

**CMS**  
*Preliminary*  
13 TeV

—●— Observed

---- Median expected

■ 68% expected

■ 95% expected

Run II 2016, 35.9 fb<sup>-1</sup>

Expected 12.8  
Observed 22.2

*Phys. Rev. Lett.* **122** (2019) 121803

bbZZ, 138 fb<sup>-1</sup>

Expected 39.8  
Observed 32.5

CMS-PAS-HIG-20-004

bbbb, 138 fb<sup>-1</sup>

Expected 7.84  
Observed 3.88

CMS-PAS-HIG-20-005

bbyγ, 138 fb<sup>-1</sup>

Expected 5.55  
Observed 8.40

*JHEP* **03** (2021) 257

1 2 3 4 5 6 10 50 100 500  
95% CL limit on  $\sigma(\text{pp} \rightarrow \text{HH (incl.)}) / \sigma_{\text{SM}}$

