

59 = a small number...

Theory

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

$$\mathcal{O}_{L,R}^{f(3)} \equiv \frac{J_h^\mu J_{f,\mu}}{m_W^2} \quad 4^9 + 1^1$$

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

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


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

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

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

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

Experiments

(LEP-II + LHC)^{High-E}  $\sim \frac{E^2}{m_W^2}$


LEP-I^(leptons) + LHC^(Mw)



LEP-I^(hadrons)

KLOE^(beta-decay)



LEP-II^(ee->WW) 

LHC^(Higgs)

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hgg, hγγ

hf̄f

hVV

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LEP-I (hadrons)

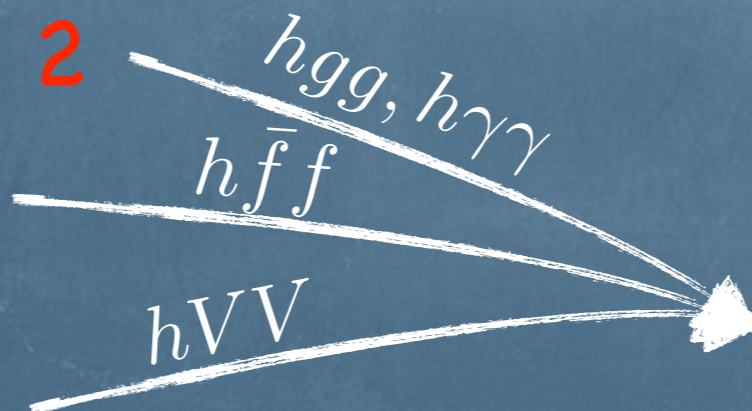
KLOE (beta-decay) 

LEP-II (ee → WW) 

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$hgg, h\gamma\gamma$
 $h\bar{f}f$
 hVV

LHC (Higgs)