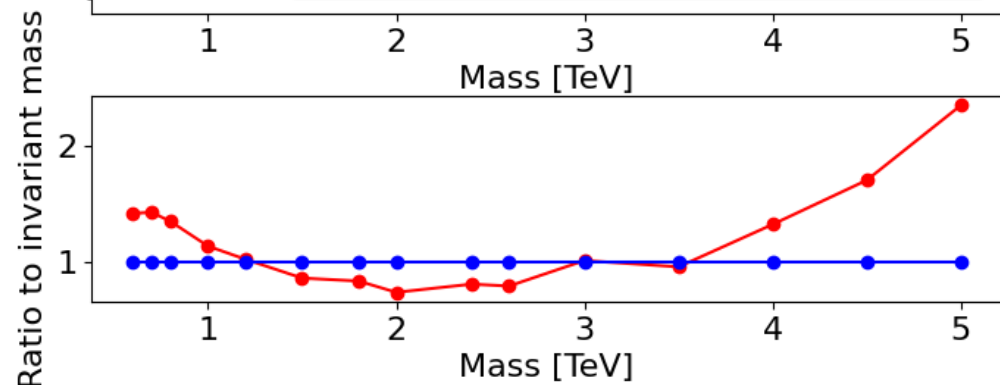
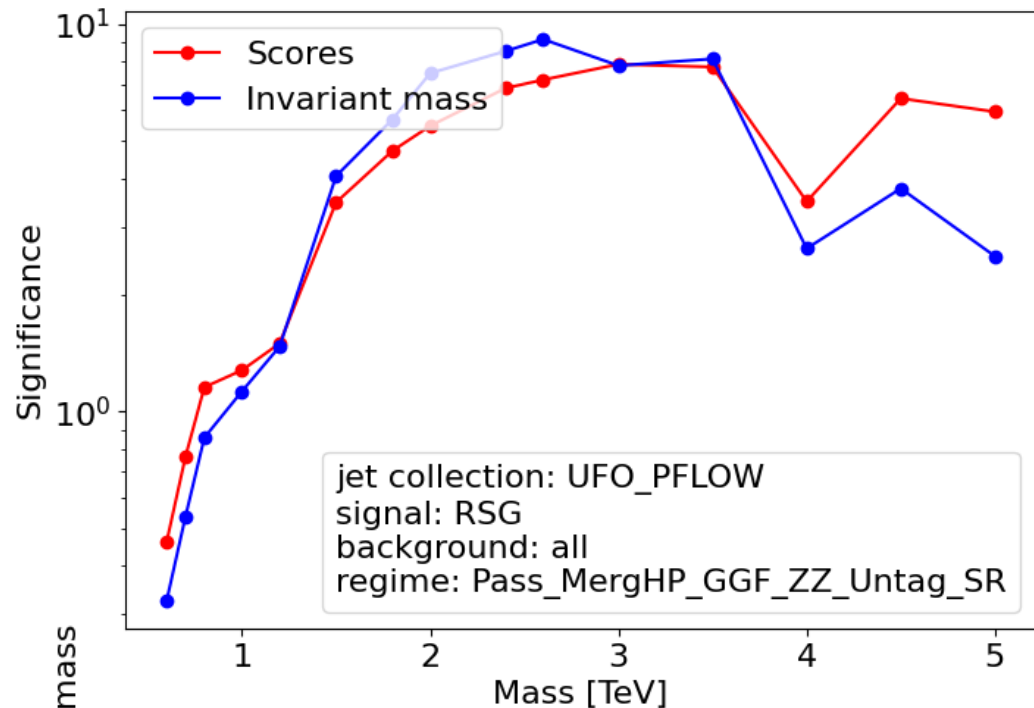
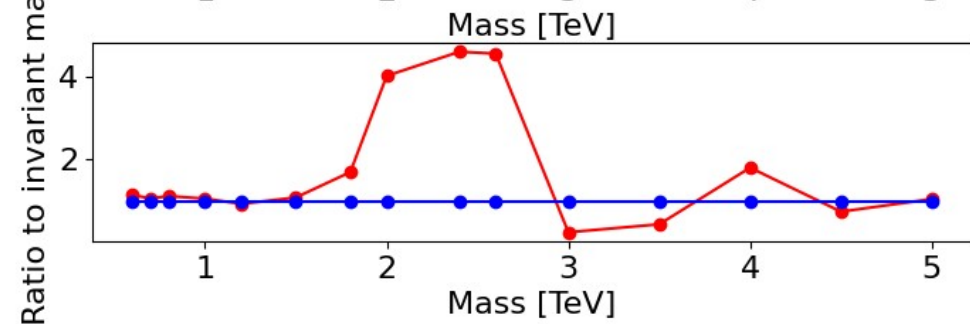
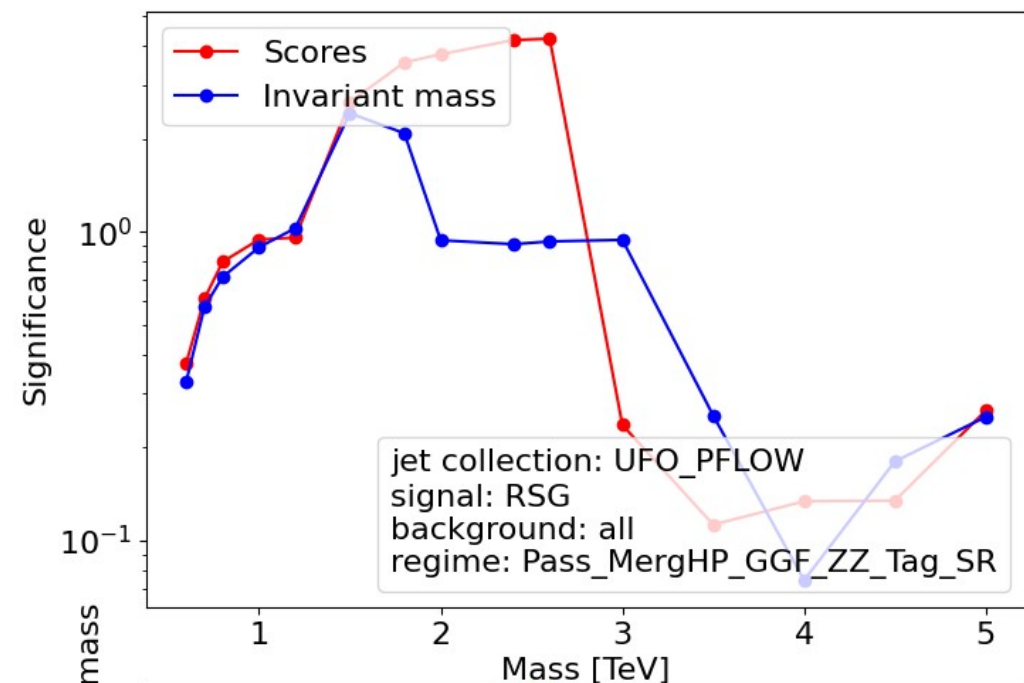


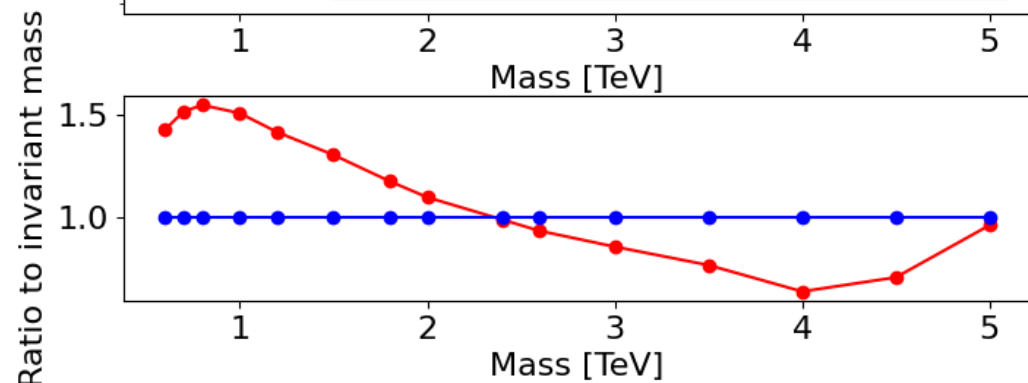
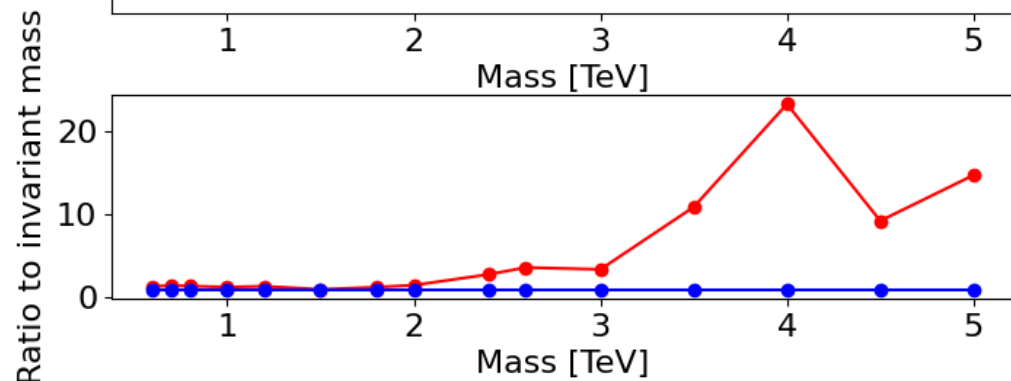
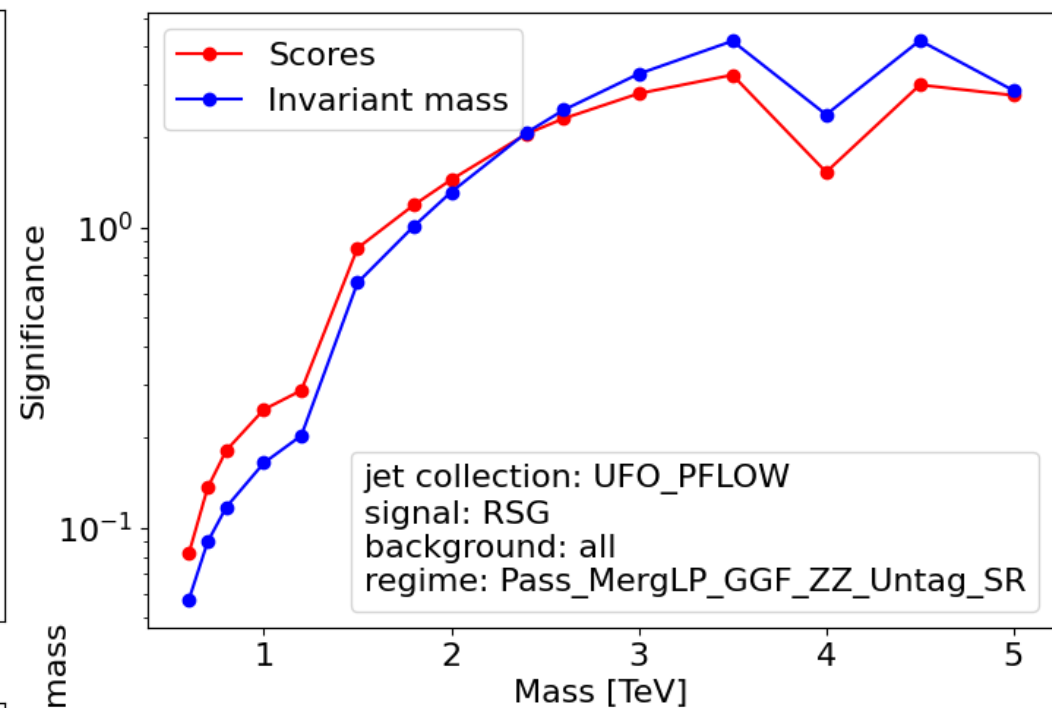
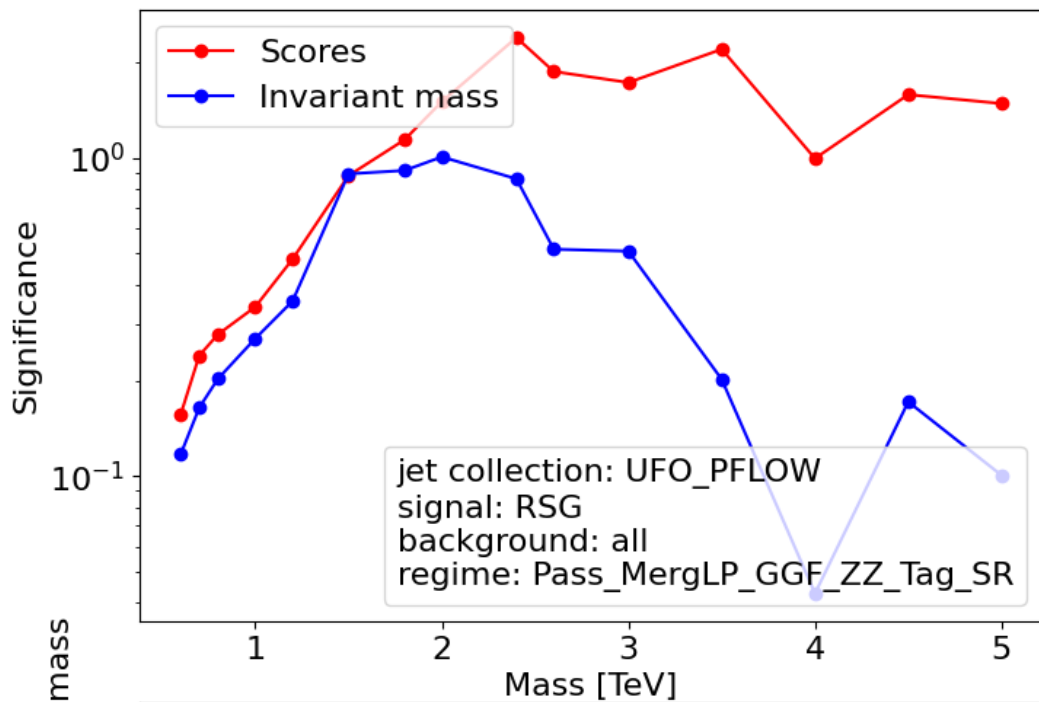
# Significance

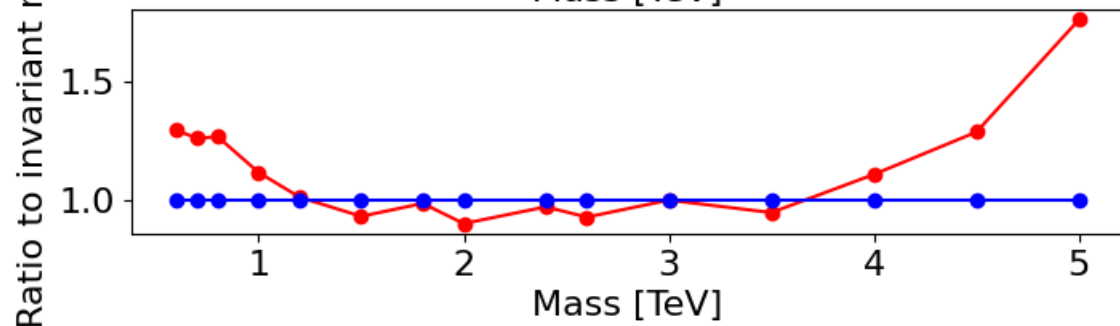
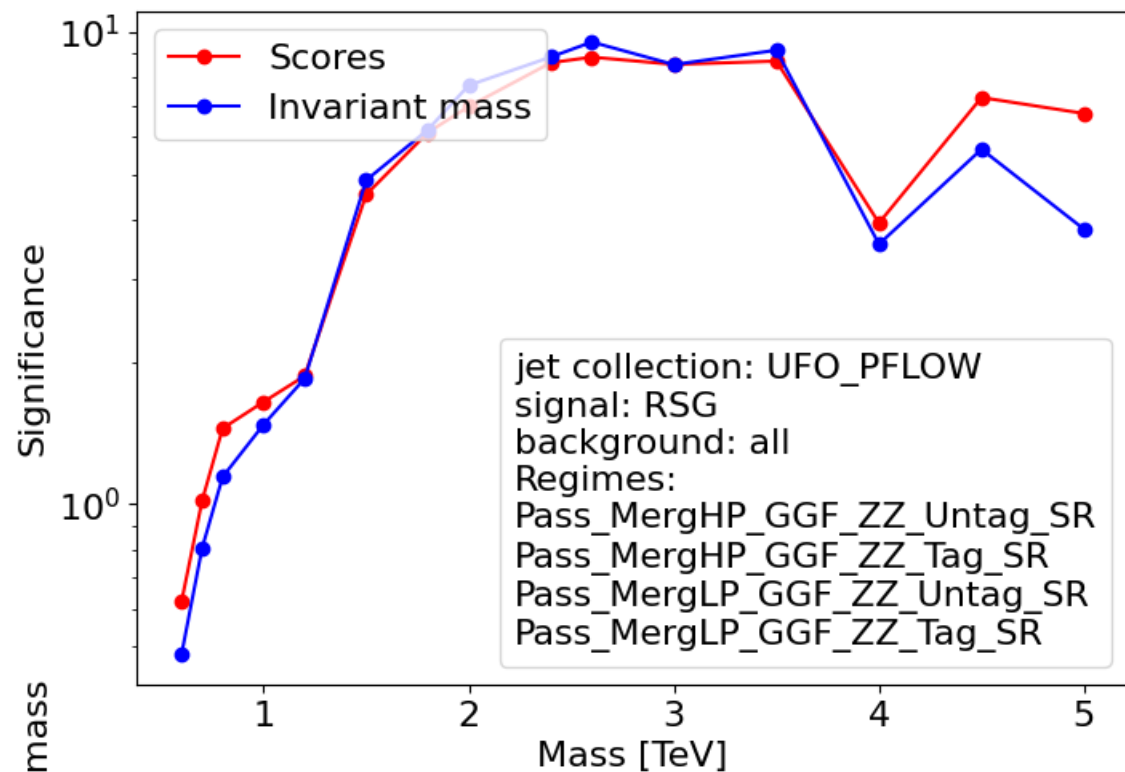
- Histograms of scores for signal and background (same binning, Nbins = 100)
- For each bin get  $s$  (content of the signal distribution) and  $b$  (content of the background distribution)
- If both  $s$  and  $b$  are  $> 0$  we increment the sum:

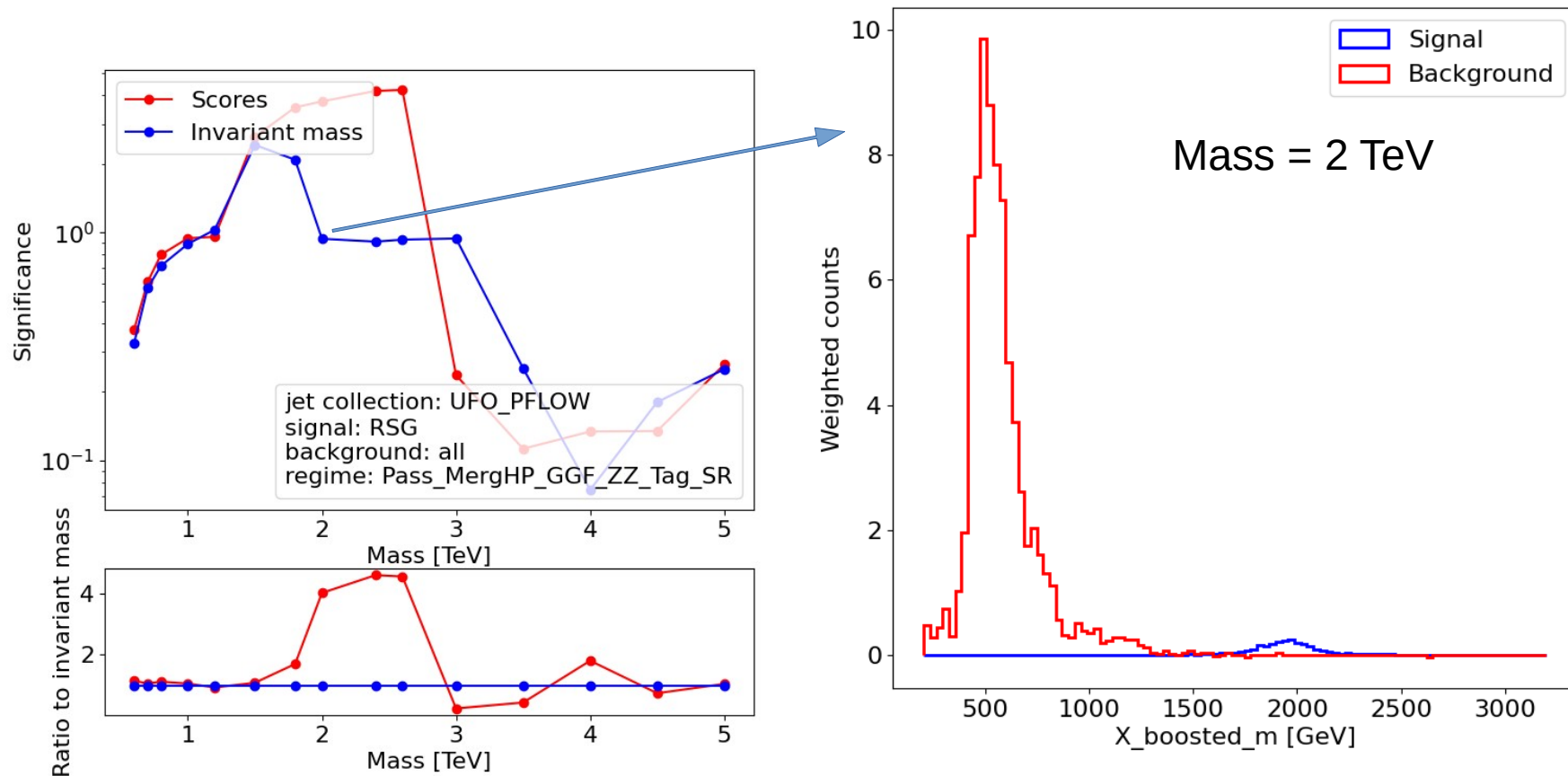
$$\text{sig}^2 = \sum [(s + b) * \ln(1 + s/b) - s]$$

- We compute the significance as the square root of  $\text{sig}^2$
- The same procedure is repeated for the invariant mass









Different distribution, many background contents ignored because  $s = 0$

# Missing VBF events

- No events with “Pass\_isVBF” = True
- Used to discriminate between VBF and ggF mode → we can only look at ggF

Example from Zjets mc16a (r33-22,  
December production) →

