

The Hold

Artist's Proof 49

Particles and Matter

The proton's sixteen read, its series closed, the next order and its sign registered – the sixteen is the four conditions held through room and time

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Artist's Note

This is Artist's Proof 49 of The 420 Code. It belongs to Notebook V – Particles and Matter, beside AP30, The Resistance, whose open switch it pays.

The proton must become sharper. It had to.

On the 2nd of August 2026 my neutron prediction fired. That rattled me. Today it officially became the biggest blessing for me and for The 420 Code. It showed me where I was wrong, and that is worth more to me than simply being right – because false certainty is, for me, dishonest.

When the neutron fired I absolutely knew the proton prediction was also incomplete. It had to be. Structural omissions propagate structurally, and structural corrections propagate everywhere. So I always knew that once I corrected the structural omissions, many numbers would simply have to change – not just the neutron's. Today I proved that knowing to myself. Since the neutron fired, the structural corrections have propagated to gravity, to MOND, to the neutron, and now to the proton – just as I said they had to.

A record does not close back on itself; if it did, the universe would stop. It is held: the four conditions of a record, held through the three dimensions of space and through time. Holding costs. The repair of the record is itself a break, so the repair has to be held too, and the holding of the holding costs the same way, each holder holding against the last, forever. That is the axiom – $1{:}1 + 1{\times}\varepsilon$, the balance never quite closing.

This paper counts that, closes the series, and predicts the proton again, sharper.

The description continues.

the420code.org

Copyleft 2026. Don't be a cunt. Be kind.

Orientation

Where this paper fits in the body of work

The 42Ø Code is organised across eight bound notebooks. This paper belongs to Notebook V – Particles and Matter – beside AP3Ø, The Resistance, which derived the proton-to-electron mass ratio to five parts per billion at first order and carried, at second order, a coefficient of sixteen whose structural decomposition it declared owed under KS-3Ø.3. This paper pays that switch: the sixteen is decomposed from the work's own grammar, the series is closed at all orders, and the proton is predicted a second time with no truncation.

It draws on the cost family – AP44, The Snap; AP45, The Blink; AP46, The Stretch; AP47, The Flip – for one thing: the family's law that α sits at every door and each site sets only how many assemble, and, from AP47, the count that discriminates between the two readings of the sixteen.

How to read this paper

A reader without physics should start at §5, where the proton is predicted in plain words, then §3, where the sixteen is. Everything else is the structure that makes those honest.

Everything derives from the axiom outward: 1:1 + 1×ε @ AS [+1/137 | –1/137]. One measured input enters, α, as in AP3Ø; the measured proton-to-electron ratio is the check, never an input.

0 – Dependency and Scope

0.1 – What this paper does

Three things.

First, it decomposes the sixteen. AP30's second-order term is $\alpha^2 \cdot 21 \cdot 16/1836$, and the sixteen was carried, not derived. From {21, 3, 4} the only decomposition is 4 × 4; the work's own grammar for a count of that shape – an object through the four dimensional expressions, AP30's 84 and AP47's 8 – makes it the four conditions of the record's repair, held through the three dimensions and time. The measurement pins the coefficient at 15.97 ± 0.05, as the work's own pre-registration of 2 August 2026 recorded; the count is 16; the other reading of 4 × 4 is killed by the neutron and refused on the axiom.

Second, it closes the series. The stated chain – the second holder holds against the first, a third against the second, each holding costing the same balance – is one rule in the algebra: every order is the previous order times the repair's share of the whole, $r = 16\alpha/1836$. The tail beyond first order sums in closed form, $21\alpha \cdot r/(1 - r)$, and the series converges with ratio r. KS-30.3 is paid on both its limbs.

Third, it predicts the proton again. The closed form gives $m_p/m_e = 1836.152673445$, with no truncation, against the measured 1836.152673426(32) of CODATA 2022: a residual of –10 parts per trillion, -0.59σ. It supersedes, by reference, the value the work froze on 2 August 2026 – the series truncated at α^2, 1836.152673444331, at -0.57σ – and states what changed: the tail, $+6.2 \times 10^{-10}$, and the sign of the third order, positive, given blind. What became sharper is stated in §5. The kill is close: the closed form dies at 3σ once the measurement's uncertainty reaches 3.4 parts per trillion with the central value unchanged – about five times today's precision, within the horizon the work's own register gives as three to five years; the third-order term itself is resolved at about 52 times today's precision.

Two things are said first. The sixteen has been in the formula since AP30 and was pinned by the data at 15.97 ± 0.05 in the work's pre-registration of 2 August; its reading was found after the number, on 6 September 2026, and is graded so. The third order was not in any file, and the pre-registration bound the work not to offer one chosen against the residual; its rule was given before the arithmetic was seen, its sign is positive and stated here in advance, and the arithmetic was shown after. §4 states that order exactly, and §5 states that the chain does not close the measurement's present gap and does not try to.

0.2 – Dependencies

Ø Dissolutions (the Axiom chapter). The complete axiom; the four conditions; the cost always paid. Load-bearing for §§3–4.

AP30 (The Resistance). The proton formula, its three static layers (1764 + 63 + 9), its first-order maintenance $\alpha \cdot 21 \cdot (1 - 1/(84\pi))$ with the isotropic-leakage lemma, its second-order term $\alpha^2 \cdot 21 \cdot 16/1836$ with the sixteen declared owed, and KS-30.3. Load-bearing throughout.

AP47 (The Flip). The neutron's second-order support count: "a distinction's static count is its orientation pair through the four dimensions: 2 × 4 = 8 dimensional expressions, each leaking under the same lemma." Load-bearing for §3 as the discriminator.

AP44 (The Snap) and the family's law. α at every door; each site sets only how many doors assemble – parallel channels add, sequential gates exponentiate, a held grain multiplies rate by worth. Load-bearing for §4.

AP10 and AP20. The four spacetime dimensions, three of room and one of time. AP24 and AP28. The six faces; the twenty-one channels.

CODATA 2022 (NIST, wall chart of May 2024): $\alpha = 7.2973525643(11) \times 10^{-3}$; m_p/m_e = 1836.152673426(32), relative uncertainty 1.7×10^{-11}. AP30 §5 quotes 1836.15267343(11) under the label CODATA 2022 – read in the file: that is the 2018 adjustment – and the label is corrected here and in AP30's dated note (§8). An independent value: m_p/m_e = 1836.152673414(47) from H_2^+ spectroscopy (Alighanbari, Schenkel, Korobov, Schiller, Nature 644, 69, 2025).

The work's pre-registration of the proton at order α^3, frozen 2 August 2026 (the420code.org/prereg/2026-08-02-mp-me-alpha3.md; digest 6ea78dac… as retrieved 6 September 2026). It registers D = 1836.152673444331, the series truncated at α^2, at 0.57σ; pins the sixteen at 15.97 ± 0.05 and 336 = 21 × 16 as the only structurally reachable integer within 3σ; excludes the rank-3 continuation $4^3 = 64$ at 9.5σ; and binds the work: no α^3 coefficient chosen against the residual, any α^3 coefficient derived from the recursion and published with its sign in advance, and superseding versions to reference its hash and state what changed. This paper is such a superseding version. Load-bearing for §§2, 5, 7.

0.3 – Axiom mapping

Axiom R is principal for §3: a record does not unwrite itself; from the held position it can be reconfigured; the four conditions are configured and then held through space and time.

Axiom S is load-bearing for §4: the balance at every instant, 1:1 + 1×ε – the repair repairs, and the repair costs, at every order.

Axioms B and C are load-bearing for the count: the four conditions are the break's, and the holding is expressed through the four dimensions the constraint resolves.

0.4 – Epistemic status per section

Section 1 (Definitions). DEFINITIONAL.

Section 2 (The Sixteen at Source). CANON and MEASUREMENT – what AP30 carried; what the data pin, as the pre-registration of 2 August recorded; what arithmetic forces.

Section 3 (The Hold). RULED; the grammar CANON; the discriminator CANON (AP47); the refused reading SHOWN DEAD.

Section 4 (The Chain of Holders). RULED, given blind, with the base of the chain ruled where it is chosen; the closed form DERIVED from the rule; four other readings SHOWN with their working – two dead, one disfavoured, one allowed and not in the words.

Section 5 (The Proton, Sharper). DERIVED – the closed-form value; the third-order term REGISTERED as a prediction not yet reachable.

Sections 6–8. REFUSALS; FALSIFICATION REGISTER; SYNTHESIS.

0.5 – Kill switch summary

KS-HOLD.1 — the closed form. LIVE — EMPIRICAL: m_p/m_e = 1836.152673445, the third-order term $+6.2 \times 10^{-10}$ with its sign stated in advance, all orders summed; dies at 3σ once the measurement's uncertainty reaches 3.4 parts per trillion with the central value unchanged — about five times today's — and has no negative term with which to repair itself.

KS-HOLD.2 — the reading. LIVE — STRUCTURAL: the sixteen is the four conditions through the four dimensional expressions, one rule with AP30's 84 and AP47's 8; fires if any second-order support count in the work is found not to be its object through the four dimensions.

KS-HOLD.3 — the base of the chain. LIVE — EMPIRICAL: the second holder holds against the repair's bare coupling, 21α, not against the repair net of its returned leak; the two give 1836.152673445 and 1836.152673408, and today's measurement sits between them at $\pm 0.6\sigma$; decided at about ten times today's precision.

KS-30.3 (AP30) — the convergence of the series and the closed forms of the higher orders. PAID at the structural register on a stated rule: the chain is ruled, the closed form follows from it, the ratio is r and the series converges by construction.

0.6 – Structural debts owed

None new. AP30's KS-30.3 paid. The absolute energy scale of the electron mass, held open in AP30 pending AP28's connection to the Planck mass, stays where AP30 left it.

0.7 – Items held open without claiming debt status

Whether the same chain – each order the previous times the repair's share – governs the higher orders of the neutron's correction in AP47, and of the realised G in AP44. Recorded, not claimed; it would be the family's next question, at those sites, in their own words. Whether

the hold between two records – the deuteron – follows a rule of the same kind; this paper prices the hold of one record only.

0.8 – Structural relationships

AP30: the paper whose formula this completes and whose switch this pays. AP47: the site whose 8 discriminates the sixteen's two readings. AP44: the family's law of α-assembly, which the chain of holders instantiates once more – a held grain multiplies rate by worth, at every order. AP45: the toll per actualization, which is what "expression of structure pays" names.

1 – Definitions

The record. The four conditions – S, B, R, C – configured, and held through the three dimensions of space and through time.

The hold. What keeps a configured record a record: the four conditions expressed through the four dimensions, sixteen expressions.

The repair. AP30's first-order term: the record's maintenance, every channel coupling to the substrate at rate α, with the isotropic leakage's return.

The chain of holders. The repair must be held (second order); the holding of the repair must be held (third order); and so on, each holder holding against the previous one, each costing the same balance.

The repair's share. $r = 16\alpha/1836$ – the hold's sixteen expressions, at the substrate's rate, as a share of the proton's static resistance.

Symbols. α, the fine-structure constant. $1836 = 1764 + 63 + 9$, AP30's static resistance. $84 = 21 \times 4$, the proton's dimensional expressions. $8 = 2 \times 4$, the neutron's. $16 = 4 \times 4$, the hold's.

2 – The Sixteen at Source

What AP30 carried. The proton formula of AP30 §6:

$m_p/m_e = 1836 + \alpha \cdot 21 \cdot (1 - 1/(84\pi)) + \alpha^2 \cdot 21 \cdot 16/1836 + O(\alpha^3)$.

AP30 calls the second-order term "the leakage of the leakage – the break operating on its own maintenance," and of its coefficient it says that the sixteen is carried in the verified formula but its structural decomposition from {21, 3, 4} is not established and is owed under KS-30.3; and that it is not Layer 3, which is 9. The first-order term is worth 0.152663699; the second, 0.0000097453.

What the measurement pins. Against CODATA 2022, the residual after the first-order term is 9.727×10^{-6} with the measurement's uncertainty 3.2×10^{-8}. Divided by $\alpha^2 \cdot 21/1836$, the coefficient is 15.97 ± 0.05 – the work's pre-registration of 2 August recorded the same pin, and that $336 = 21 \times 16$ is the only integer within 3σ that is a product of powers of {21, 3, 4}. It is not free. It must be 16 as a count; 15 is dead at 18σ and 17 at 20σ; any structure that gives 6, 8, 10, 12 or 20 is dead with them.

What arithmetic forces. From {21, 3, 4}, sixteen can only be 4×4. Neither 21 nor 3 combines to it. The decomposition is fixed before any reading; what is owed is what the two fours are.

3 – The Hold Through Room and Time

Ruled. In his words: “a record must be held through room and time – the conditions of the record get configured and must be held over the three dimensions and over time. The record does not unwrite itself, but from the held position it can be edited – reconfigured based on the thermodynamic conditions of the reconfiguration event, the writing. If the record closed on itself, the universe stops.” And: “structure can’t pay – expression of structure pays.”

So the sixteen is the four conditions of the record’s repair, each held through each of the four dimensions – three of space, one of time. Four conditions, four dimensional expressions, sixteen. RULED.

The family’s grammar. This is the count the work already makes twice. AP30’s 84 is the proton’s 21 channels, each expressed through the four dimensions – “21 × 4 = 84 dimensional expressions.” AP47’s 8 is the neutron’s distinction, “its orientation pair through the four dimensions: 2 × 4 = 8 dimensional expressions.” The hold’s 16 is the repair’s four conditions through the same four. One rule, three instances: an object’s support is its count through the four dimensional expressions. What the second-order act operates on is the repair, and the repair’s structure is the four conditions – not the twenty-one channels, which is why the count is 4 × 4 and not 21 × 4. That is the answer to the question a reader asks first, why the coefficient is sixteen and not eighty-four: the object changed.

One rule for the count, two roles for the number. The 84 and the 8 appear in AP30 and AP47 as leakage divisors – $1/(84\pi)$ and $1/(8\pi)$, a leak normalised per solid angle under the isotropic-leakage lemma. The sixteen appears as a share, 16/1836, with no π: it counts what the second-order act holds, as a share of the whole, not a leak spread over a sphere. The rule that gives the integer is the same at all three sites; the role the integer plays is not, and the paper claims the sixteen as a share and nothing more. KS-HOLD.2 says so.

What this does not revive. AP47 §5 retired, on the record, an identification of the four dimensions with the four conditions {S, B, R, C}. This paper’s sixteen keeps the two fours distinct: the four conditions are the thing held, and the four dimensions are what they are held through – multiplied, never identified.

A fourth reading, with the same number and no discriminator. Since 21 × 16 = 84 × 4, the same 336 reads as the proton’s 84 dimensional expressions held through the four conditions, with no sixteen as an object – and it gives the same arithmetic for the proton and for the neutron alike, so nothing in the work’s measurements discriminates it. It is refused on a stated rule, which put the conditions as the thing held, the dimensions as what they are held through, and the channels as the pathway the second-order act couples through – AP30’s 21 – and not as the object it holds. Recorded as refused without a discriminator, so that a later site can supply one.

One reading from outside the grammar. Sixteen is also the dimension of the Clifford algebra of four-dimensional spacetime, 2^4, the count of the Dirac bilinears. It is not a product

of powers of {21, 3, 4}, which the work's pre-registration requires of any coefficient it claims, and the work does not weigh it. It is recorded so that a reader who knows it is not left to wonder whether the paper does.

The neutron as the discriminator. There is a second reading that gives sixteen for the proton: the four conditions closing on each other, every condition against every condition including itself, a grid of 4 × 4 – the shape of AP30's Layer 3, where the three faces' exchange is 3 × 3 = 9. The proton cannot tell the two readings apart, because the number of conditions equals the number of dimensions. The neutron can. Under the grid reading its pair would count 2 × 2 = 4; AP47 locked 2 × 4 = 8. The grid reading is dead on canon.

The reading refused. It is also refused on the axiom, before the neutron was put: a record does not close on itself; held, it can be reconfigured; closed, the universe stops. The paper records the refusal as his and the neutron as the check, in that order.

4 – The Chain of Holders

The third order, given blind. No file carried the third-order term. Before any arithmetic was shown, the question put was what the break acts on at the third order and what that cost is a share of. His answer, in his words: “Cost on the expression and re-expression event. Structure can’t pay – expression of structure pays. It is a share of the repair itself – a share of the repair, not a share of the whole. The second holder holds against the first holder, and then you will probably get a third holder against the second holder. The balance in hold and configuration costs 1:1 + 1×ε – as the repair repairs, it costs. That is the axiom; 1 = 1 is never completely true.”

What the words say in the algebra. The first holder is the repair, AP3Ø’s first-order term. The second holder holds against the repair’s expression – its bare coupling, 21α – and not against the leak the repair returns, because a returned leak is not an expression and expression of structure pays; KS-HOLD.3 arms that choice, which is also AP3Ø’s own at second order. So the second-order term is 21α times the hold’s sixteen expressions at the substrate’s rate as a share of the whole – 21α × (16α/1836). That is AP3Ø’s term exactly, and it names the ratio: r = 16α/1836. The third holder holds against the second, at the same cost: the third-order term is the second-order term times r. And each holder after that holds against the one before, at r again. One rule: every order beyond the first is the previous order times r.

Written out, with r = 16α/1836 = 6.3593 × 10^{-5}:

$m_p/m_e = 1836 + 21\alpha\cdot(1 - 1/(84\pi)) + 21\alpha\cdot(r + r^2 + r^3 + \ldots) = 1836 + 21\alpha\cdot(1 - 1/(84\pi)) + 21\alpha\cdot r/(1 - r)$.

The chain, order by order. Written in AP3Ø’s grammar, the coefficient at order n is $21 \times 16^{n-1}/1836^{n-1}$ – the hold’s sixteen as a share of the whole, once per holder:

Order	Term	Coefficient in AP3Ø’s grammar	Size
α, the repair	$21\alpha\cdot(1 - 1/(84\pi))$	$21\cdot(1 - 1/(84\pi))$	Ø.152663699
α^2, the second holder	$21\alpha\cdot r$	$21\cdot16/1836$	9.745 × 10^{-6}
α^3, the third holder	$21\alpha\cdot r^2$	$21\cdot16^2/1836^2$	6.2Ø × 10^{-10}
α^4, the fourth holder	$21\alpha\cdot r^3$	$21\cdot16^3/1836^3$	3.94 × 10^{-14}
α^5, the fifth	$21\alpha\cdot r^4$	$21\cdot16^4/1836^4$	2.5 × 10^{-18}
every order beyond the first, summed	$21\alpha\cdot r/(1 - r)$	–	9.746 × 10^{-6}

From the second row on, each row is the row above times r; the first step is the bare coupling times r, not the full repair. The fourth holder's cost is four parts in a hundred trillion of the electron's mass – two parts in a hundred million of a part per billion – and everything past the third order, summed, is the fourth to within six parts in a hundred thousand. The table is the chain made visible; the claim is the closed form, not the list.

The closed form. The tail is a geometric series with ratio r, which converges because r is six parts in a hundred thousand. Its sum is $21\alpha \cdot r/(1 - r) = 9.7459657 \times 10^{-6}$, against the truncated second-order term's 9.7453459×10^{-6}; the difference, 6.2×10^{-10}, is the third order and everything after it. The series converges; the closed form is written; KS-30.3 is paid on both its limbs. The family's law reads it back: a held grain multiplies rate by worth – here the worth is the hold's share of the whole, and it multiplies once per holder.

The readings the measurement kills, with their working. Three other translations were run, so that the paper shows what the stated sentence excludes rather than only what it gives; each is compared with CODATA 2022, whose central value sits 1.83×10^{-8} below the truncated formula. If the third holder's cost were a fresh share of the whole – the sixteen over 1836 once more, $\alpha^3 \cdot 21 \cdot 16/1836 = 7.1 \times 10^{-8}$ – the residual would grow to -8.9×10^{-8}, disfavoured at 2.8σ, and it is not what he said. If the third order were the exchange grid's own continuation, $4^3 = 64$ over the whole, $\alpha^3 \cdot 21 \cdot 64/1836 = 2.8 \times 10^{-7}$ – the reading the pre-registration of 2 August already excluded – the residual would be -3.0×10^{-7}, dead at 9.5σ; the chain avoids it because the third holder's share is of the repair, so its coefficient is $21 \cdot 16^2/1836^2 = 1.6 \times 10^{-3}$, not $21 \cdot 64/1836 = 0.73$. If "a share of the repair" meant the sixteen re-expressed through the four dimensions and divided by the repair's own sixteen – $\alpha^3 \cdot 21 \cdot 64/16 = 21 \cdot 4 \cdot \alpha^3 = 3.3 \times 10^{-5}$ – the term would be larger than the second-order term it follows, dead at a thousand sigma. And the sixteen re-expressed through the four dimensions as a share of the whole twice, $\alpha^3 \cdot 21 \cdot 64/1836^2 = 1.5 \times 10^{-10}$, is allowed at 0.6σ but is not in the stated reading. The chain he described is the reading that converges; the others are the corpses.

5 – The Proton, Sharper

What AP30 predicted. At first order, 1836.152663699, five parts per billion from the measurement. With the carried sixteen at second order, 1836.152673444 – the value the work froze on 2 August 2026 as its registered prediction D, at 0.57σ from CODATA 2022 – and a next term of unknown size, sign and coefficient, which the pre-registration bound the work not to choose against the residual.

What this paper predicts. With the sixteen decomposed and the series closed:

$m_p/m_e = 1836 + 21\alpha\cdot(1 - 1/(84\pi)) + 21\alpha\cdot r/(1 - r)$, $r = 16\alpha/1836$, = 1836.152673445.

Measured, CODATA 2022: 1836.152673426(32). Residual: -1.9×10^{-8}, which is –10 parts per trillion, –0.59σ. Against the independent H_2^+ value of 2025, 1836.152673414(47): –0.66σ. The prediction's own uncertainty, from α's, is 2×10^{-11}, thirteen parts in a quadrillion.

What this supersedes, and what changed. D, the frozen value of 2 August, is superseded by D_closed = 1836.152673444951, which references the pre-registration's digest and stands beside D, never in its place. What changed: the tail, $+6.2 \times 10^{-10}$, the third order and everything after it. The third-order coefficient is $c_3 = 21\cdot 16^2/1836^2 = +1.595 \times 10^{-3}$, sign positive, stated here in advance as the pre-registration requires; the measurement's own constraint on c_3, -0.047 ± 0.082, holds it at 0.6σ. The pre-registration noted that D lies above the measurement, so any term that closed the gap would have to be negative. The chain does not close the gap and does not try to: every holder adds, so the closed form sits 6×10^{-10} further from today's central value than D did, 0.57σ to 0.59σ. A negative term would be a coefficient chosen against the residual, which the work bound itself not to offer; the chain has none, and if the residual grows negative as the measurement sharpens, the chain has nothing with which to repair itself. That is what makes KS-HOLD.1 a switch and not a promise.

What became sharper. Not the digit – at the measurement's precision the two values are the same. What sharpened is the formula. The sixteen is a count with a reason, one rule with the proton's 84 and the neutron's 8. The series has a ratio and a sum; there is no truncation and no unknown next term. And the next term is known, with its sign: $+6.2 \times 10^{-10}$, with everything beyond it summed inside the closed form. AP30's open switch closes. The describing said the proton would have to become sharper; this is what that means in the formula's own terms.

The chain against the measurement. Two things move as the holders are added, and they are different things. The residual – the measurement minus the prediction – is what the sky says. The omitted structure – everything the truncated formula leaves out, which the closed form supplies – is what the structure says is still missing. The measurement's one sigma is 3.2×10^{-8}, and the table reads both against it:

Included	Predicted m_p/m_e	Residual, measurement minus prediction	Omitted structure still outstanding
the static structure only	1836.000000000	0.1527 – 4.8 million σ	0.1527 – 4.8 million σ
+ the repair (first order)	1836.152663699	9.73×10^{-6} – 304σ	9.75×10^{-6} – 305σ
+ the second holder (α^2), the frozen D	1836.152673444	-1.83×10^{-8} – –0.57σ	6.20×10^{-10} – 0.019σ
+ the third holder (α^3)	1836.152673445	-1.90×10^{-8} – –0.59σ	3.9×10^{-14} – 1×10^{-6}σ
+ the fourth holder (α^4)	1836.152673445	-1.90×10^{-8} – –0.59σ	2.5×10^{-18} – 8×10^{-11}σ
the closed form, all orders	1836.152673445	-1.90×10^{-8} – –0.59σ	none

This is how a prediction sharpens as structural omissions are accounted for, and why it is structural and not a fit. Each holder added removes what the previous truncation left out, by the same factor r, six parts in a hundred thousand: the static structure alone misses by nearly five million sigma; the repair brings it to three hundred; the second holder brings it inside the noise, to 0.57σ, where the measurement can no longer tell the formula from the truth. From there the residual does not move, because it cannot: the third holder shifts the prediction by 0.019σ and the fourth by a millionth of a sigma. The measurement's resolving power is fixed; the structure's omission keeps shrinking under it. The line between the second and third holder is where the chain passes beneath what the sky can see, and that is why the third holder is the registered prediction: it is the first term the structure gives that the measurement has not yet been able to test. When the measurement improves about fifty-fold, the third holder is on the table; at nearly a million-fold, the fourth. The formula has no further adjustment to make in the meantime, because the closed form has already spent them all.

In plain words. The proton is a record that costs something to keep. AP30 counted the record standing still and the cost of keeping it, and the cost of keeping the cost, and stopped there with a number it couldn't explain. This paper explains the number – the four things a record needs, each held through the three directions of space and through time, sixteen – and notices that the keeping never ends: each keeping is kept by the next, at the same small share, forever. Add that up and you get the proton's weight to the digit the best measurement has, with the next digit predicted, and its sign.

What it would take to see the third order, and the fourth – and to kill the closed form. The third-order term is three parts in ten thousand of a part per billion. The best measurement is good to seventeen parts per trillion. To resolve the term at one sigma the measurement must improve about fifty-fold; the fourth order would need nearly a million-fold. The kill comes first: with today's central value unchanged, the closed form is 3σ from the

measurement once the uncertainty reaches 3.4 parts per trillion – about five times today's precision – and 5σ at 2.1; the molecular-ion and Penning-trap programmes project that range within a few years. The prediction is registered now, before any such measurement exists; that is its whole point, and it is why the closed form, and not any single order, is the claim.

6 – What This Paper Does Not Claim

It does not claim the sixteen was derived before it was known. It was carried in AP30 from the data, and its reading was found on 6 September 2026, after; the paper says so.

It does not claim the third-order term can be tested now. It cannot; it is registered, with its sign. It does not claim the present -0.59σ residual means anything; it is noise until it isn't.

It does not claim the grid reading is wrong on the proton's number – it gives the same sixteen; it claims the neutron kills it and that it was refused.

It does not claim the chain's rule governs any site but the proton's series; the neutron's and G's higher orders are held open, not claimed.

It does not touch AP30's static layers, its first-order term, or its isotropic-leakage lemma; it does not touch α's value; it does not repair anything fired.

7 – Kill Switches

Two switches arm at this lock, and one of AP30's is paid.

KS-HOLD.1 — The closed form

Claim. $m_p/m_e = 1836 + 21\alpha\cdot(1 - 1/(84\pi)) + 21\alpha\cdot r/(1 - r)$, $r = 16\alpha/1836$: $D_{closed} = 1836.152673444951$, the third-order coefficient $c_3 = +21\cdot 16^2/1836^2 = +1.595 \times 10^{-3}$ with its sign stated in advance, all higher orders summed, with no free parameter. Supersedes the work's registered D of 2 August 2026 by reference to its digest, beside it and not in its place.

Test. Dies at 3σ once the proton-to-electron mass ratio is measured to 3.4 parts per trillion with the present central value unchanged – about five times today's precision – and at 5σ at 2.1 parts per trillion; the third-order term itself is resolved at about fifty times today's. Fires in either direction. No negative term exists in the chain with which to repair a growing negative residual, and none will be offered.

Status. LIVE — EMPIRICAL; the kill within the horizon the work's register gives as three to five years.

Recovery. The sixteen and its reading (§3) stand on the second-order data; the chain's rule (§4) retires; AP30's formula returns to its truncated form with KS-30.3 re-opened.

KS-HOLD.2 — The reading

Claim. A second-order support count in the work is its object through the four dimensional expressions: the proton's channels, 21 × 4; the neutron's pair, 2 × 4; the hold's conditions, 4 × 4.

Test. Fires if any second-order count in the family – at the neutron, at G, or at a site not yet written – is found to require its object squared, or its object through three dimensions, or any count not of this form.

Status. LIVE — STRUCTURAL.

Recovery. The sixteen stands on the measurement as a carried count; its reading retires to STATED; KS-30.3 re-opens on its first limb.

KS-HOLD.3 — The base of the chain

Claim. The second holder holds against the repair's bare coupling, 21α, and not against the repair net of its returned leak, $21\alpha\cdot(1 - 1/(84\pi))$: the chain's tail is $21\alpha\cdot r/(1 - r)$, which is AP30's own second-order term continued. The hold acts on the expression event – expression of structure pays – and the returned leak is not an expression.

Test. The two bases predict 1836.152673445 and 1836.152673408, 3.7×10^{-8} apart. CODATA 2022 sits between them, 0.59σ below the bare value and 0.56σ above the leaked one; it decides nothing yet. At ten times today's precision, 1.7 parts per trillion, the two are twelve sigma apart; at 3 parts per trillion, about seven. Fires if the measurement settles on the leaked value, or on neither.

Status. LIVE — EMPIRICAL; decided by the same measurements that test KS-HOLD.1.

Recovery. The sixteen and its reading stand; the chain's rule stands with the leaked base substituted, and D_closed is re-registered at the leaked value by dated note, never by edit.

KS-30.3 (AP30) — paid

Claim, as registered (AP30 §7, verbatim). "The perturbative series converges, with each successive order smaller by roughly a factor of α. The residual after all orders is ε operating recursively – the break maintaining itself at every scale – and must be finite." *Test, as registered.* "Compute the explicit $O(\alpha^2)$, $O(\alpha^3)$ forms and show they misbehave – do not shrink, or do not close." *Status.* PAID at the structural register on a stated rule: the chain is ruled in §4, the explicit forms of every order follow from it and are tabulated, the ratio is $r = 16\alpha/1836$ – smaller than α by 16/1836 – and the series converges by construction. The payment is a ruling and its consequence, not a computation from the mechanism, and is graded so in §0.4.

Why three

A switch on the sixteen's digit would be a switch on AP30's data, which already pins it. The closed form and its sign are KS-HOLD.1; the grammar is KS-HOLD.2; the chain's base is KS-HOLD.3, which the same measurements decide. Nothing else in the paper is a claim with an edge.

8 – What This Establishes and What Remains Open

What this paper closes. The sixteen: the four conditions of the record's repair, held through the four dimensional expressions, one rule with 84 and 8. The chain of holders: every order the previous times the repair's share, r = 16α/1836. The closed form of the proton formula, and KS-30.3 on both limbs. The proton predicted a second time, sharper: 1836.152673445, with the third order known and registered.

What this paper does not close. Whether the chain governs the higher orders at the neutron and at G. The mutual hold between two records – the deuteron's question – which the self-hold of this paper does not reach. The electron mass's absolute scale, AP30's own held-open item.

What moves on adoption. AP30: KS-30.3 → PAID; its §6 and §7 receive a dated note pointing to this paper for the sixteen's reading and the closed form; its §5's "CODATA 2022" label on the 2018 value corrected by the same note; its printed total 1836.15267344 is unchanged at its precision. The pre-registration of 2 August: a superseding entry, D_closed beside D, referencing the frozen file's digest, stating what changed and the sign of c_3; the register's proton row re-read to the closed form with its kill at 3.4 parts per trillion. KS-30.4 stands where the pre-registration's §6 left it; this paper does not touch it. The Master Kill Switch Registry: KS-HOLD.1, KS-HOLD.2, KS-HOLD.3 entered; KS-30.3 → PAID. The scoreboard: the proton line carries the closed form and the registered third order. Ø Frozen Predictions: the proton's second prediction, with its date, its sign, and its switch.

The closing. A record is held, not closed. The holding costs, the holding of the holding costs the same, and it never stops. Count it and the proton's formula is closed, with the next digit written down, its sign beside it, waiting for a measurement that can see it. Nature agrees, or nature doesn't. That is all that matters.

Dated notes

7 September 2026. One matter of record. Nothing in the body is altered. §3's two fours – the four conditions the thing held, the four dimensions what they are held through – are, by AP10, one four in two roles: the four dimensions are the four axioms' own faces. The sixteen is the four conditions of a record held in three dimensions over time, 4 × (3 + 1); a requirement held through a direction is a product whether or not the direction is the requirement's own face. Multiplied, never collapsed; the grid reading stays dead on the neutron's eight. §0.2's pointer "AP30 §5" reads §6: the measured value's label sits in AP30 §6.

Claim Summary

Section 0. Contract with the reader; the two things said first – the sixteen carried and pinned before its reading, the third order given blind with its sign in advance.

Section 1. DEFINITIONAL. Section 2. CANON and MEASUREMENT: AP30's formula; 15.97 ± 0.05; 4 × 4 forced.

Section 3. RULED. The record held through room and time; the family's grammar, with the sixteen a share and the 84 and the 8 divisors; AP47's retired identification not revived; the neutron's 8 as the discriminator; the grid reading refused and dead; the 84 × 4 reading refused on the words with no discriminator yet; the Clifford sixteen noted from outside the grammar.

Section 4. RULED, blind; DERIVED. The chain of holders, its base ruled in the sentence; r = 16α/1836; the geometric tail, order by order; the closed form; four other readings with their working – two dead, one disfavoured, one allowed and not in the words.

Section 5. DERIVED; REGISTERED. 1836.152673445 against CODATA 2022, –10 ppt, –0.59σ; D of 2 August superseded by reference, what changed and the sign stated; the third order $+6.2 \times 10^{-10}$; what sharpened; the kill at 3.4 ppt.

Sections 6–8. REFUSALS; three switches and one paid; SYNTHESIS.

Conditionality Footer

Everything above is conditional on the axiom and its locked developments, and is exactly as strong as they are. If AP30's static layers or its first-order term fall, the closed form falls with them. If AP47's 8 falls, the neutron no longer discriminates the sixteen's two readings and KS-HOLD.2 retires. If the measurement, sharpened to 3.4 parts per trillion with its central value unchanged, sits 3σ from the closed form, KS-HOLD.1 fires and the chain's rule retires while the sixteen stands on the second-order data. If the measurement settles on the leaked base, KS-HOLD.3 fires and D_closed is re-registered at that base by dated note.

Dependencies. Ø Dissolutions. AP30 (§§3–8; KS-30.3). AP47 (the pair's eight). AP44 (the family's law). AP10, AP20 (the four dimensions). AP24, AP28. CODATA 2022.

Dependents. AP30 (its switch paid; its dated note). The Master Kill Switch Registry. The scoreboard. Ø Frozen Predictions.

Kill switches closed by this paper. KS-30.3 (paid).

Kill switches that remain live in this paper. KS-HOLD.1, KS-HOLD.2, KS-HOLD.3.

Structural debts owed. None new.

Items held open without claiming debt status. The chain at the neutron and at G. The electron mass's absolute scale.

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