

Summary of combinations: SM/anomalous H couplings (spin/ CP)

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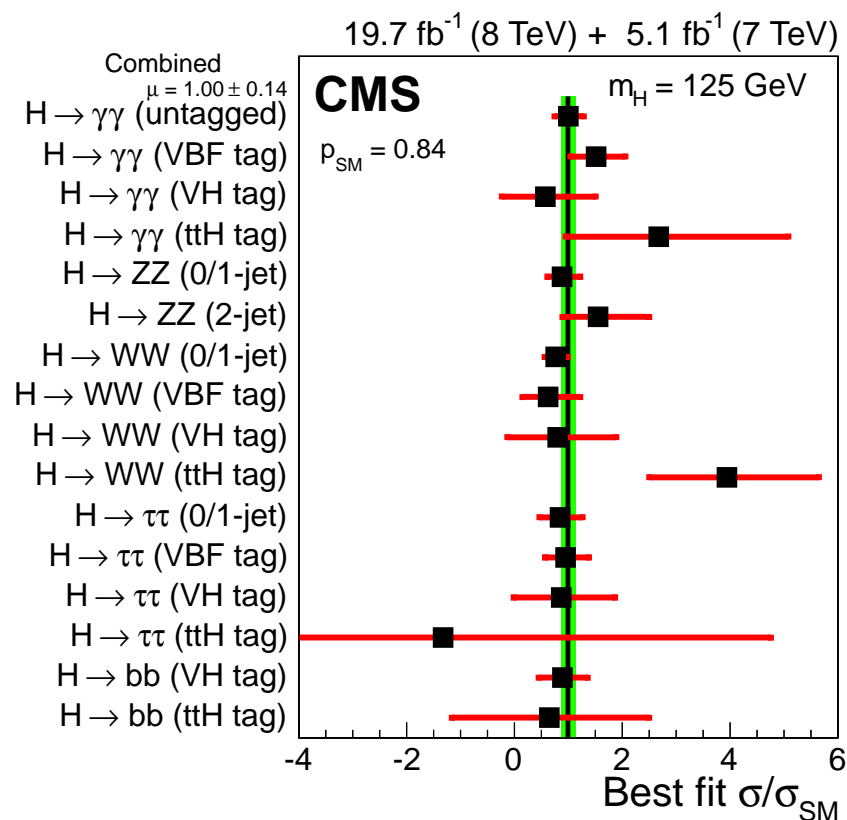
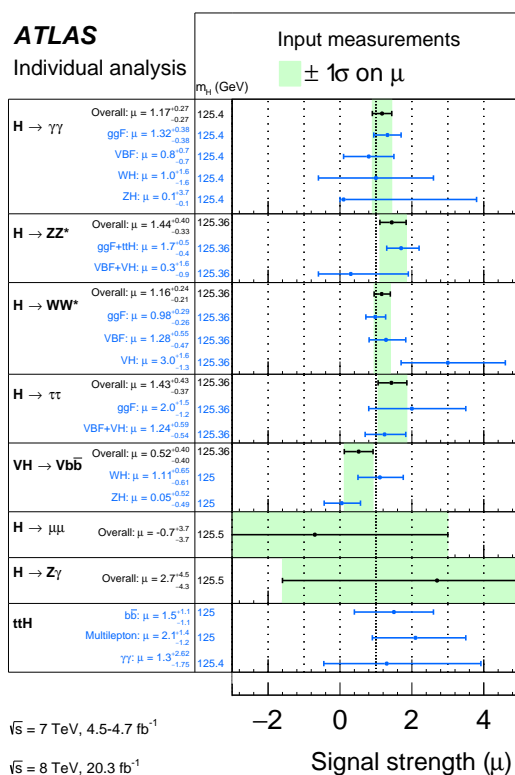
Signal Strength ($\mu_i = \sigma_i / \sigma_i^{\text{SM}}$)

- Production and decay modes

- is the coverage optimal? (for theory, for experiment...)
- where can we expect (or need) improvements beyond $\mathcal{L}(\text{pp})$? (theory, exp)
- is the language of μ_i appropriate in the longer run?
- fiducial / differential vs "derived" measurements?

arXiv:1507.04548

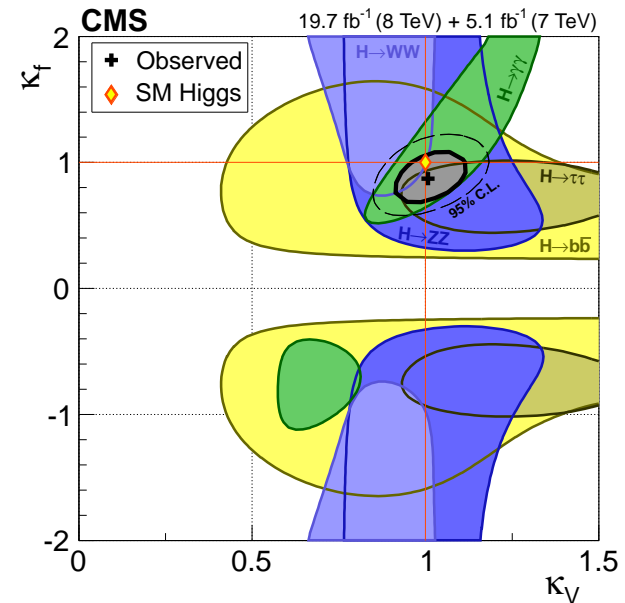
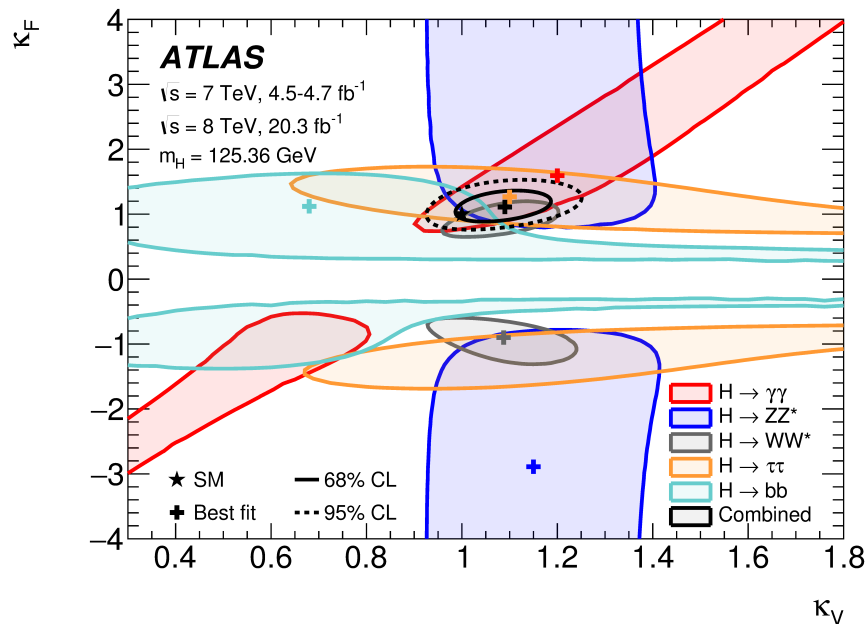
arXiv:1412.8662



Coupling Strength ($\kappa_i = A_i/A_i^{\text{SM}}$)

- Coupling strength modifier

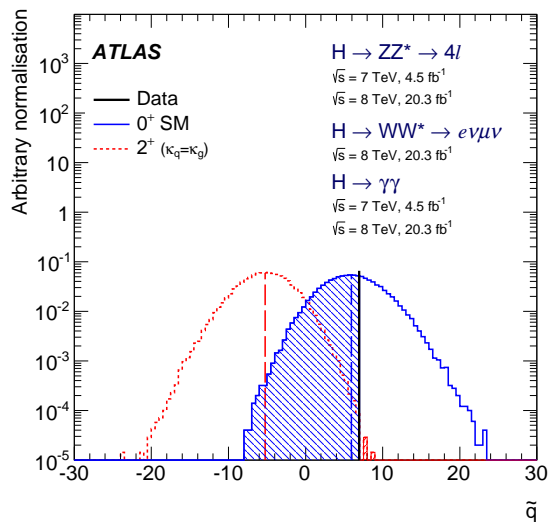
- is the list of κ_i appropriate (for theory, for experiment)
- where can we expect (or need) improvements beyond $\mathcal{L}(pp)$?
- is the narrow width approximation sufficient and what do we learn from off-shell?
- is the language of κ_i appropriate in the longer run?
- when do we merge with the tensor structure (next slides)?



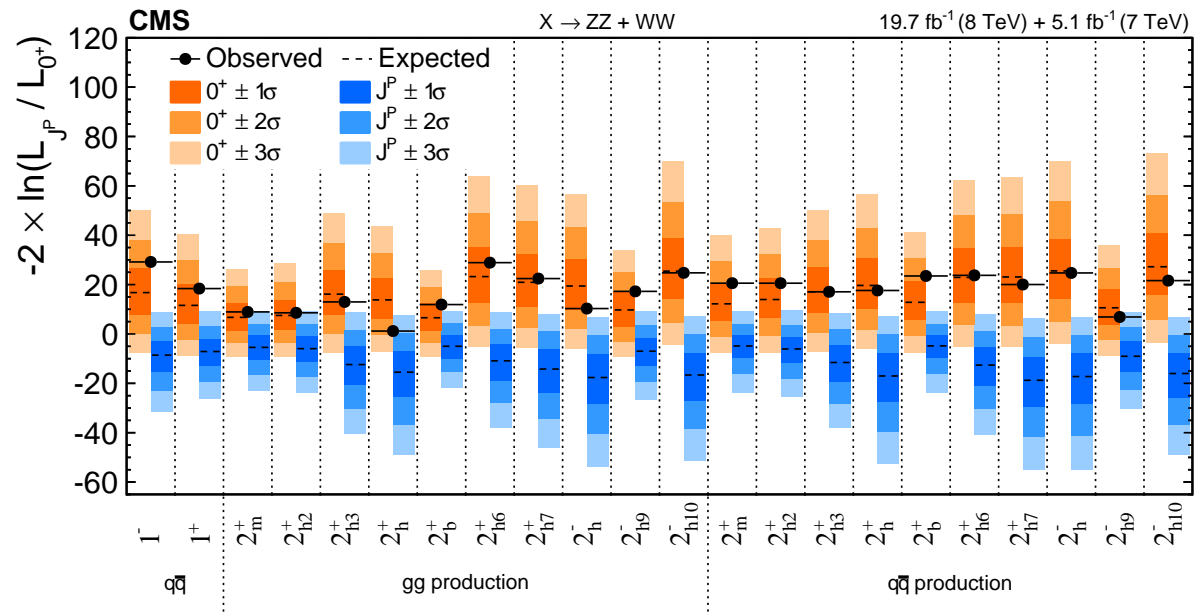
Exotic Spin > 0

- Do we close on any spin > 0 ?
 - is spin-1 interesting ($X \rightarrow ZZ, WW$)?
 - minimal coupling gravity-like $X_{\mu\nu} T^{\mu\nu}$ (energy-momentum)
 - universal couplings vs production-independent?
 - beyond minimal?
 - Combination of ATLAS+CMS?

arXiv:1506.05669



arXiv:1411.3441



Spin-0 Anomalous Couplings and CP

- HVV anomalous couplings and CP

- is the list of tensor structures sufficient, when to go beyond?
- associate and off-shell production vs decay? massive vs massless V
- what is the theoretical target?

- Hff anomalous coupling = CP

- $Ht\bar{t}$, $Hb\bar{b}$, $H\tau\tau$, what is possible and when?
- what is the theoretical target?

Combination of ATLAS+CMS?

$$HV^\mu V_\mu$$

$$\square HV^\mu V_\mu$$

$$HV^\mu \square V_\mu$$

$$HV^{\mu\nu} V_{\mu\nu}$$

$$HV^{\mu\nu} \tilde{V}_{\mu\nu}$$

