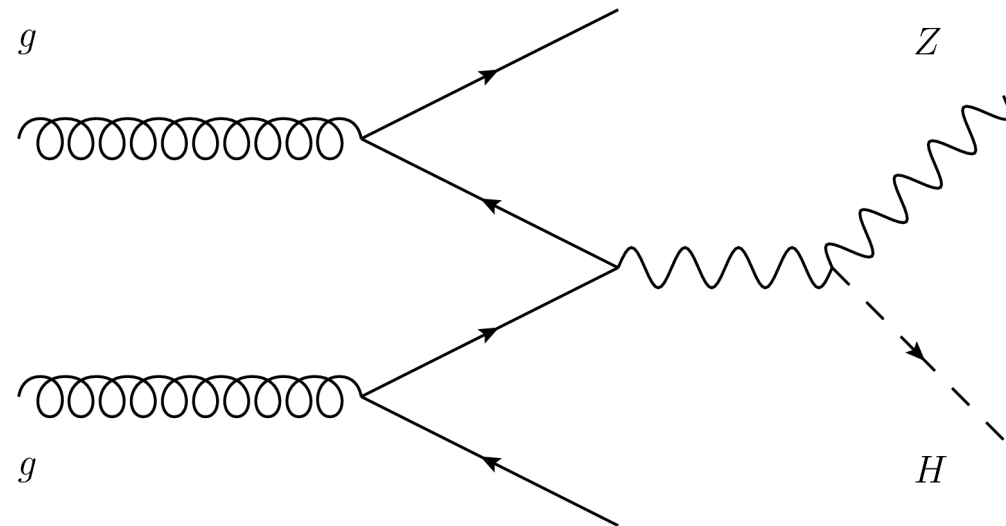
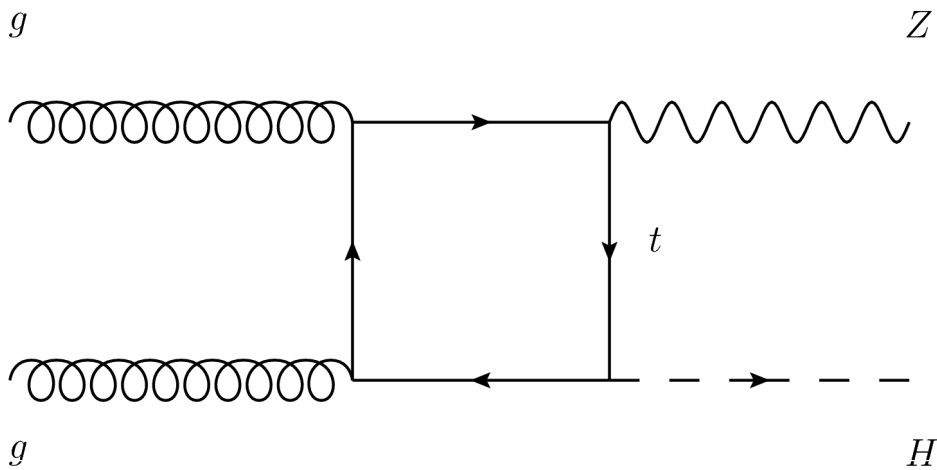


ZH production

Fully differential NNLO calculation available [arXiv:1407.4747](https://arxiv.org/abs/1407.4747) [Ferrera, Grazzini, Tramontano]

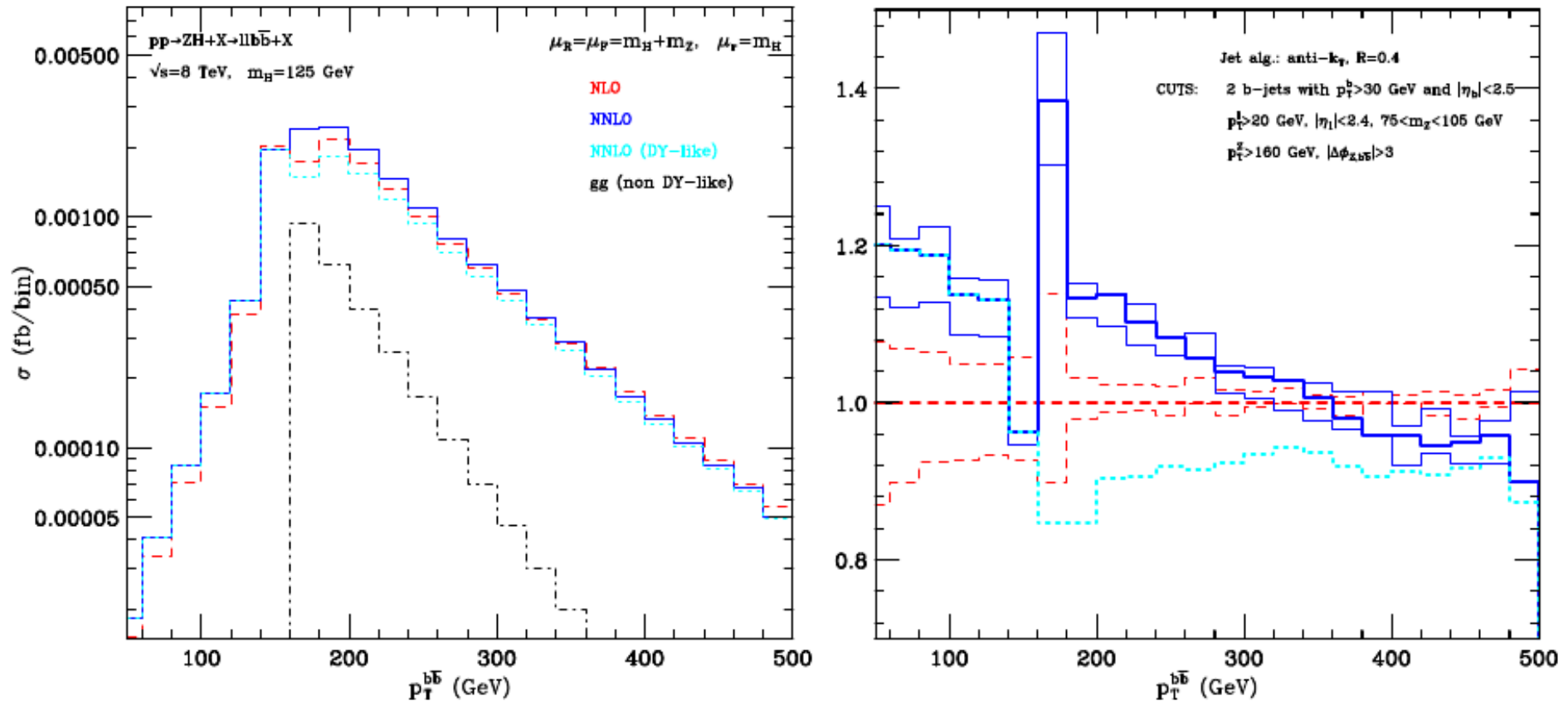
At $O(\alpha_s^2)$ gg initiated channel is opened

- A fully consistent prediction can only be obtained by including all the contributions at this order (the same consideration applies to the next order)



- Scale variations among different contributions compensate:
 → not reliable estimation of theoretical uncertainty

σ (fb)	NLO	NNLO (DY-like)	NNLO
LHC8	$0.2820^{+2\%}_{-2\%}$	$0.2574^{+3\%}_{-4\%}$	$0.3112^{+3\%}_{-2\%}$
LHC14	$0.2130^{+10\%}_{-12\%}$	$0.1770^{+7\%}_{-6\%}$	$0.2496^{+5\%}_{-2\%}$



Higgs candidate p_T distribution at LHC8

- Significant changes comes from all α_s^2 contributions
- For the theoretical error we suggest to take the distance among NNLO and NLO