

Seven Channels That Could End This, and the Number Each One Turns On

Where the twenty-eight are exposed. Seven channels, each with the quantitative prediction it makes, the companion paper that carried it to a number, and the measurement that would end it. A falsification map is only as good as the sharpness of its entries, and these entries are sharp because the downstream companions carried them to numbers: before those papers existed the same table would have been a list of directions rather than of tests. The three pages before this one say what the framework delivers; this one says what it costs to be wrong. In full, with the timeline on which each channel can be decided: Table 70, p. 397.

Channel	Origin in GG-6/GDOS	Quantitative prediction	pre-	Carried by	What counts as failure
F-SM-1 Lock cluster	Lock-scale throat, $K = 35$	graviton + two Abelian vectors at $M_{\text{lock}} \simeq 3.85 \text{ TeV}$	g^* terminated	GG-P1-KK	Tier 1: the octet line excluded — decided on Run-3 data on expectation; Tier 2: spin-2 anchor at FCC-hh (T-KK-2c)
F-SM-2 Kaxion	Boundary dual of the BI-6 tensor	$m_a = 8.1 \mu\text{eV}$ (1.95 GHz), saturating Ω_{dm}		GG-C1-Kaxion, GG-A10-Cosmos	window excluded at derived coupling, or relic $\neq 1/\pi - 1/(2\pi^2)$
F-SM-3a–3e Neutrinos	Rank-2 Majorana block + lepton projector	NO (3a), $m_{\beta\beta} \simeq 1.8 \text{ meV}$ (3b), $\sum m_\nu \simeq 59 \text{ meV}$ (3c), $\delta_{\text{PMNS}} \simeq 196^\circ$ (3d), upper octant (3e)		GG-A9-SM (in paper)	converged ν data incompatible with the package
F-SM-4 Proton	exact global B , boundary-terminated $U(1)_B$	$\tau_p = \infty$; $\Delta B = 1, 2$ forbidden		GG-A9-SM, GG-A5-GDOS	any single $\Delta B = 1$ or $\Delta B = 2$ event
F-SM-5 Fifth force	Terminated $U(1)_B$: no vector below M_{lock}	absence: $\eta = 0$ at any range, any precision		GG-P1-KK, P7-5thF	any confirmed composition-dependent force, at any range
F-SM-6 Dark energy	GA fixed point of the GRIP cascade	$w = -1$ exact, two-sided ($ 1+w \lesssim 10^{-91}$)		GG-A6-GRIP (Lemma DE-1), GG-A10-Cosmos (T-Cosmos-DE')	any confirmed $w \neq -1$, either sign (e.g. a converged evolving-dark-energy detection)
F-SM-7 Lep-togenesis	Majorana door at M_{lock} ; parity $\alpha_{31} = \pi$	$\eta_B \approx 5 \times 10^{-10}$, band $(1.6\text{--}15) \times 10^{-10}$		GG-A9-SM (Part VIII), GG-A10-Cosmos	a finite-temperature transport computation returning the N -width or $g^2 T$ regulator class, or an unclosable window deficit