

**CMS** $137 \text{ fb}^{-1}$  (13 TeV) $\text{H} \rightarrow \gamma\gamma$  $|\eta^{j_1}| < 2.5$  $p_{\text{T}}^{j_1} > 30 \text{ GeV}$ 

MADGRAPH5\_aMC@NLO, NNLOPS ggH + HX



MADGRAPH5\_aMC@NLO ggH + HX



POWHEG ggH + HX



HX = MADGRAPH5\_aMC@NLO VBF+VH+ttH

Data, stat  $\oplus$  syst unc.

syst unc.

p-value(nominal SM): 0.310

 $\Delta\sigma_{\text{fid}}/\Delta|\Delta\phi_{\gamma\gamma,j_1}|$  (fb)

Ratio to prediction

 $|\Delta\phi_{\gamma\gamma,j_1}|$  $10^3$  $10^0$ 

2

1

0.0

0.5

1.0

1.5

2.0

2.5

3.0

