

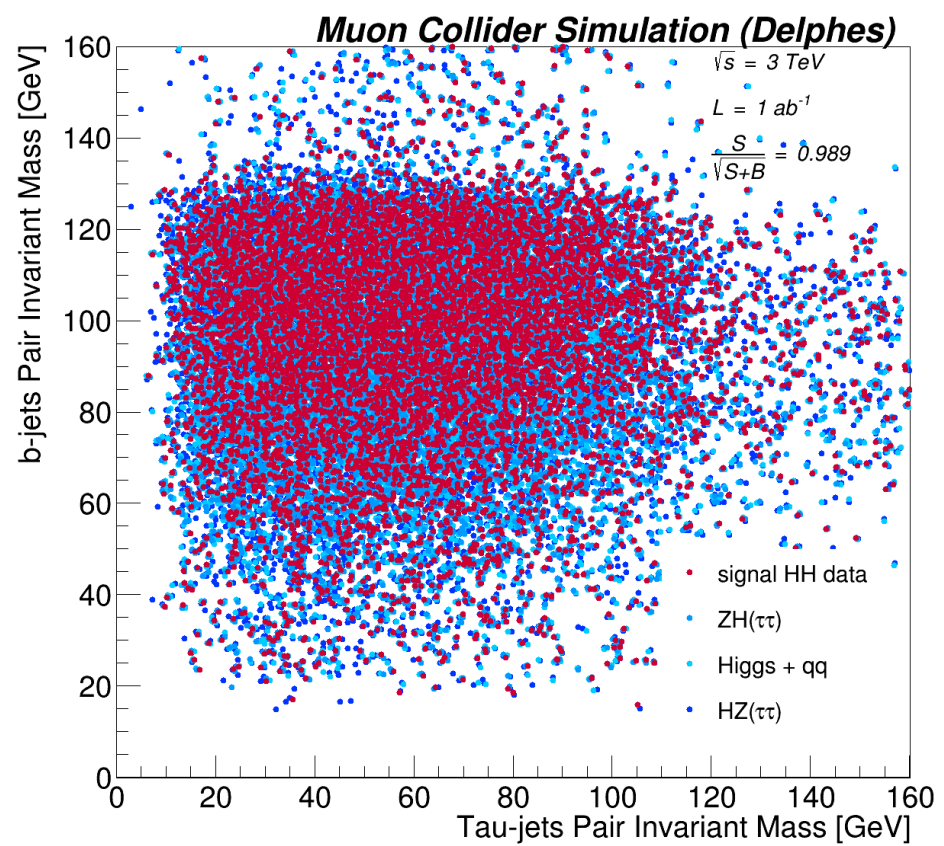


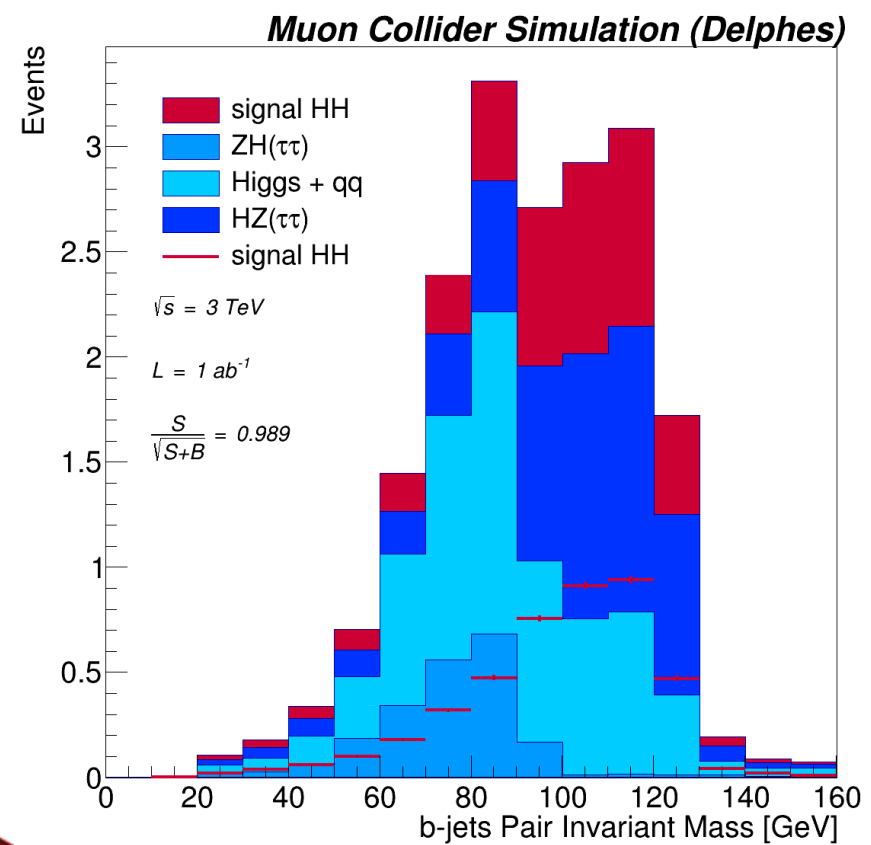
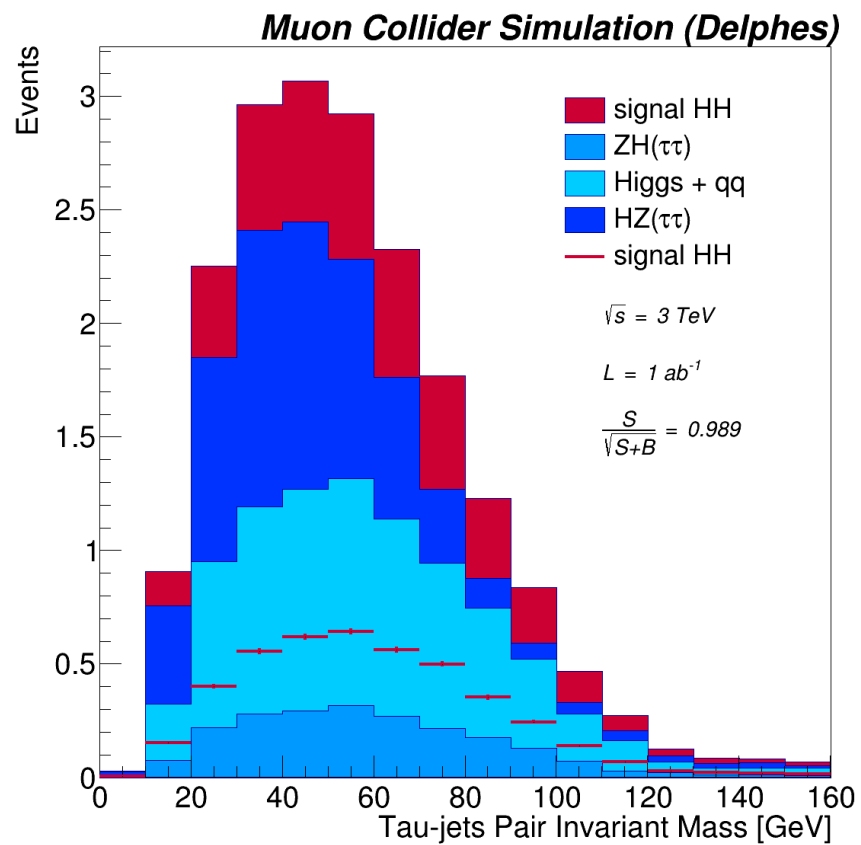
Feasibility Study of Measuring the Higgs Self-coupling Using the Muon Collider

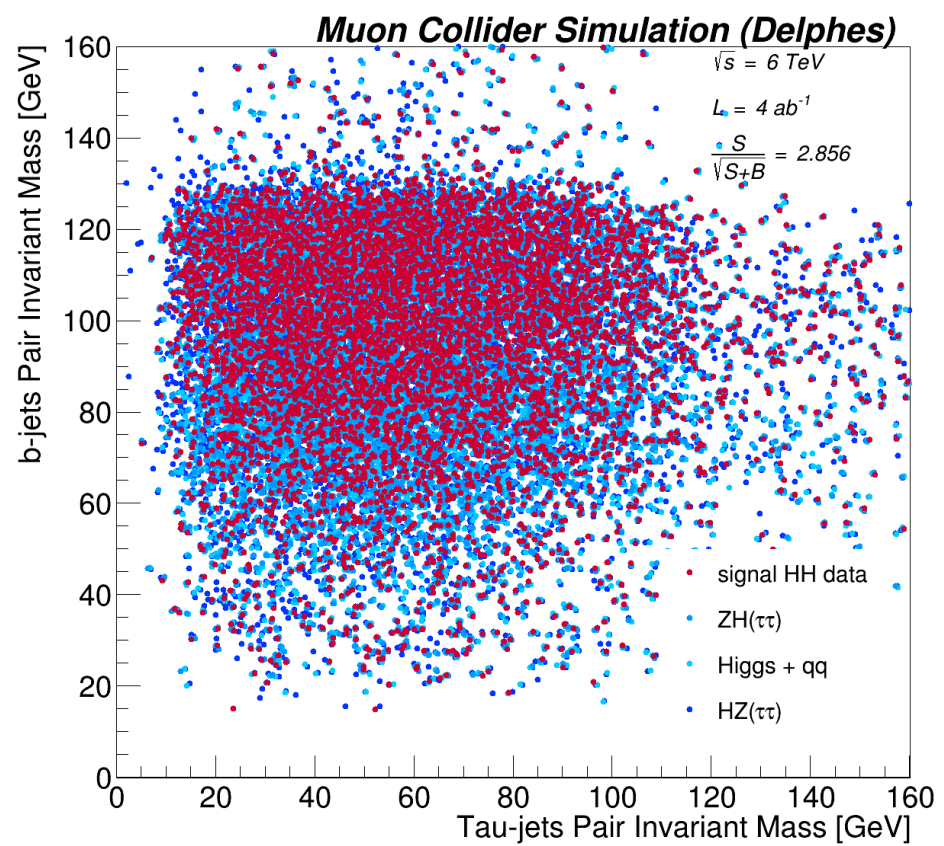
Kenny Jia

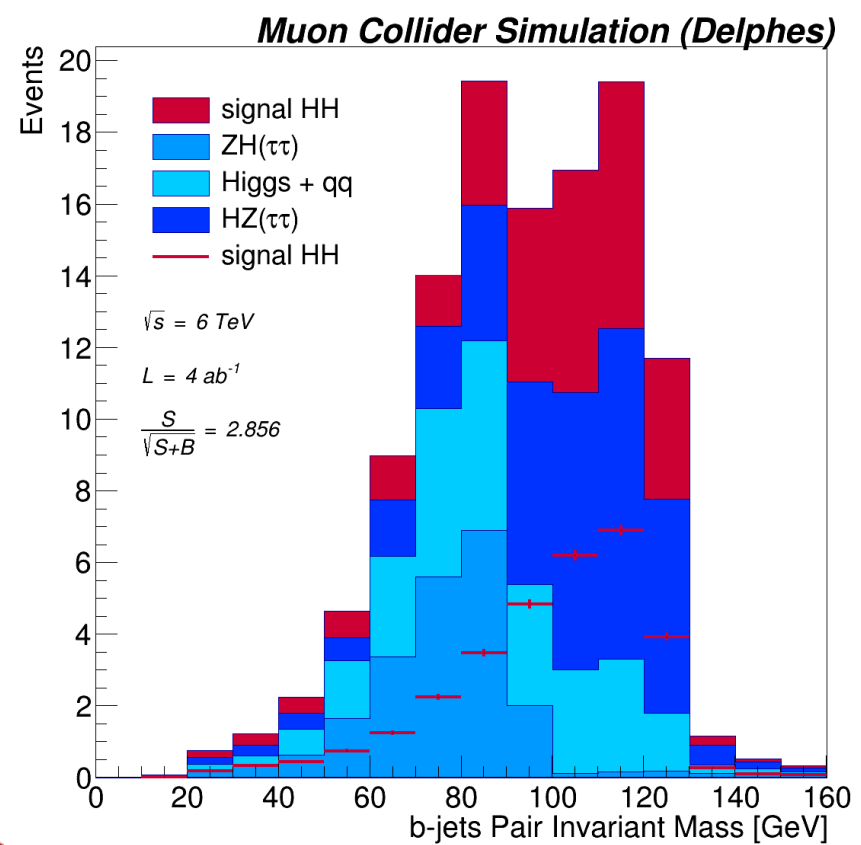
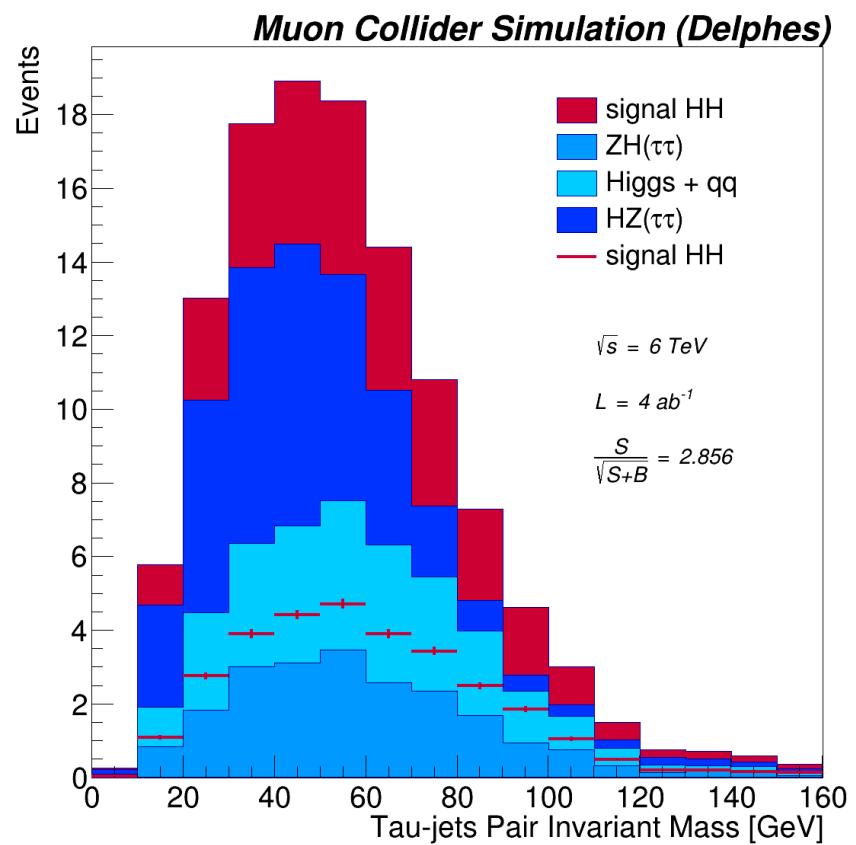
Sep 22nd, 2022

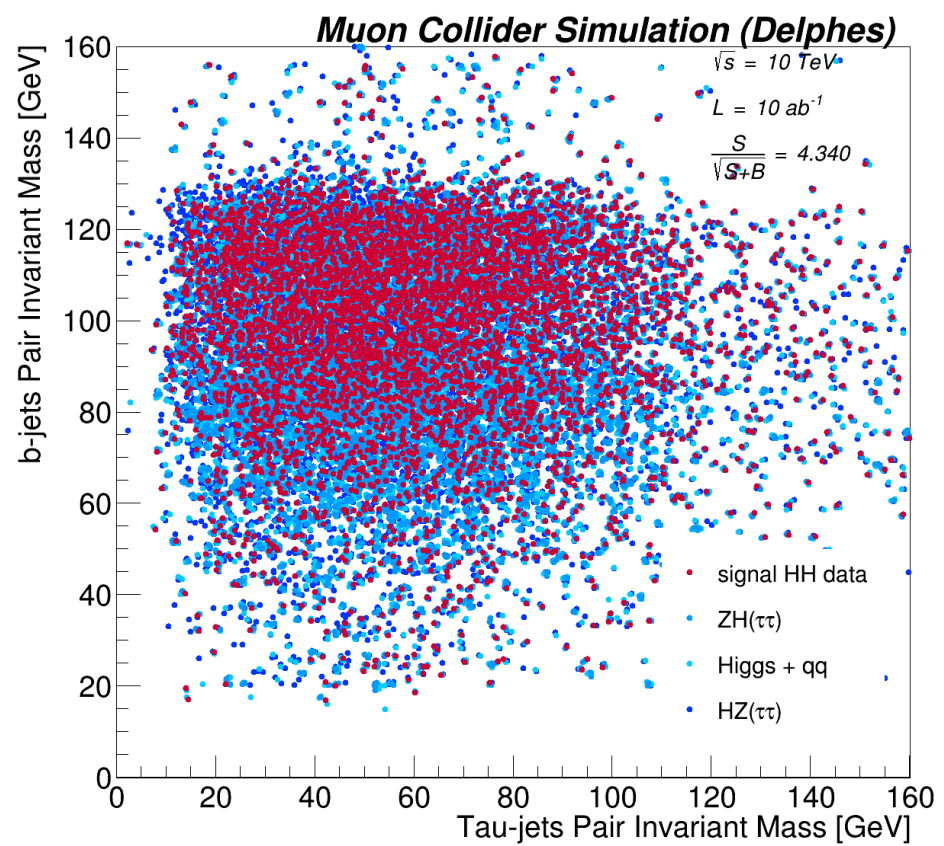


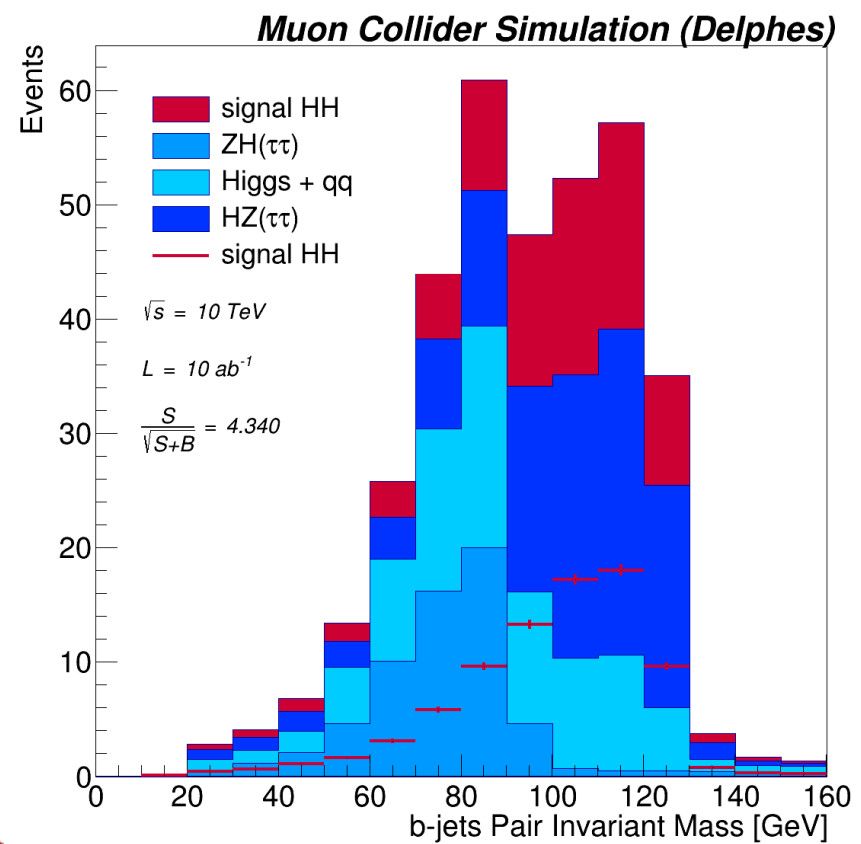
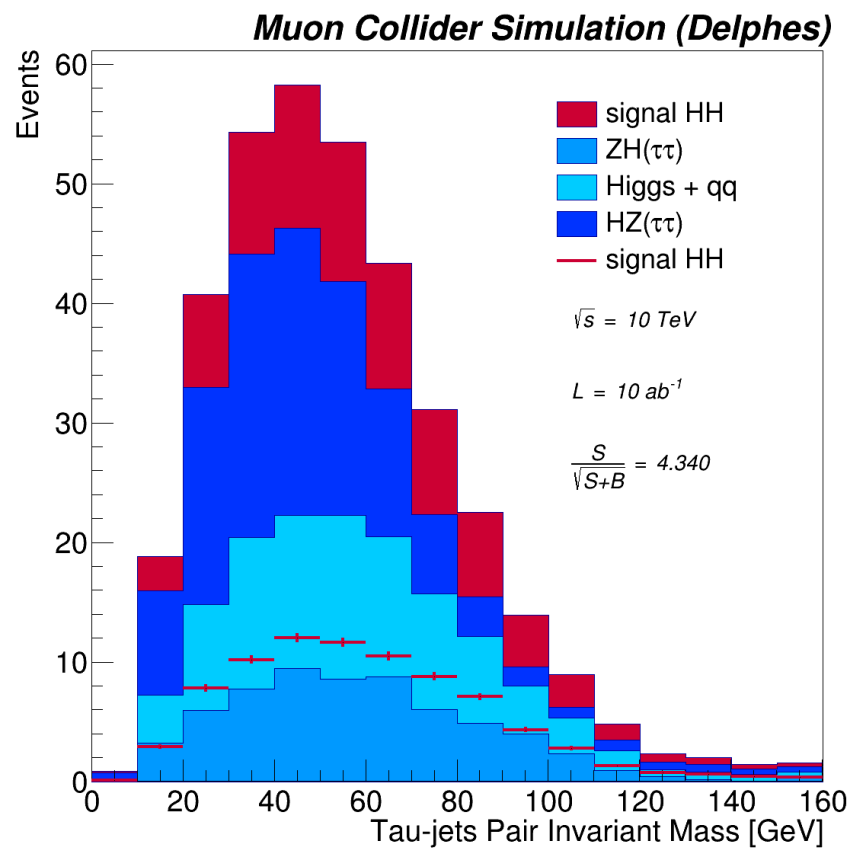


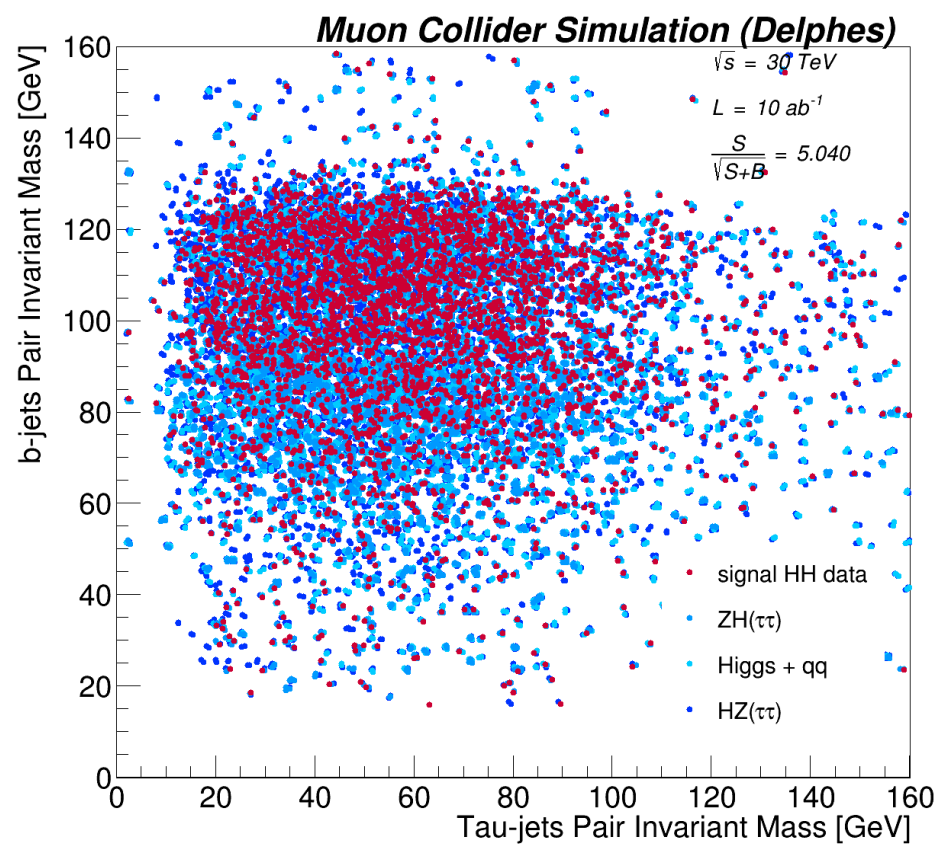


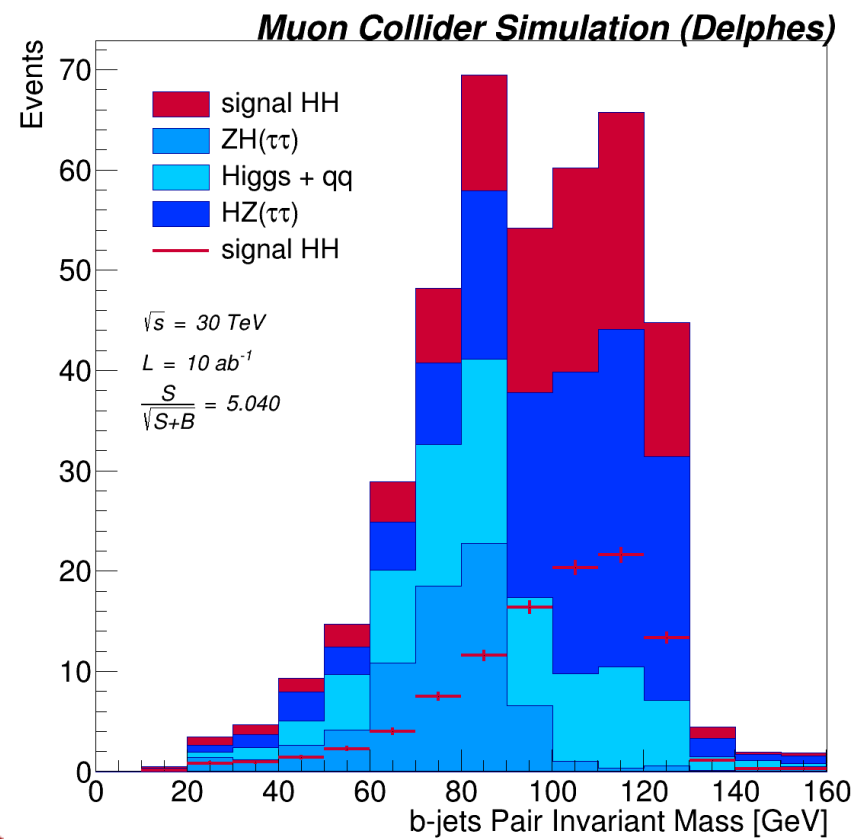
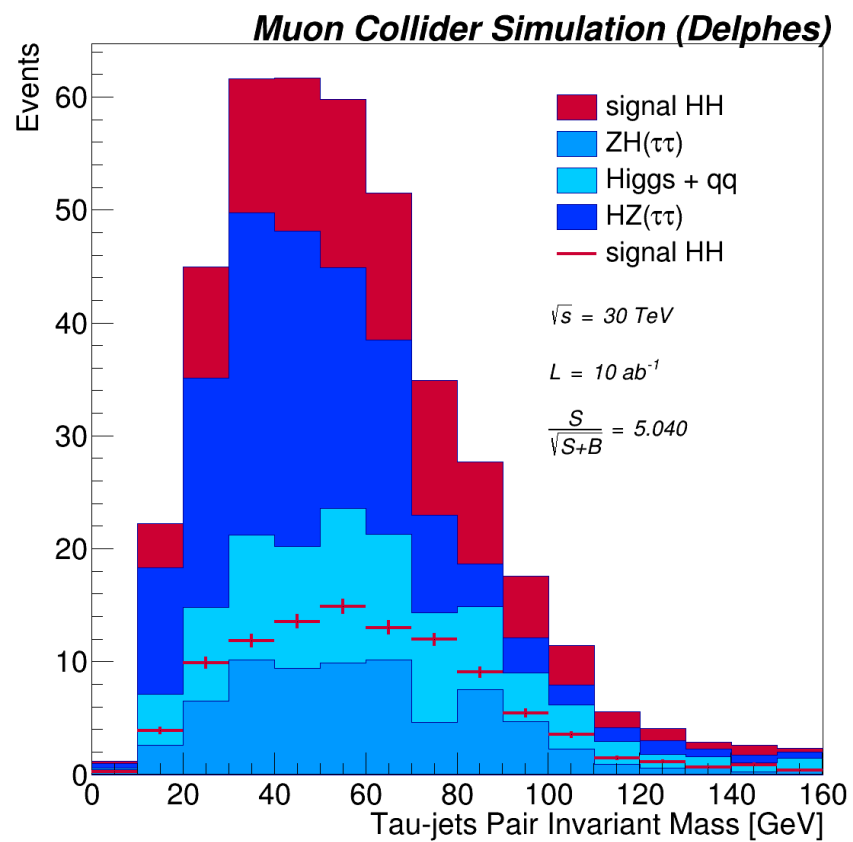














Final states / $\sqrt{s}$ ($\int d\mathcal{L}$)	3 TeV (1 ab ⁻¹)	6 TeV (4 ab ⁻¹)	10 TeV (10 ab ⁻¹)	30 TeV (10 ab ⁻¹)
$b\bar{b}b\bar{b}$	1.176	2.812	4.571	5.690
$b\bar{b}\gamma\gamma$	0.351	0.826	1.395	1.624
$b\bar{b}\tau_{\text{had}}\tau_{\text{had}}$	0.902	2.604	4.028	4.802
$b\bar{b}\tau_{\text{lep}}\tau_{\text{lep}}$	0.989	2.856	4.340	5.040

Table 2: Significance for all final states for di-Higgs

