

Ten Numbers the Ledger Alone Predicts, Against What Experiment Measures

Sharp numerical predictions from OGN-5 alone. These are the entries on which the framework is most directly exposed to measurement, and the Agreement column states the exposure honestly at two levels. The leading predictions use nothing but the ledger integers: $\alpha^{-1}(M_Z) \simeq 2^J = 128$ and $\alpha^{-1}(0) \simeq 2^J + N^2 = 137$, both correct to three significant figures with no fitted quantity anywhere. The refined entries add the quantum-defect correction derived in GG-A9-SM and reach six significant figures. The distinction between the leading and the corrected rows is deliberate: the first are theorems of this paper's ledger, the second inherit a companion paper's calculation. The same table, in place: Table 20 in Part VIII, p. 143.

Quantity	GG-prediction	Empirical value	Agreement
$\alpha^{-1}(M_Z)$ leading	$2^J = 128$	~ 128	3 sig. figs.
$\alpha^{-1}(M_Z) + \text{QD (GG-A9-SM)}$	$128 - N^2/2^J = 127.9297$	127.930(8) (GG-A9-SM benchmark)	6 sig. figs., pull -0.03
$\alpha^{-1}(0)$ leading	$2^J + N^2 = 137$	~ 137	3 sig. figs.
$\alpha^{-1}(0) + \text{QD (GG-A9-SM)}$	≈ 137.036	137.035 999 ... (CODATA)	6 sig. figs. (GG-A9-SM)
$\sin^2 \theta_W$	$25/108 = 0.23148$	0.23155 ± 0.00004 (GG-A9-SM)	0.030%, pull -1.70
E_{Ry}	$\alpha^2 m_e c^2 / 2 \approx 13.606 \text{ eV}$	13.6057 eV	5 sig. figs.
Q_B	$\approx 0.1555 \text{ eV per qubit}$	$\approx 0.16 \text{ eV (biology)}$	2 sig. figs.
$N_A Q_B$ (molar)	$\approx 15.0 \text{ kJ/mol}$	$\sim 15 \text{ kJ/mol (ATP)}$	2 sig. figs.
$M_{\text{lock}}/M_{\text{Pl}}$	$\frac{1}{2}e^{-K} = \frac{1}{2}e^{-35} \approx 3.2 \times 10^{-16}$	$\sim 10^{-16}$	order of magnitude
Ω_m, Ω_Λ	$1/\pi, 1 - 1/\pi$	0.315, 0.685 (Planck)	2%