

VBFNLO

start

WHY

- To generate the spin2 Higgs and see the difference from spin0 model

Higgs

$$\mathcal{L}_{\text{singlet}} = \frac{1}{\Lambda} T_{\mu\nu} \left(f_1 B^{\alpha\nu} B^\mu{}_\alpha + f_2 W_i^{\alpha\nu} W^{i,\mu}{}_\alpha + 2f_5 (D^\mu \Phi)^\dagger (D^\nu \Phi) \right)$$

$$\mathcal{L}_{\text{triplet}} = \frac{1}{\Lambda} T_{\mu\nu,j} \left(f_6 (D^\mu \Phi)^\dagger \sigma^j (D^\nu \Phi) + f_7 W^{j,\mu}{}_\alpha B^{\alpha\nu} \right)$$

What I am doing

- The singlet S2-Higgs decays to two gamma (done)
- The SM Higgs decays to two gamma (running)
- Moving everything to ATLASUI

Next

- Learn the theory
- Change the parameter
- MSSM