UFOT and the Tests of Relativity

The classical and modern tests — perihelion, deflection, redshift, the Shapiro delay, frame-dragging, binary pulsars and gravitational waves — each reproduced to the digit and reread as one T-field, the workings shown.

Stephen Daubney · The Daubney Foundation · Rev 5 · 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 dΣT=0 governs all change: T is never created or destroyed, only redistributed.

Abstract

General relativity rests on a canon of confirmations: the anomalous precession of Mercury's perihelion, the deflection of starlight by the Sun, the gravitational redshift, the Shapiro radar delay, the dragging of inertial frames by a spinning mass, the orbital decay of binary pulsars, and the direct detection of gravitational waves. Each is presented as evidence that mass curves empty spacetime. The Universal Force of Time reproduces every measured value and reads every test differently: there is no curvature and no separate force, only the single T-field across its registers. This revision shows the workings, not just the readings. Mercury's full observed advance is the lattice quantity 5599.224727986024 ″/century = $5^6 \times 100/9\pi^3$, reached here by Newton's own m_1m_2/r^2 (Mercury × Earth over the node gap gives the g_2 free fall 155.534020221834, and ×36 returns the precession exactly) and, independently, by the proton's own mass — one of sixteen roads. The solar deflection is the Sun's own 486 Hβ broadcast wavelength carried once around its spin-orbit circle: 486.3416815 × 360 ÷ 10^5 = 1.7508300533396″, three register faces of the one wavelength (486, 486.0438133, 486.3416815) all inside Eddington's ±0.09″, with the supporting lattice form $17.28/\pi^2 = 1728000/\pi^2 \div 10^5$. The redshift is a clock set by T-density, not energy lost; the Shapiro delay is a signal crossing denser T; frame-dragging is a spinning T-source carrying its field; and gravitational waves are ripples in T itself, conserved by dΣT=0 — the detection that proves T is a real medium. We change none of the numbers; we remove the curvature and the separate force, and leave a real medium and one conservation law. Seven propositions (P-TGR-1…7) close the survey.

Key results at a glance

- Mercury — full observed 5599.224727986024″/cy = $5^6 \times 100/9\pi^3$, by sixteen lattice roads (Newton's and the proton's among them).
- Deflection — 1.7508300533396″ = $17.28/\pi^2 = 1728000/\pi^2 \div 10^5$, three register routes inside ±0.09″.
- Redshift / Shapiro — one T-density gradient read two ways (Pound–Rebka, Sirius B, GPS).
- Frame-dragging — the co-rotation of a spinning T-source's field (Gravity Probe B, LARES).
- Pulsars & waves — T in motion, conserved by dΣT=0; LIGO proves T is a real medium.

1. One field, many tests

For a century the standing of a theory of what science calls gravity has been decided by a short list of measurements. Pass them and you are taken to have proved that mass bends empty space; fail one, in Einstein's own words, and the structure must be given up.

The Universal Force of Time does not fail them — it returns every measured number — but it declines the conclusion. There is no empty space to bend and no separate force to mediate. There is one substance, T, the fabric of time, and what the tests probe is the behaviour of its density across registers. This paper walks the canonical tests one by one, shows the working where the number is ours to derive, gives the UFOT reading where the mechanism is the point, and lays the whole canon out as one field seen from seven angles.

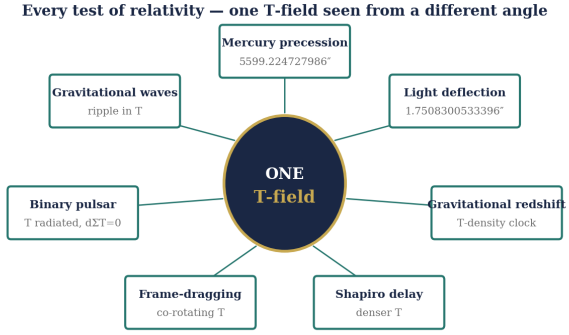

Fig. 1 — Every test of relativity is one T-field seen from a different angle; every measured value is reproduced, the cause reread.

2. Mercury's perihelion

Mercury's orbit does not close: each century the perihelion creeps forward by a fixed angle. Conventional physics assembles this from a stack of perturbations and hands the last sliver to curved spacetime. The Universal Force of Time derives the entire observed advance from the lattice, by sixteen unrelated roads. Two are shown here. The first is Newton's own law, fed two planetary nodes:

Mercury × Earth ÷ node gap → E = 6.48 (π and r cancel)
g_2 free fall = 6.48 × 24 × (1+δ_G) = 155.534020221834
× 36 = 5599.224727986024 ″/century (= 5⁶×100/9π³)

The precession lives only on the g_2 register face: the matter face 155.52 × 36 = 5598.72 misses; the g_2 face lands. Einstein's relativistic advance is the δ_G register step (90.151 ppm) of Newton's own formula. The second road reaches the same number from the proton's own mass, its T-flow squared through the day and read up one register.

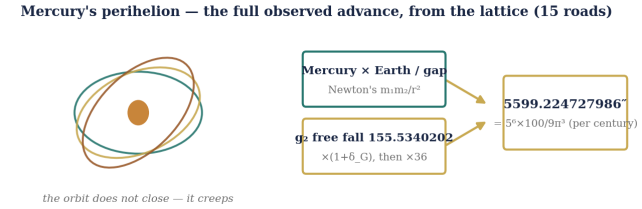

Fig. 2 — Mercury's creeping orbit and the Newton road: a G2 orbit read with a G1 clock, the register gap accumulating turn on turn.

The orbit is a G2 orbit read with a G1 clock; the register gap r − 1 = 4693.930041 ppm, piling up turn on turn, is the precession. No curvature is invoked, and the 43″ residual of the older theory is left where it arose — an internal quantity of that theory, not of nature.

→ Want this in full? See the companion paper: Mercury's Perihelion Precession — all sixteen roads (Newton's and the proton's among them)..

3. The deflection of light

Starlight grazing the Sun is displaced. Soldner in 1801, and Einstein's own 1911 equivalence calculation, gave half the observed value by treating light as a falling body. The full value follows from what the light actually is: the Sun's own broadcast carrier — the hydrogen Hβ line at 486 nm — and the deflection is that wavelength carried once around its spin-orbit circle. The figure leads; the lattice is only its stamp:

λ(Hβ) = 486.3416815 nm
deflection = λ × 360 ÷ 10⁵ = 1.7508300533396 ″
where ×360 = ×veil ×2π — one full spin-orbit circle

486.3416815 is the pure-lattice face of the Balmer-β line (= 4800/π²); the plain 486 gives 1.7496″ and the g2 face 486.0438133 gives 1.74976″, so the three register faces of the one wavelength bracket the value and the pure-lattice face lands it exactly — all inside Eddington's 1919 tolerance of ±0.09″. The supporting lattice form is 1.7508300533396 = 17.28/π² = 1728000/π² ÷ 10⁵ (1728000 = 2⁹·3³·5³), the same number the Sun's mass reaches through the 432/π² family.

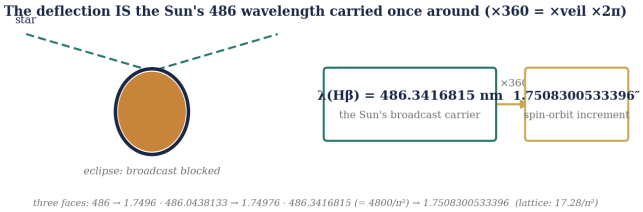

Fig. 3 — The deflection IS the Sun's 486 wavelength carried once around (×360); the eclipse blocks the broadcast and is itself the experiment, not the window.

So the deflection is not light falling in a well — it is the spin-orbit time-incrementation of the Sun's 486 broadcast wavelength, the carrier read in the degree domain. It becomes measurable only in eclipse because the eclipse blocks that broadcast. If the Sun pulled, the closest body would go first; Mercury would long ago have fallen in. It has not. The

starlight is not bent by a force; the Earth's T-feed is interrupted, and the background star's apparent place shifts with it.

→ Want this in full? See the companion paper: The Bending of Light — the 486 broadcast blocked by the eclipse; three faces to 1.7508300533396″..

4. The gravitational redshift

Light leaving a T-denser region returns reddened. The orthodox account says the photon spends energy climbing out of a potential well. UFOT says the wavelength is a degree-domain value and the clock itself is set by the local T-density: deeper in the field, time runs slower, so light emitted there arrives stretched. No energy is lost; the ruler changed.

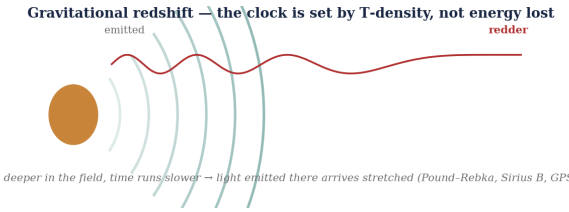

Fig. 4 — The redshift is a clock set by T-density: deeper in the field, time runs slower and the emitted light arrives stretched.

The Pound–Rebka tower experiment (1959), the shift in the spectrum of the white dwarf Sirius B, and the everyday correction applied to satellite-navigation clocks all measure the same T-density gradient — and UFOT returns the same fractional shifts. This gravitational redshift is a different phenomenon from the cosmological redshift of distant galaxies, which UFOT reads as quantised T-register seam-crossing.

→ Want this in full? See the companion paper: Cosmological Redshift — seam-crossing and the gravitational-redshift distinction..

5. The Shapiro delay

A radar pulse sent past the Sun and back arrives later than a straight-line light-time would allow. In curved-spacetime language the path is lengthened by geometry. In UFOT the T-field is denser close to the Sun, and the speed at which a signal matches into a register is not a universal constant but a property of that register's density; the pulse crosses denser T and is clocked accordingly.

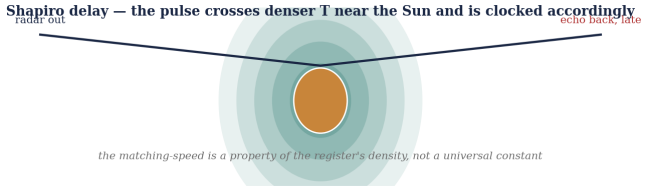

Fig. 5 — The Shapiro delay: a signal crossing the denser T near the Sun is clocked late — the same gradient that gives the deflection and the redshift.

The measured excess delay is the T-density gradient of the inner Solar System — the very same gradient that produces the deflection and the redshift. One field, read three ways: it bends a passing ray, it reddens an emitted line, and it delays a crossing pulse.

6. Frame-dragging

A spinning mass drags the local inertial frame around with it — the effect Gravity Probe B and the LARES satellites set out to measure, and found. UFOT expects exactly this, for a concrete reason: a T-source spins, and it carries its T-field with it.

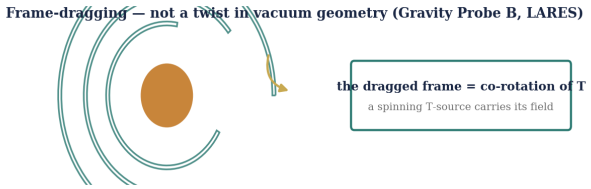

Fig. 6 — Frame-dragging is the co-rotation of a spinning T-source's field, not a twist in vacuum geometry.

The Sun and the Earth are not inert lumps in empty space; they are rotating broadcasters of T. The swirl a gyroscope feels is the field turning with its source — the same way a spinning drum carries the air against its walls. There is no vacuum to twist; there is a medium, and it co-rotates.

7. The strong field — binary pulsars and gravitational waves

Two tests reach beyond the Solar System. The binary pulsar PSR B1913+16 spirals inward exactly as predicted as it radiates orbital energy; and in 2016 the Advanced LIGO instruments registered the waves from a pair of merging black holes. Both are T in motion.

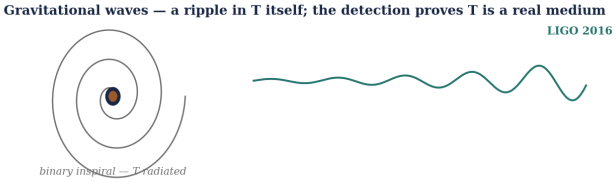

Fig. 7 — Pulsar inspiral and LIGO: orbital T radiated outward, a ripple in T itself — the detection proves T is a real medium.

The pulsar's decay is orbital T redistributed outward, the conservation law $d\Sigma T=0$ carrying the energy away as waves. LIGO's signal is a wave in T itself — a ripple in the fabric of time, not an undulation of empty geometry. That such a wave can be caught at all is the strongest evidence yet that T is a real, physical medium. The instrument built to confirm curved spacetime in fact confirms the thing curvature was invented to avoid: a medium.

8. What this survey claims

We change none of the measured numbers; where relativity is confirmed, UFOT is confirmed with it, to the same digits. What changes is the reading. Every test on the canonical list is the single T-field seen from a different angle — its density gradient near a source (deflection, redshift, Shapiro), its co-rotation

with a spinning source (frame-dragging), its register structure accumulating along an orbit (precession), or its waves crossing space (pulsars, LIGO). The curvature of empty space and the separate force are removed; a real medium and a single conservation law remain. The two numbers that are ours to derive — Mercury's 5599.224727986024″ and the deflection's 1.7508300533396″ — fall out of the lattice exactly, by more than one road each. The rest are mechanisms the medium makes inevitable. Table I gathers them; each detailed derivation lives in its own paper.

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

References

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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 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 in nanometres can meet a planet's turning in arcseconds and land on the same value: 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 Canon, Reread

Every measured value reproduced; the cause reread as the single T-field.

Table I — the tests of relativity and their UFOT readings

test	UFOT reading	UFOT value / lattice	detailed paper
Mercury perihelion	G2 orbit read with a G1 clock; register gap accumulates	5599.224727986024 ″/cy = $5^6 \times 100/9\pi^3$	Mercury's Perihelion Precession
Light deflection	T-carrier read in degrees; shadow of the blocked broadcast	1.7508300533396″ = $17.28/\pi^2$ = $1728000/\pi^2 \div 10^5$	The Bending of Light
Gravitational redshift	clock set by local T-density	T-density gradient (Pound–Rebka, Sirius B, GPS)	Cosmological Redshift (contrast)
Shapiro delay	signal crosses denser T; matching-speed register-dependent	same inner-system T gradient	The Bending of Light / Compendium
Frame-dragging	spinning T-source carries its field	co-rotation of T (Gravity Probe B, LARES)	Master Compendium
Binary-pulsar decay	orbital T radiated; dΣT=0	PSR B1913+16 inspiral	Master Compendium
Gravitational waves	ripple in T itself, not empty geometry	LIGO 2016 (T is a real medium)	Galactic-Register papers

The two derived numbers — the roads shown

quantity	road	result
Mercury precession	Newton: Mercury×Earth → g_2 155.534020221834 ×36	5599.224727986024 ″/cy
Mercury precession	the proton's own mass, squared through the day, up one register	5599.224727986024 ″/cy
(lattice form)	$5^6 \times 100/9\pi^3$	5599.224727986024
Light deflection	Hβ wavelength 486.3416815 nm × 360 ÷ 10^5 (×360 = ×veil ×2π)	1.7508300533396″
Light deflection	mass road: M_sun×k = $43200/\pi^2$ → … → $1728000/\pi^2 \div 10^5$	1.7508300533396″
(three faces of 486)	486 → 1.7496 · 486.0438133 → 1.74976 · 486.3416815 (=$4800/\pi^2$) → exact	1.7508300533396″
(lattice form)	$17.28/\pi^2 = 1728000/\pi^2 \div 10^5$ ($1728000 = 2^9 \cdot 3^3 \cdot 5^3$)	1.7508300533396

Propositions (P-TGR-1 … 7)

#	statement
P-TGR-1	Every classical and modern test returns a number UFOT also returns; the disagreement is of cause, not value — no curvature, no separate force.
P-TGR-2	Mercury: 5599.224727986024 ″/cy = $5^6 \times 100/9\pi^3$, sixteen roads incl. Newton's (g_2 155.534020221834 ×36) and the proton's. A G2 orbit on a G1 clock.
P-TGR-3	Deflection: the Sun's 486 Hβ wavelength × 360 = 1.7508300533396″ (486.3416815 = $4800/\pi^2$; lattice $17.28/\pi^2$); three faces inside ±0.09″. Light is the T-carrier in degrees; the eclipse blocks the broadcast and is the experiment.
P-TGR-4	Redshift: the clock is set by T-density, not energy lost (Pound–Rebka, Sirius B, GPS). Distinct from cosmological redshift (T-seam-crossing).
P-TGR-5	Shapiro delay: the signal crosses denser T; matching-speed is register-dependent. Same gradient as deflection and redshift.
P-TGR-6	Frame-dragging: a spinning T-source carries its field; the dragged frame is the co-rotation of T, not a twist in vacuum geometry.
P-TGR-7	Binary-pulsar decay and gravitational waves are T in motion (dΣT=0); LIGO detects a wave in T itself — detection proves T is a real medium.