

CMS Work in progress

13 TeV (41.5 fb⁻¹)

Events

3.5

$4.00 \leq m(\gamma, \gamma) < 9.25 \text{ GeV}$

$9.25 \leq m(\gamma, \gamma) < 14.50 \text{ GeV}$

$14.50 \leq m(\gamma, \gamma) < 19.75 \text{ GeV}$

$19.75 \leq m(\gamma, \gamma) < 25.00 \text{ GeV}$

Signal Region, $Z \rightarrow ee$ $m_\Phi = 20 \text{ GeV}$



Predicted background



Observed



Signal, $c\tau = 0 \text{ mm}$



Signal, $c\tau = 100 \text{ mm}$

$\text{BR}(H \rightarrow \Phi\Phi) \times \text{BR}(\Phi \rightarrow \gamma\gamma) = 0.05$

2.5

1.5

0.5

0

-10

10

30

50

70

90

-10

10

30

50

70

90

-10

10

30

50

70

$L_{xy} [\text{cm}]$