celestial)	136.9089703	125π²/9 − 5/(3π²)
the gap	0.1688686	5/(3π²)
orbital-velocity ratio	0.013593663	√α/(2π), every planet

The Conversion Loop — how every value in this paper is derived

A quantity in the Universal Force of Time is one T-value read in different units; the gear between any two faces is a fixed number. These were formalised in the Universal Force of Time formula sheet and are collected here so every figure above can be retraced from any other. The number leads; the {2,3,5,π} form is the quiet footnote. The loop is intradimensional — it moves between faces of one register and never leaves it (the same property that makes G = 6.666… the intradimensional gear, §4).

A8. The intradimensional loop — the gear that joins each pair of faces

from face → to face	multiply by (the number)	lattice footnote
energy (eV) → energy (kJ)	÷ 10368	$2^7 \cdot 3^4$
energy (kJ) → wavelength λ	÷ 36	$2^2 \cdot 3^2$
wavelength λ → flow of time g	÷ 49.50355350	3888/25π
flow of time g → frequency f	× 6.283185307	2π
flow of time g → energy (joules)	÷ 24	$2^3 \cdot 3$
wavelength λ → mass (the λ-door)	× 1.233700550	π²/8
energy (eV) → circumference C	÷ 31104	$2^7 \cdot 3^5$
circumference C → mass (circ-door)	÷ 22.00157933	1728/25π
flow of time g → dimensional spin-orbit value c	c = g² × 3,110,400	$864 \cdot 3600 = 2^9 \cdot 3^5 \cdot 5^2$

Key. Flow of time (metres per second) = what science calls gravitational free fall. Dimensional spin-orbit value = what science calls the speed of light.

A9. The same gears as number-first laws (de Broglie style)

law	number-first form	lattice footnote
mass ↔ energy	E = 6.822485557·m ; m = 1.465741469·E	the two are ×10-reciprocals; gear×960 = Mercury rotation 1407.11181 h
mass ↔ wavelength	λ = 0.810569469·m ; m = 1.233700550·λ	8/π² ; π²/8
mass → frequency	f = 0.102880658·m ; m = 9.72·f	25/243 ; $2^2 \cdot 3^5/100$
wavelength → frequency	f = 0.126923925·λ ; λ = 7.878846·f	25π²/1944 ; 1944/25π²
mass → energy (eV)	eV = 302543.4332·m	$2^{12} \cdot 3^6/\pi^2$
energy (eV) ↔ wavelength	eV = 373248·λ ; λ = eV ÷ 373248	$2^9 \cdot 3^6$ (= 10368×36)
wavelength → circumference	C = 12·λ	373248 ÷ 31104 = 12

And the one interdimensional gear — the only operator that crosses to the register above or below: take the radial mass (mass ÷ 9375, with 9375 = 3·5⁵ the radius↔mass bridge) and square it. (proton mass ÷ 9375)² × 2 × 10^{11} = 6366.197724 = the Earth's Moho (20000/π), to 0.00 ppm — the atomic source reaching its own celestial radius in a single square. Everything else in this paper stays on the intradimensional loop above; this is the one step that changes dimension.