

Addendum 284: The Edge-Weighted Comma

The amplitude correction bracketed: edge exclusion vs $1/44$;
the 0.1-ppb discriminator

TOE Corpus

2026-06-10

Skill: gap-closure v1.1 — **Outcome:** Case B (two candidates inside instrument resolution; leading candidate by motivation only; discriminator stated) — **Addresses:** OI-283-1 (kept open, sharpened) — **Verifier:** `verify_P284.py` — all PASS

Abstract

A283 measured the oscillation amplitude as $A = c\kappa$ with $c^2 = \text{obs}/\text{pred} = 0.977561$ (CODATA-18) and 0.977263 (CODATA-22). A systematic scan of corpus-natural correction factors finds exactly two candidates inside the CODATA edition spread (3.0×10^{-4}):

candidate	value	vs 2018	vs 2022
$1 - \pi/\Omega$ (edge exclusion)	0.977075	-4.9×10^{-4}	-1.9×10^{-4}
$1 - 1/44$	0.977273	-2.9×10^{-4}	$+1.0 \times 10^{-5}$

(All others miss by 10^{-3} or worse.) The *edge exclusion* reading has independent physical standing: A281 established that observation vanishes at the universe boundary, and P04’s edge fraction $\pi/\Omega = 2.2925\%$ is precisely the sector where observation runs out — a measured average of the oscillating coupling would then be collected over the observed fraction $1 - \pi/\Omega$ only, giving deficit $= \frac{\kappa^2}{2}(1 - \pi/\Omega)$ with *no new constants*. The $1/44$ reading has a better 2022 fit and no motivation. Per PSLQ-honesty neither is promoted: **the correction factor is bracketed at 0.9773 ± 0.0002 and the identification is below the corpus bar at current experimental precision**. The discriminator is quantitative: the two candidates differ by 2.0×10^{-4} in c^2 , i.e. 4.5×10^{-10} in α^{-1} — a ~ 0.1 -ppb α measurement (one order beyond current) decides, and a CODATA drift of one more edition may already. For the record: under the edge candidate the corpus’s closed-form prediction $\alpha^{-1} = \Omega \sqrt{1 - \kappa^2(1 - \pi/\Omega)} = 137.035999236$ sits 5.9×10^{-8} ($2.8\sigma_{\text{exp}}$, 0.43 ppb) from CODATA-22 — the corpus’s most precise contact with experiment, carried entirely by derived quantities, and explicitly *not* claimed as exact. OI-283-1 remains open in sharpened form: derive the averaging weight (prove or refute edge exclusion).

Proposition 0.1 (The scan). *Among corpus-natural single corrections to $A = \kappa(1 - \pi/\Omega, 1 - 1/44, 1 - \kappa, 1 - 2\kappa, 1 - \alpha, (1 - \kappa)^{10}, 1 - \Delta E/\Omega, 31/32)$, exactly the two tabled above fall within the CODATA edition spread of the required c^2 ; the rest miss by $\geq 10^{-3}$. Verified at 40 digits.*

Remark 0.2 (Why edge exclusion is the leading candidate — and why that is not enough). *The mechanism requires no invention: P03 supplies the oscillation, A283 the averaging, A281/P04 the fact that the edge sector is unobserved. “The measured coupling is the oscillation average over the observed sector” is a one-line synthesis of three filed results, and it lands within 1.9×10^{-4} of the CODATA-22 requirement. But $1 - 1/44$ lands closer still, and 44 has no derivation (the A44 Jordan cycle shares only the numeral; A255 discipline forbids the conflation). When an unmotivated integer beats a motivated structure inside the error bar, the honest statement is a bracket, not a claim.*

Remark 0.3 (The prediction, recorded conditionally). *Under edge exclusion the corpus predicts, with zero adjustable parameters: $\alpha^{-1} = \Omega\sqrt{1 - \kappa^2(1 - \pi/\Omega)}$. Numerically 137.035999236 vs CODATA-22 137.035999177(21): +0.43 ppb, $2.8\sigma_{\text{exp}}$. Should future editions move toward it, the edge reading strengthens; away, it dies. Either way the corpus now owns a falsifiable sub-ppb statement about the most precisely measured constant in physics — conditional, dated, and filed before the data that will judge it.*

Verifier. `verify_P284.py`: the scan (all eight candidates against both editions); the bracket; the two survivors' separations; the conditional prediction and its σ -distance; the discriminator arithmetic. All PASS.