CMS Simulation (LHE) 13 TeV $pp \rightarrow h \rightarrow 2h_1 \rightarrow 2h_D + 2\gamma_D \rightarrow 2h_D + 4\mu$ Fraction of events / 1 GeV 0.22 $m_h = 125 \text{ GeV}, m_{n_s} = 10 \text{ GeV}, m_{n_h} = 1 \text{ GeV}$ $m_{\gamma_{D}} = 8.5 \text{ GeV}, c\tau_{\gamma_{D}} = 100 \text{ mm}$ 0.2 0.18 0.16 0.14 0.12 0.1 80.0 0.06 0.04 0.02 100 20 30 40 50 80 90 60 [GeV]