CMS Simulation (LHE) 14TeV TeV olevents / 1 Ge/ 0.04 0.035 0.035 0.025 0.04 $|pp| \rightarrow |h| \rightarrow |2h_1| \rightarrow |2h_D| + |2\gamma_D| \rightarrow |2h_D| + |4\mu|$ $m_h = 125 \text{ GeV}, m_{n_1} = 50 \text{ GeV}, m_{n_D} = 1 \text{ GeV}$ m_{γ_D} = 20 GeV, $c\tau_{\gamma_D}$ = 100 mm 1st dark photon (leading p_T) 2nd dark photon 0.02 raction, 0.005 30 40 50 60 80 90