TFPT Prediction: Running Electromagnetic Scheme Projection at the Z Pole

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Standalone prediction note – April 27, 2026

Abstract

This note isolates the Z-pole electromagnetic scheme projection. It is not the primary electromagnetic theorem row; it is a declared projection of the closed alpha(0) output.

Prediction scope and audit

Target. $\bar{\alpha}^{(5)}(M_Z)^{-1} = 127.9405$
Status. Scheme projection; not a primitive observable.
Dependency class. threshold/scheme projection T_{phys}
Kill or pressure test. persistent mismatch after declared Standard-Model threshold map.

1 Standalone Minimal Kernel

Minimal TFPT kernel used in this prediction

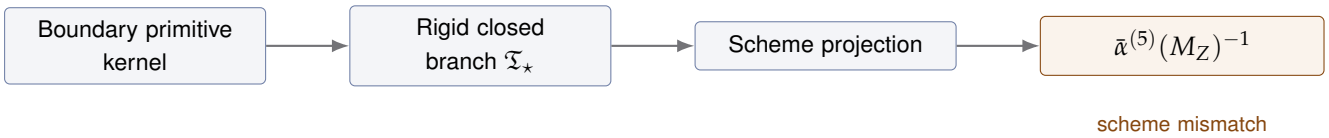
The standalone input package is the boundary-polarized closed branch

$$\mathfrak{S}_{\mathrm{min}} \Rightarrow \mathcal{B}_{\mathrm{min}} \Rightarrow \mathfrak{T}_{\partial}^{\mathrm{min}} \Rightarrow (\tau_{\mathrm{dbl}}, \iota_C, P_{\mathrm{prim}}, [u_\Sigma], c_3) \Rightarrow d^{\star}_{\mathrm{disc}} \Rightarrow P_{\mathrm{adm}} \Rightarrow \mathfrak{T}_{\star}.$$

The prediction uses only the sector map named in its audit box. Numerical comparison conventions are not theorem inputs; they enter only at the final interface row.

The paper is intentionally one-row: it does not reprove the full TFPT series. It states the minimal closed-branch input needed for this prediction, shows the sector map, and gives the direct failure mode. The source status follows the TFPT 4.5 split: boundary and carrier inputs are core, electromagnetic/flavor/metrology inputs are bridge readouts, QFT closure is conditional, and cosmology rows are downstream comparison targets when explicitly marked.

2 Dependency Graph



This row projects the exact alpha(0) readout through a declared scheme map.

3 Derivation

The physical electromagnetic input is the exact closure value

$$\alpha^{-1}(0) = 137.0359992168\ldots.$$

The Z-pole comparison row is obtained only after the declared scheme map

$$\mathcal{R}_{\mathrm{SM}}[\alpha(0)]$$

is applied. The representative in the ledger is

$$\bar{\alpha}^{(5)}(M_Z)^{-1} = 127.9405.$$

Its status is therefore scheme projection, not a separate primitive prediction.

4 No-Knobs and Failure Surface

No-knobs audit

The row must not be used as an independent fitting input. It is downstream of alpha(0) and the declared threshold convention.

5 Minimal Submission Claim

The standalone claim is limited to the displayed target and dependency class. It does not assert that every comparison row of the full TFPT ledger has the same proof status. Any update of the upstream boundary kernel, carrier theorem, or sector map must be propagated into this prediction before the numerical row is distributed.

References

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