

CMS $Z' \rightarrow \text{DM} + H(2\text{HDM})$ $M_{A^0} = 300 \text{ GeV}, M_\chi = 100 \text{ GeV}$

- CL_S Observed
- CL_S Expected $\pm 1\sigma$
- CL_S Expected $\pm 2\sigma$
- - - $\sigma_{\text{TH}}, g_Z \leq 0.03 \times \frac{g_W}{\cos\theta_W \times \sin^2\beta} \times \frac{\sqrt{M_{Z'}^2 - M_Z^2}}{M_Z}$
- - - $\sigma_{\text{TH}}, g_Z = 0.8$

 $H \rightarrow \gamma\gamma$ $H \rightarrow b\bar{b}$ 