



Run2

138 fb⁻¹ (13 TeV) $c_{GG}^{\chi\chi}$ **CMS***Private Work***negative ALP-SM interference**

----- Expected 95% CL upper limit

 Expected $\pm 1\sigma$  Expected $\pm 2\sigma$

- - - - - Expected 95% CL upper limit (PRD 104, 092013)

 Expected $\pm 1\sigma$ (PRD 104, 092013) Expected $\pm 2\sigma$ (PRD 104, 092013) Observed (PRD 104, 092013)

10

1

2

4

6

8

10

 f_a [TeV]