

a first look to the off-shell Higgs decay  
in  $ZH \rightarrow llWW$

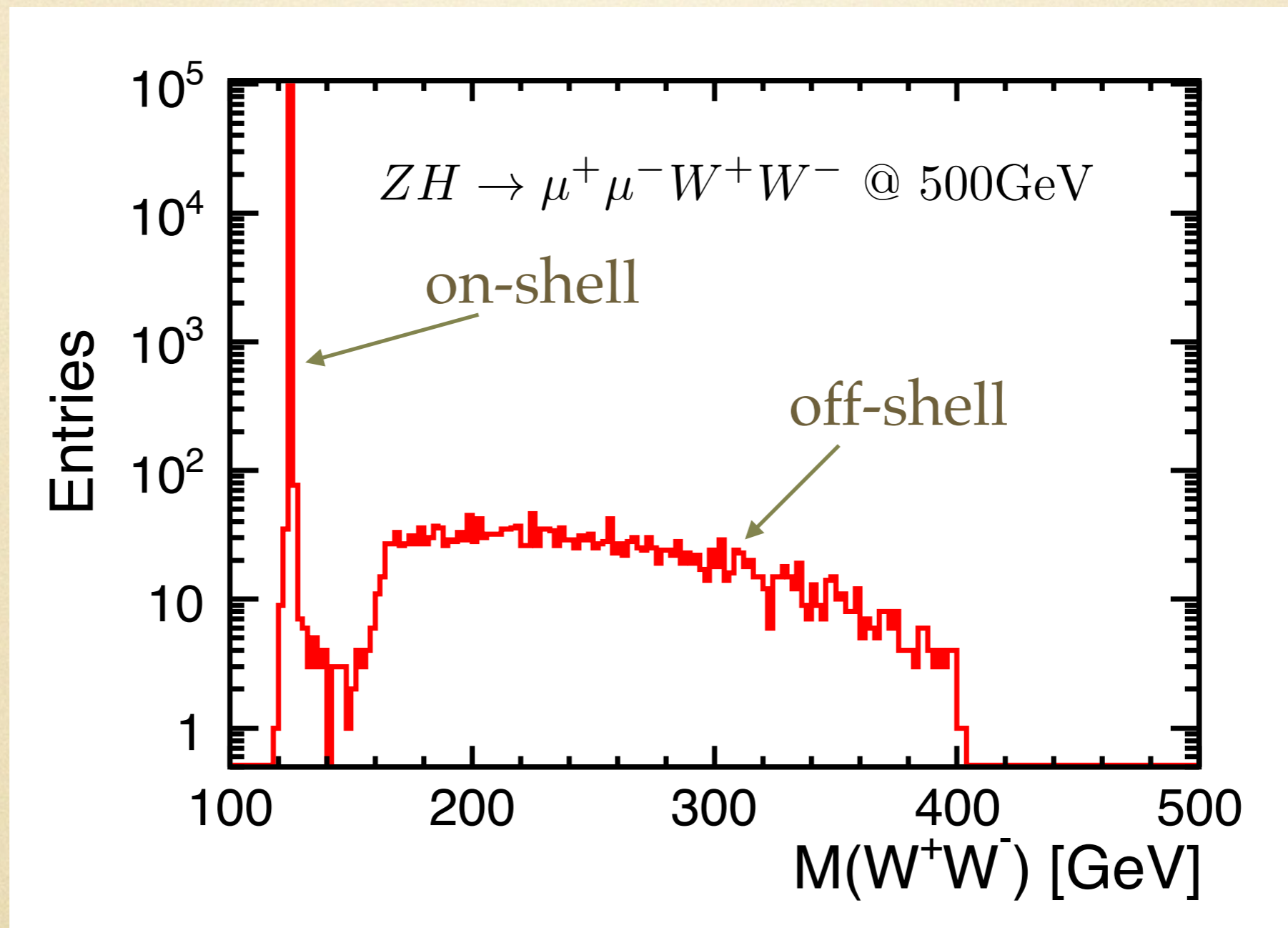
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Asian Physics & Software Meeting, May 22, 2015

how off-shell  $H^* \rightarrow WW$  contributes to recoil mass?

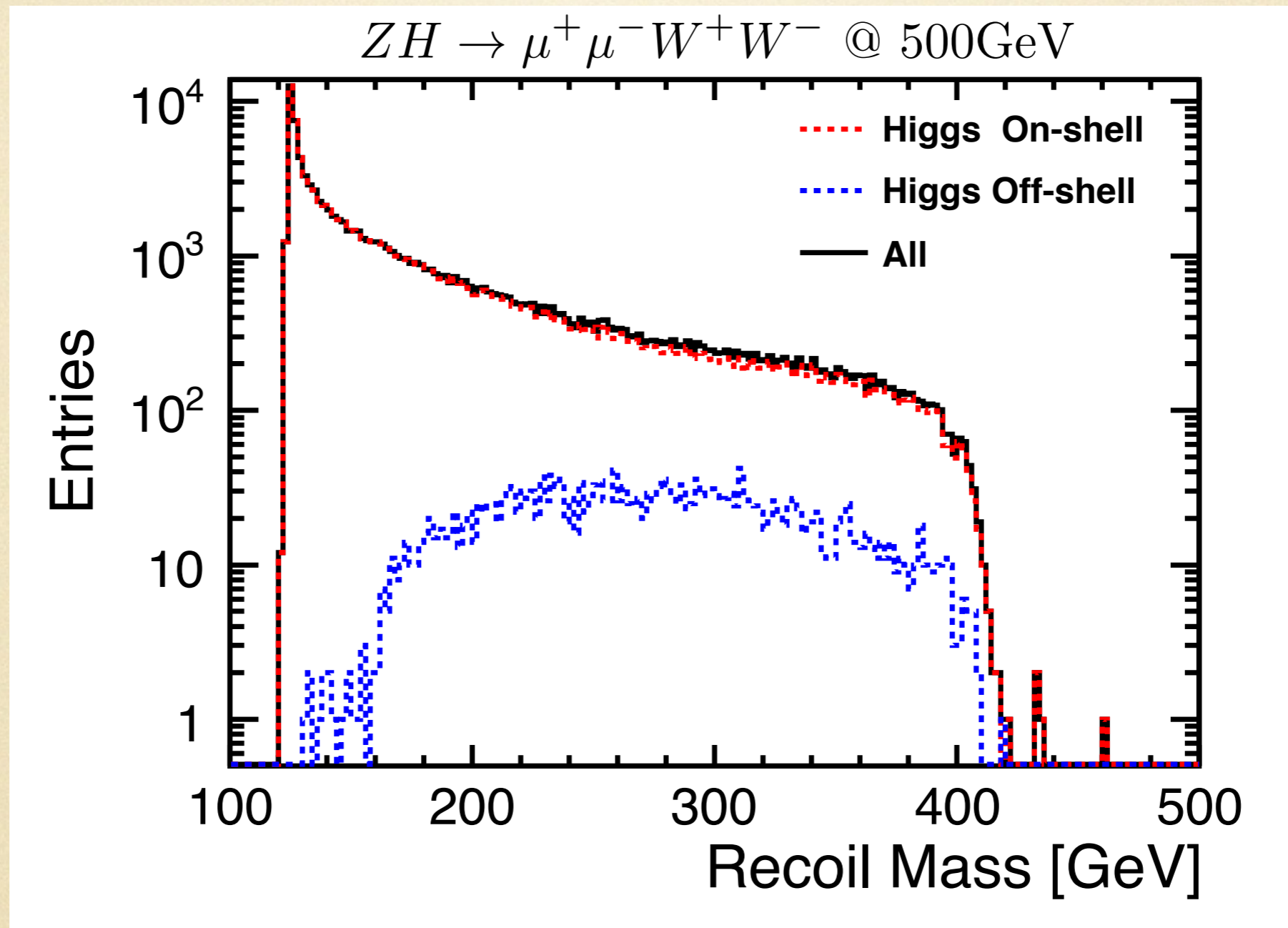
generator by whizard: e2e2f1f2f3f4;

r: f1+f2~W+ && f3+f4~W- && f1+f2+f3+f4~H



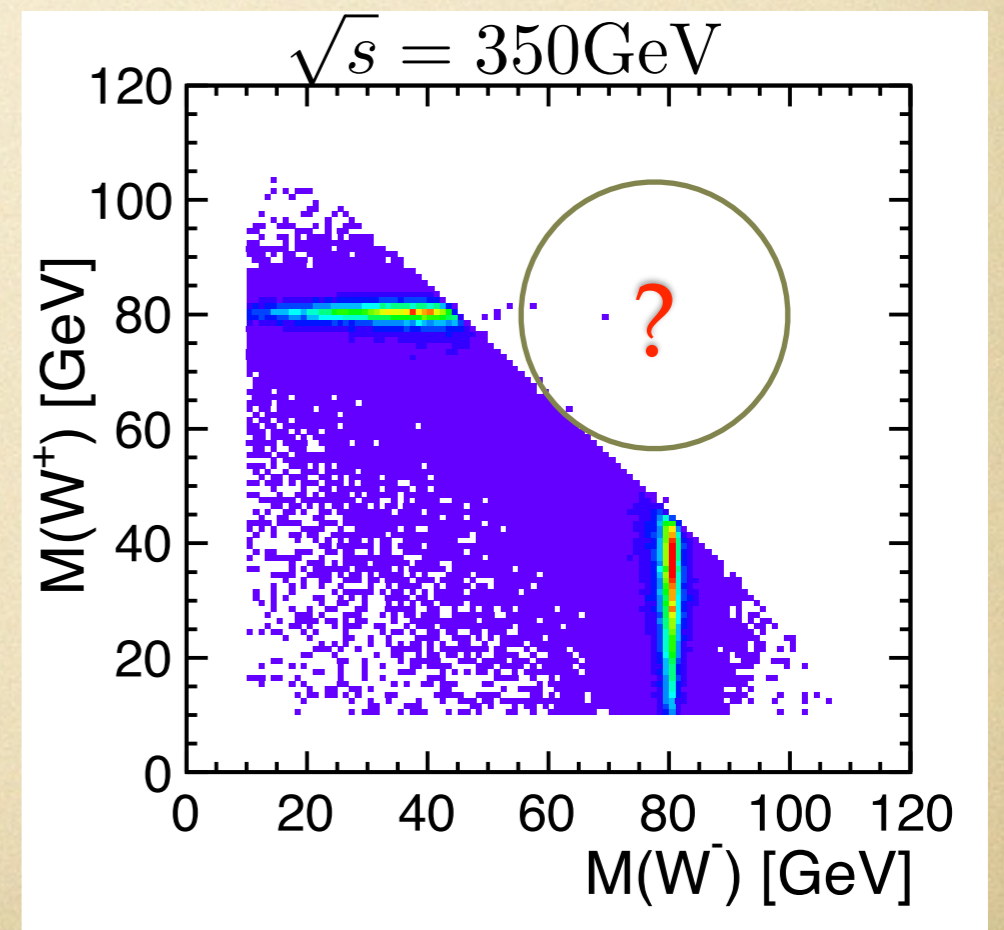
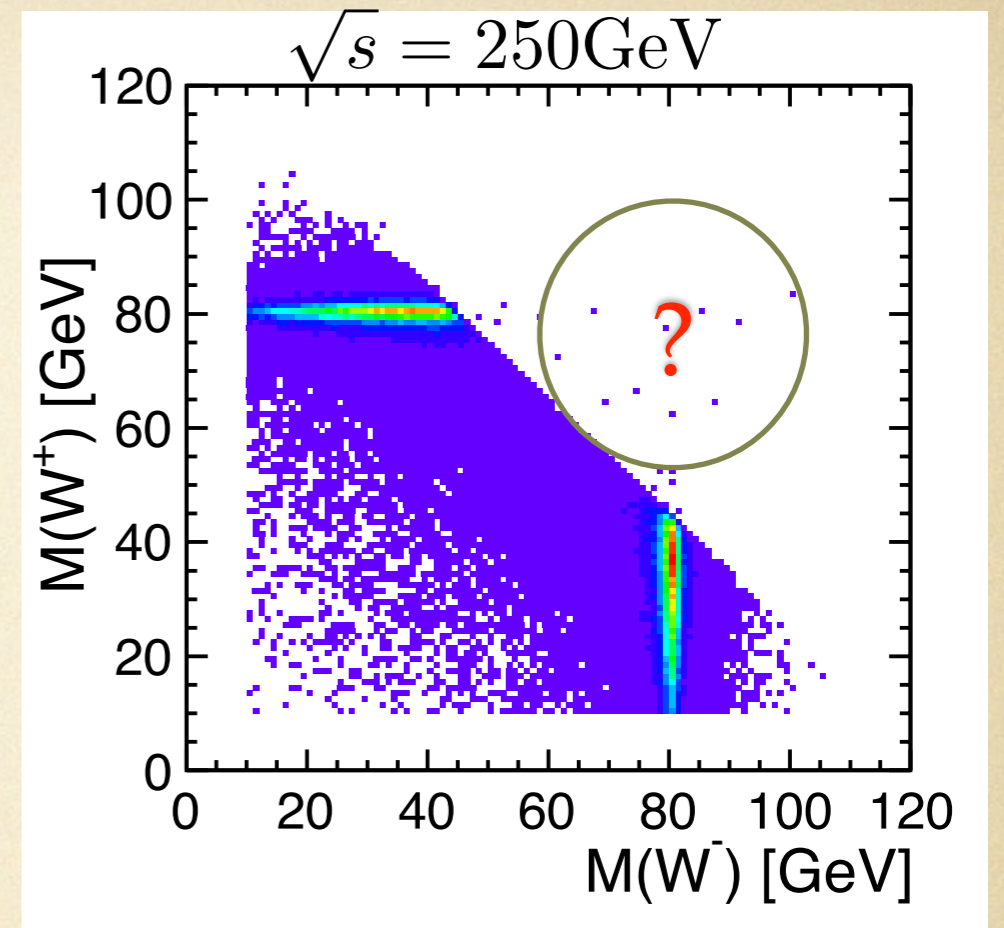
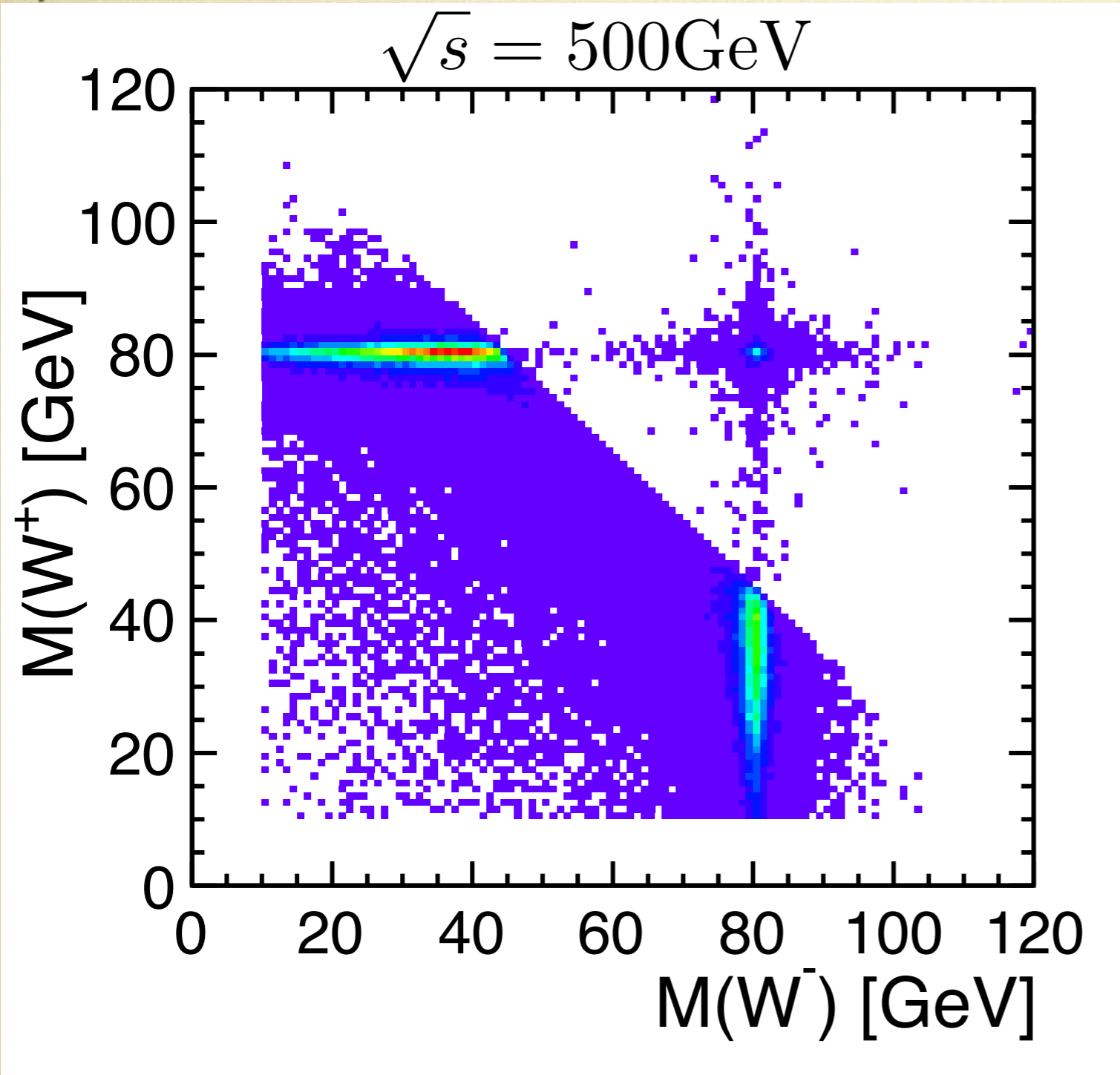
off-shell contribution  $\sim 3\%$

how off-shell  $H^* \rightarrow WW$  contributes to recoil mass?



in recoil mass, off-shell contribution is completely buried by the tail from beam-strahlung and ISR.

at different ecm



it seems whizard failed to find the peak with on-shell W pair at 250 and 350 GeV  $\rightarrow$  going to investigate why and how to resolve?