

28 Free Parameters, One Geometry

Quantity	GG-6-Theory closed form	First order	Measured	Dev	Pull
Five primary gauge-Higgs attractor coordinates					
$\alpha^{-1}(M_Z)$	$2^J = 128$	128.0	127.930(8)	+5.5e-4	+0.99
$\sin^2 \theta_W(M_Z)$	$L^2/4N^3 = 25/108$	0.23148	0.23155(4)	-3.0e-4	-1.70
quoted without the lock-scale electroweak tower, which would move $\sin^2 \theta_{\text{eff}}$ by -1.9% (O_{22})					
$\alpha_s(M_Z)$	$1/\pi e$	0.11710	0.1180(9)	-7.6e-3	-0.70
v [GeV]	$M_{\text{lock}} (2/L)^N$	246.33	246.220	+4.5e-4	+1.00
m_H [GeV]	$\sqrt{2\lambda_H} v, \lambda_H = 1/8$	123.17	125.10(9)	-1.5e-2	-0.95
Four derived electroweak observables					
G_F [10^{-5} GeV^{-2}]	$1/(\sqrt{2} v^2)$	1.1653	1.16638	-9.1e-4	-1.00
$\alpha^{-1}(0)$	$2^J + N^2 = 128 + 9$	137.0	137.036	-2.6e-4	-1.00
m_W [GeV]	$\frac{1}{2} g_2 v$	80.21	80.369	-2.0e-3	-0.99
m_Z [GeV]	$\frac{1}{2} v \sqrt{g_2^2 + g_Y^2}$	91.50	91.188	+3.4e-3	+1.01
Three charged-lepton masses					
m_e [MeV]	$(v/\sqrt{2}) N/(L^3 2^{J+L+1})$	0.51030	0.51100	-1.4e-3	-0.88
m_μ [MeV]	$(v/\sqrt{2}) L/2^{J+L+1}$	106.31	105.658	+6.2e-3	+0.98
m_τ [GeV]	$(v/\sqrt{2}) N_g J/2^{J+N_g+1}$	1.7861	1.77693	+5.1e-3	+1.09
Cabibbo angle (first CKM mixing)					
$\sin \theta_{12}^{\text{CKM}}$	$ e^{-\pi/2} - e^{i3\pi/5} e^{-\pi} $	0.22502	0.22501	+3.8e-5	+0.01

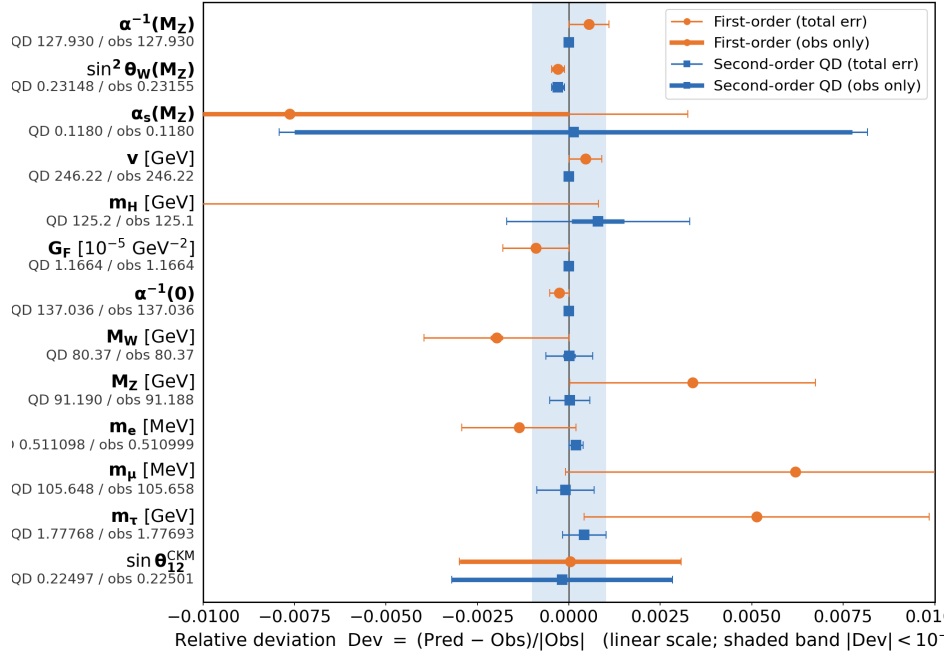


Figure 1: The thirteen most sharply benchmarked, at a glance — not free inputs, but observables of one open-system projection (§1.1). The full 28-parameter audit follows on the next page. The bars are relative deviations from the benchmark values, and the thirteen were selected for the sharpness of their measurement rather than for the closeness of their agreement. The figure is a summary and not an argument: the derivation of every entry, with its status and its uncertainty, is in the Part named beside it.