TFPT Prediction: No Second Light Seam-Even Higgs Doublet

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Standalone prediction note – April 27, 2026

Abstract

This note isolates the no-second-light-Higgs kill test. It is a structural consequence of the compact bosonic index and carrier/Higgs closure.

Prediction scope and audit

Target. no additional seam-even light doublet
Status. Kill test of the bosonic-index route.
Dependency class. compact Higgs index / carrier packet
Kill or pressure test. robust discovery of a second light seam-even Higgs doublet.

1 Standalone Minimal Kernel

Minimal TFPT kernel used in this prediction

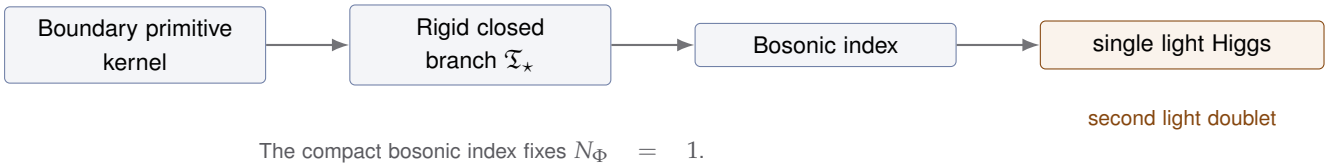
The standalone input package is the boundary-polarized closed branch

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

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



The compact bosonic index fixes $N_\Phi = 1$.

3 Derivation

On the carrier branch the compact bosonic index fixes the determinant class

$$(c_1(L_2), c_1(L_3)) = (1, 0),$$

with exactly one weak doublet and no unavoidable light color triplet. Equivalently,

$$N_\Phi = 1.$$

The prediction is therefore a prohibition:

no additional seam-even light Higgs doublet on the minimal branch.

4 No-Knobs and Failure Surface

No-knobs audit

A robust discovery of a second light seam-even Higgs doublet would falsify the bosonic-index route used by the present carrier/Higgs closure.

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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