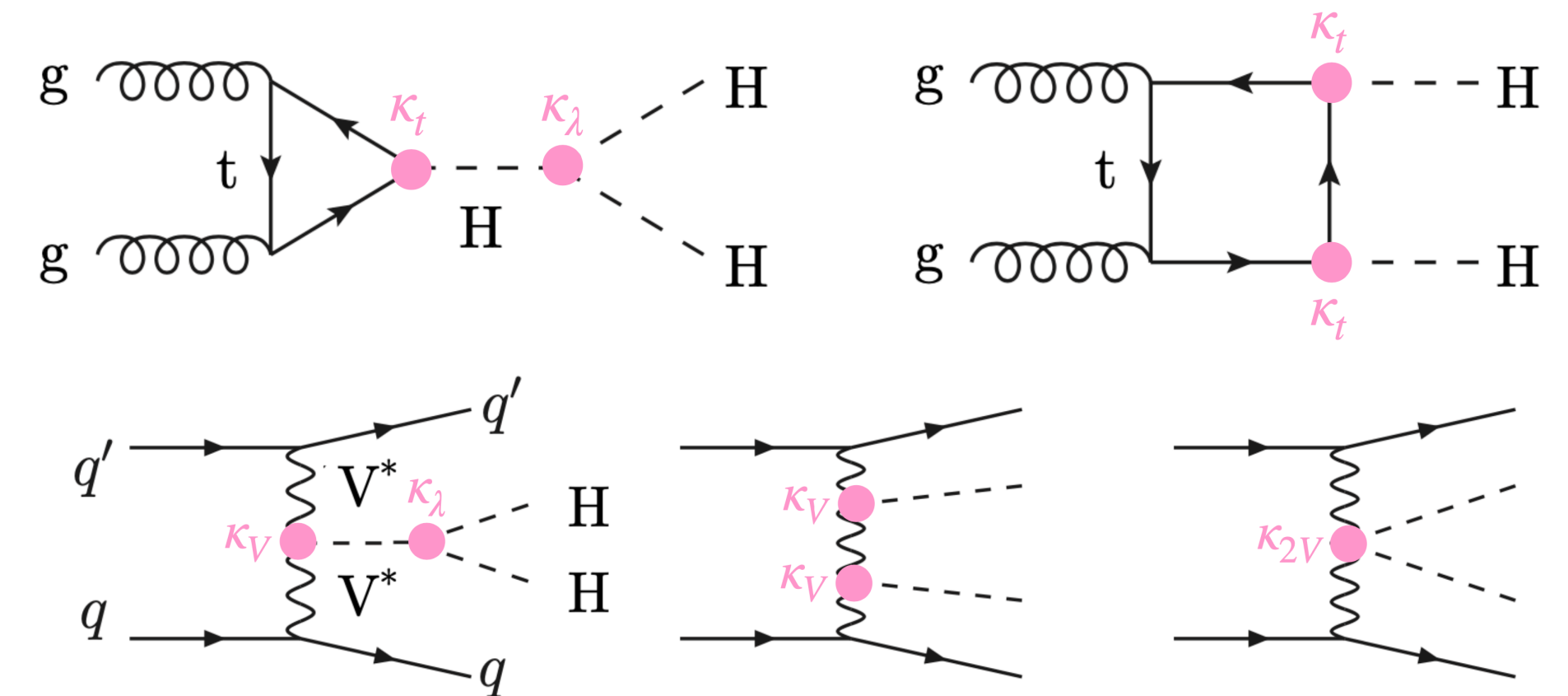


Higgs boson pair production in the $bb\tau\tau$ channel @ CMS

From SM to EFT

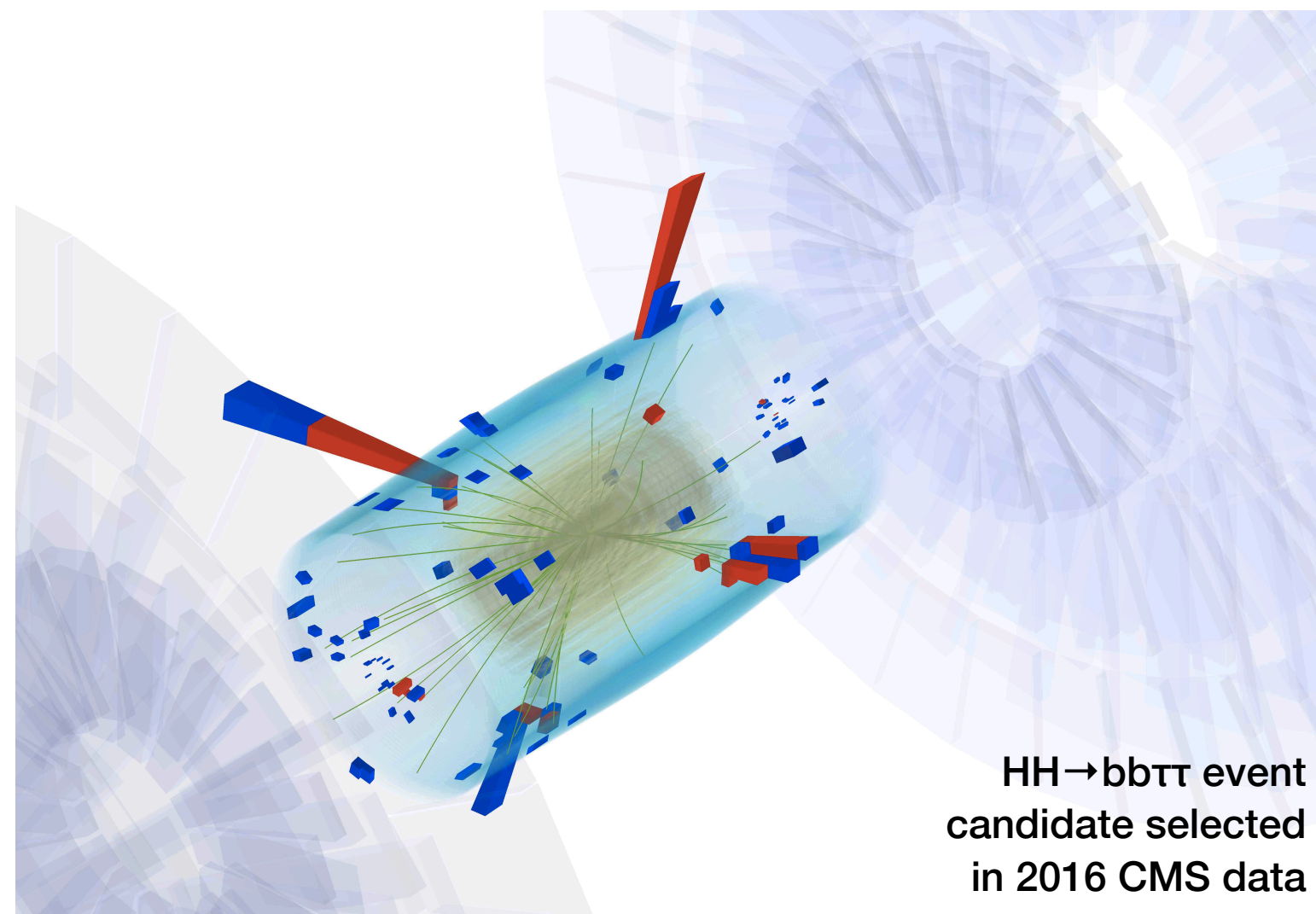
Motivation:

- **Higgs boson observation** was announced in **2012** by the ATLAS and CMS collaborations
- Higgs **pair production** only **probe of the Higgs potential** in the Standard Model, allowing measurement of the **Higgs self-coupling**
- The **$bb\tau\tau$** decay channel provides **good sensitivity**



Your work:

- Comparison of different double Higgs production modes (ggF, VBF)
- Study of the kinematic variables of the Higgs decay products ($bb, \tau\tau$)
- Comparison of kinematic differences between the different EFT scenarios (pink dots)
- Understanding the kinematic differences in terms of the different couplings (pink dots)



Refs: [CMS detector](#), [2016 results](#), [Advanced HH](#)