Experimentally inspired parametrization ("effective")

- σ(gg) BR(WW)
- σ(VBF) / σ(gg)
- BR(γγ) / BR(WW)
- BR(bb) / BR(WW)

- σ(WH) / σ(VBF)
- σ(WH) / σ(ZH)
- BR(ZZ) / BR(WW)

- BR(ττ) / BR(bb)

SM-inspired parametrization ("fundamental")

The exhaustive list of degrees of freedom (as far as I can tell) is:

- g_W g_Z, g_b, and g_τ
  - Closely related to the experimental outcome (in varying degrees).
  - g_W and g_Z are linked via SU(2).
  - g_b and g_τ are linked via fermion symmetries.

- g_{top}
  - Not so closely related to the experimental outcome.

- Total width
  - Likely only an upper limit if the width is the SM one.
  - Sets limits on invisible width if we assume g_charm

- g_{charm}
  - Undetected; requires an assumption in every case.
  - Linked with other fermions
  - When g_b and g_τ are released, lump it up with an invisible/undetectable width?

- BSM "plugins"
  - allowance for new particles in the gluon/gamma loops (2 parameters)
  - allowance for invisible width (1 parameter) (but 100% anti-correlated with g_{charm} assumption)

This topic: Main > CouplingsGalore
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