

# 59 = a small number...

## Theory

$$\mathcal{O}_{LL,RR,LR}^{ff'} \equiv \frac{J_f^\mu J_{f',\mu}}{m_W^2}$$

$$\mathcal{O}_{L,R}^{f(3)} \equiv \frac{J_h^\mu J_{f,\mu}}{m_W^2} \quad 4q+1$$

$$\mathcal{O}_{W,B} \equiv \frac{J_{h,\mu} J_{W,B}^\mu}{m_W^2} \quad 2$$

$$\mathcal{O}_T \equiv \frac{J_h^\mu J_{h,\mu}}{m_W^2} \quad 1$$

$$\mathcal{O}_{HB,HW} = \frac{ig'}{m_W^2} (D_\mu H)^\dagger (D_\nu H) V_{V=W,B}^{\mu\nu} \quad 2$$

$$\mathcal{O}_{\gamma,g} = \frac{g_{\gamma,g}^2 |H|^2}{m_W^2} (F_{\gamma,g}^{\mu\nu})^2, \quad 2$$

$$\mathcal{O}_y^f = \frac{y_f}{v^2} |H|^2 \bar{f}_L H f_R \quad 3$$

$$\mathcal{O}_H = \frac{(\partial^\mu (H^\dagger H))^2}{2v^2} \quad 1$$

## Experiments

$$(\text{LEP-II} + \text{LHC})^{\text{High-E}} \quad \text{Diagram: } \begin{array}{c} \text{elliptical loop} \\ \diagup \quad \diagdown \\ \text{two external lines} \end{array} \sim \frac{E^2}{m_W^2}$$

$$\text{LEP-I}^{(\text{leptons})} + \text{LHC}^{(\text{Mw})} \quad \text{Diagram: } \begin{array}{c} \text{elliptical loop} \\ \diagup \quad \diagdown \\ \text{one wavy line} \end{array}$$

$$\text{LEP-I}^{(\text{hadrons})}$$

$$\text{KLOE}^{(\text{beta-decay})} \quad \text{Diagram: } \begin{array}{c} \text{elliptical loop} \\ \diagup \quad \diagdown \\ \text{one wavy line} \end{array}$$

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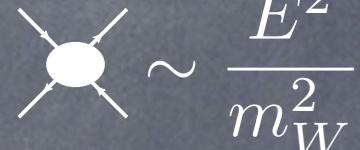
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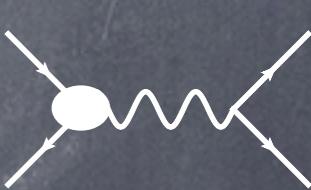
(LEP-II + LHC)<sup>High-E</sup>



LEP-I<sup>(leptons)</sup> + LHC<sup>(Mw)</sup>



LEP-I<sup>(hadrons)</sup>



KLOE<sup>(beta-decay)</sup>



LEP-II<sup>(ee->WW)</sup>



LHC<sup>(Higgs)</sup>