

General uncertainties in normalization

Integrated luminosity	2.6%
Diphoton trigger efficiency	1.0%

Resonant low-mass and nonresonant analyses: 2D fit to $m_{\gamma\gamma}$ and m_{jj}

Uncertainties in normalization

Diphoton selection efficiency	1.0%
Acceptance in p_T^j (JES and JER)	1.0%
b tagging efficiency in the high-purity category	5.0%
———— b tagging efficiency in the medium-purity category ————	
Low-mass resonant and nonresonant $m_{\gamma\gamma jj}^{\text{kin}} < 350$ GeV	2.1%
Nonresonant $m_{\gamma\gamma jj}^{\text{kin}} > 350$ GeV	2.8%
————— $m_{\gamma\gamma jj}^{\text{kin}}$ acceptance (PES, JES, PER and JER) —————	
Low-mass resonant	1.5%
Nonresonant $m_{\gamma\gamma jj}^{\text{kin}} < 350$ GeV categories	1.5%
Nonresonant $m_{\gamma\gamma jj}^{\text{kin}} > 350$ GeV categories	0.5%

Uncertainties in the PD parameters

m_{jj} resolution (JER), $\frac{\Delta\sigma_{jj}}{\sigma_{jj}}$	10%
m_{jj} scale (JES), $\frac{\Delta m_{jj}}{m_{jj}}$	2.6%
$m_{\gamma\gamma}$ resolution (PER), $\frac{\Delta\sigma_{\gamma\gamma}}{\sigma_{\gamma\gamma}}$	5%
————— $m_{\gamma\gamma}$ scale (PES and uncertainty in m_H) —————	
Low-mass resonant, $\frac{\Delta m_{\gamma\gamma}}{m_{\gamma\gamma}}$	0.4%
Nonresonant, $\frac{\Delta m_{\gamma\gamma}}{m_{\gamma\gamma}}$	0.5%

High-mass resonant analysis: 1D fit to $m_{\gamma\gamma jj}^{\text{kin}}$

Uncertainties in normalization

Photon acceptance	1.0%
b tagging efficiency in the high-purity category	5.0%
b tagging efficiency in the medium-purity category	2.8%
m_{jj} and p_T^j acceptance related to JES and JER	1.5%
$m_{\gamma\gamma}$ selection acceptance related to PES and PER	0.5%
Extra high p_T^γ normalization uncertainty	5.0%

Uncertainties in the PD parameters

$m_{\gamma\gamma jj}^{\text{kin}}$ scale (PES and JES), $\frac{\Delta m_{\gamma\gamma jj}^{\text{kin}}}{m_{\gamma\gamma jj}^{\text{kin}}}$	1.4%
$m_{\gamma\gamma jj}^{\text{kin}}$ resolution (PER and JER), $\frac{\Delta\sigma_{\gamma\gamma jj}^{\text{kin}}}{\sigma_{\gamma\gamma jj}^{\text{kin}}}$	10.0%