



Validation Plots



Chaouki Boulahouache
University of Pittsburgh

- ❑ Validation plots for the Radion decay generator.
- ❑ Here I show the plots for the decay modes: $2b2\tau$ and $4b$.
- ❑ I generated 50K events for each decay mode.
- ❑ The decay mode $2b2\tau$ has been generated using the filter `ParentTwoChildrenFilter` which will part of the Generator package.

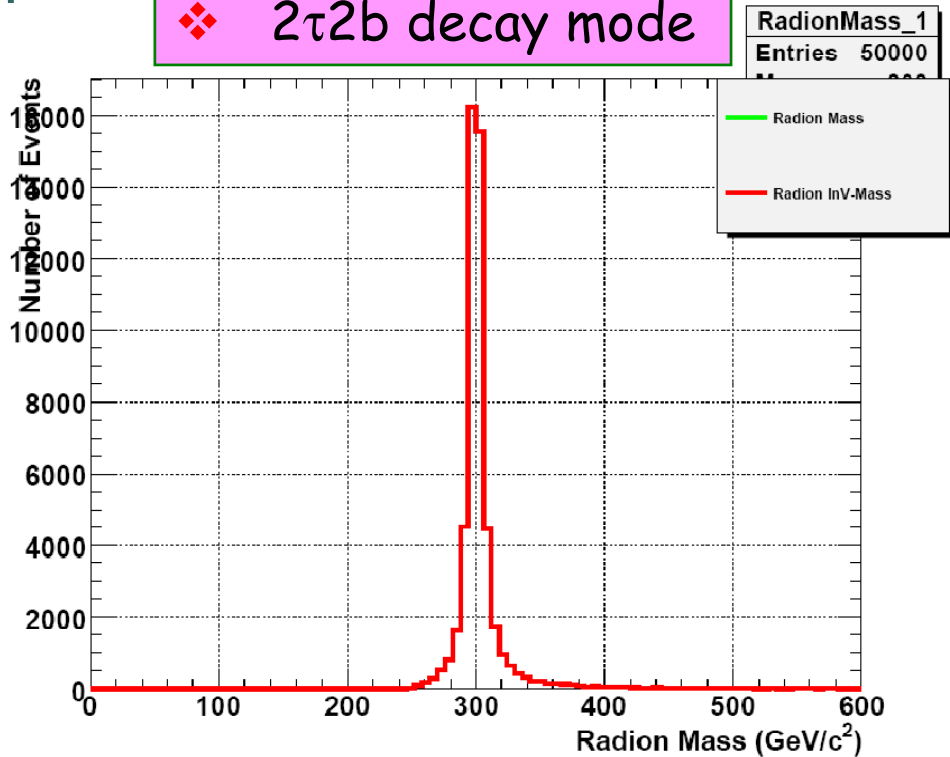


Radion mass...

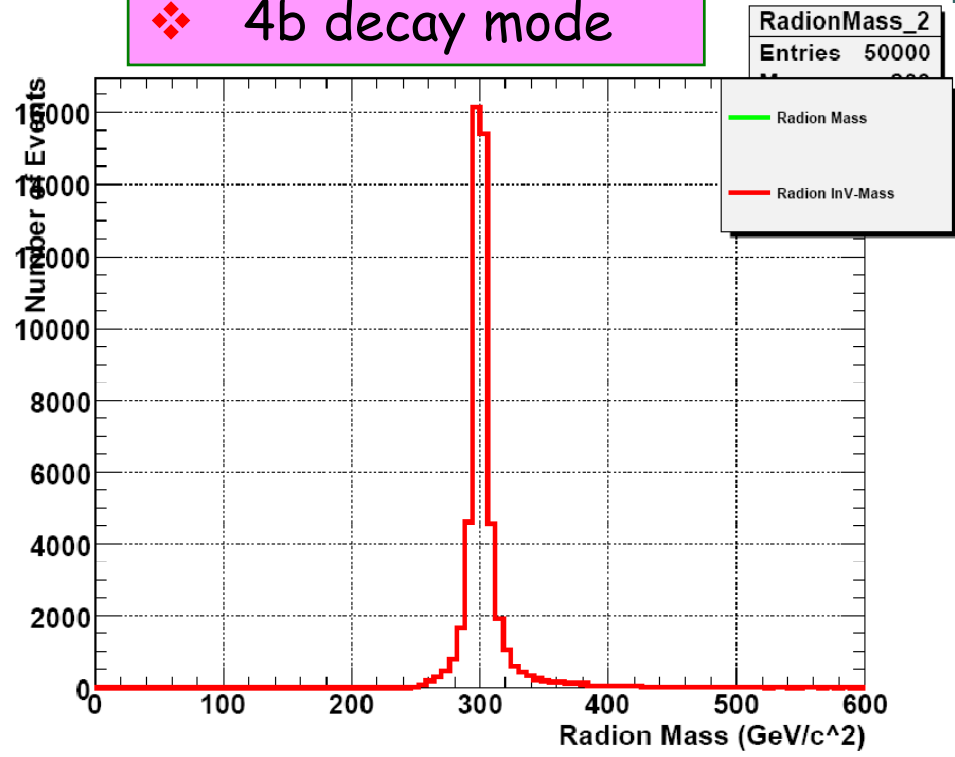


- Radion generated mass
- Radion invariant mass using the four momenta of the parton/lepton decay products.

❖ $2\tau 2b$ decay mode



❖ $4b$ decay mode



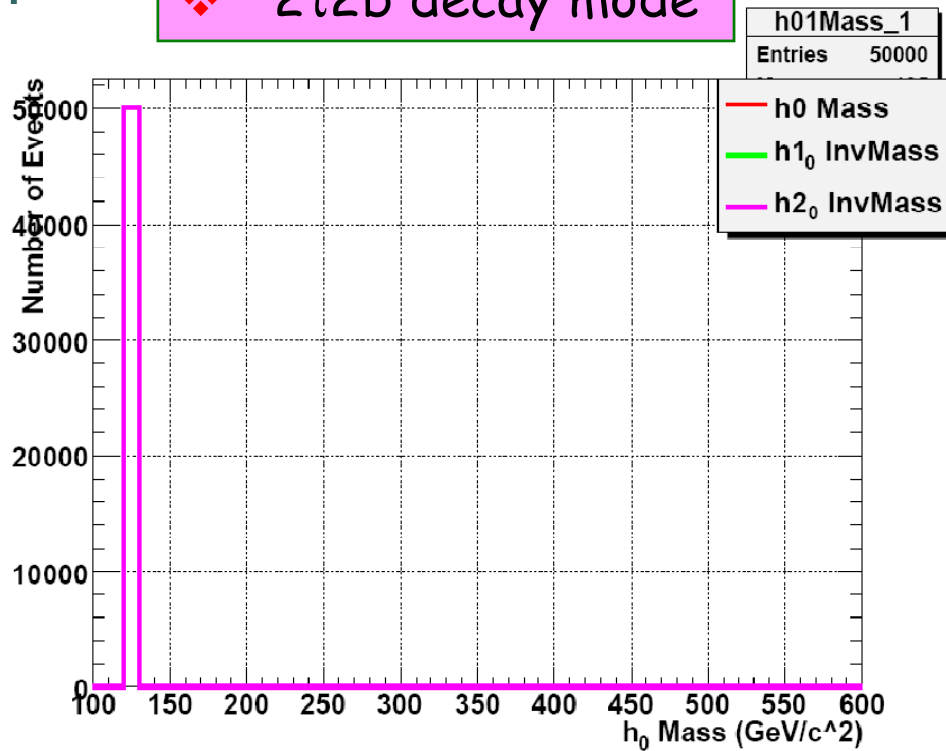


h_0 mass...

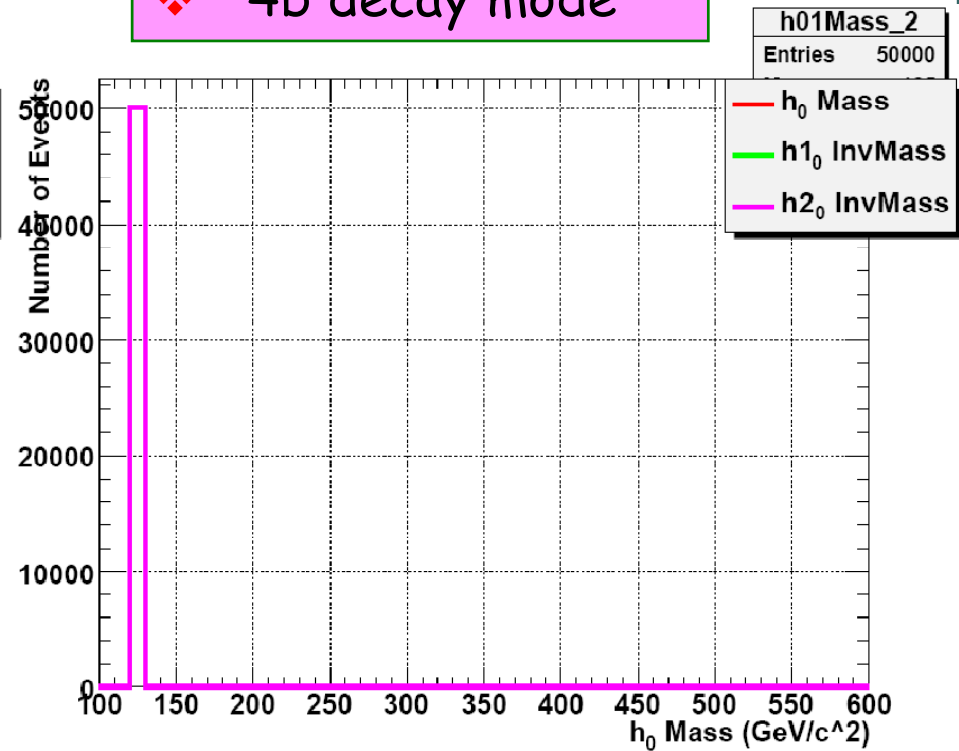


- h_0 generated mass
- h_0 invariant mass using the four momenta of the parton/lepton decay products.

❖ $2\tau 2b$ decay mode



❖ $4b$ decay mode

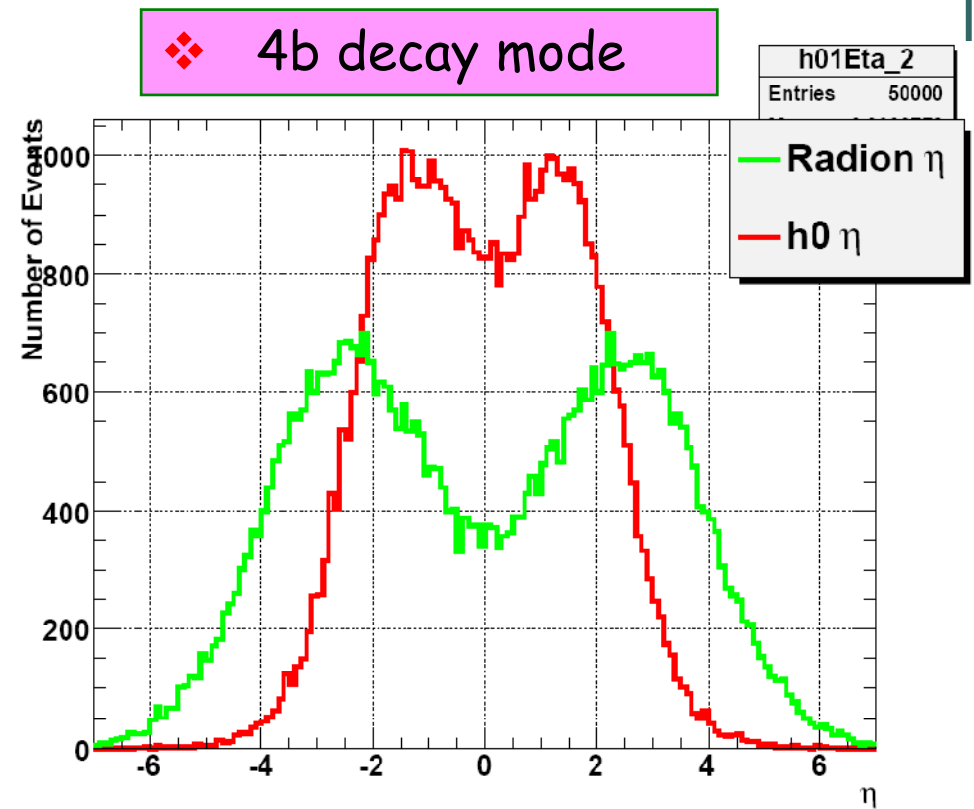
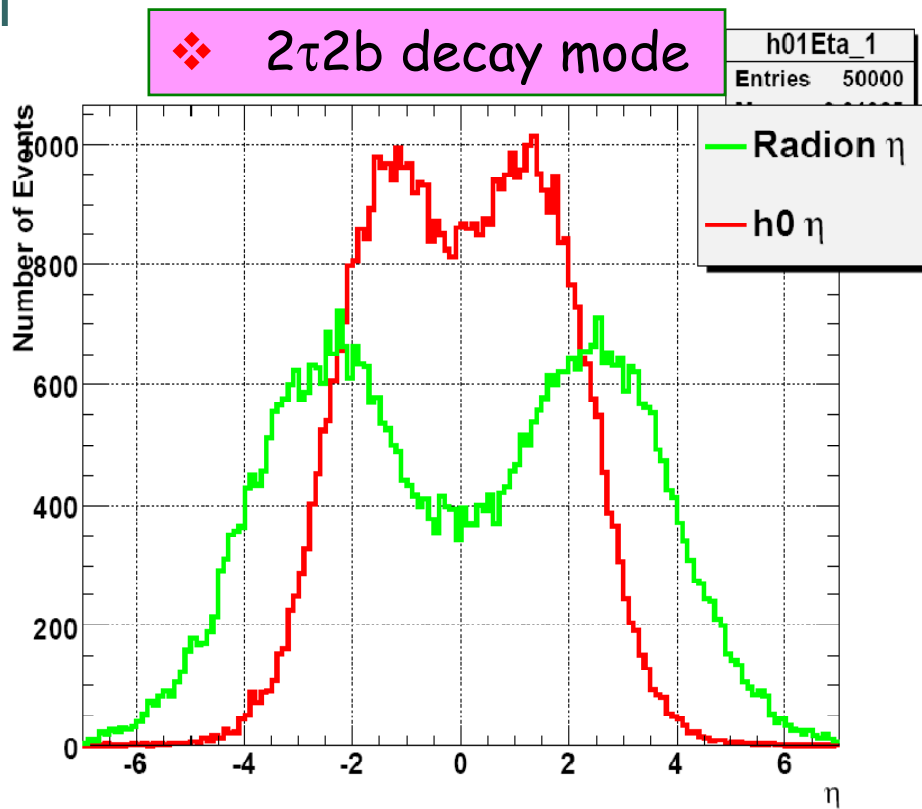




Parent's η Distribution...



➤ Radion and h_0 η distribution.



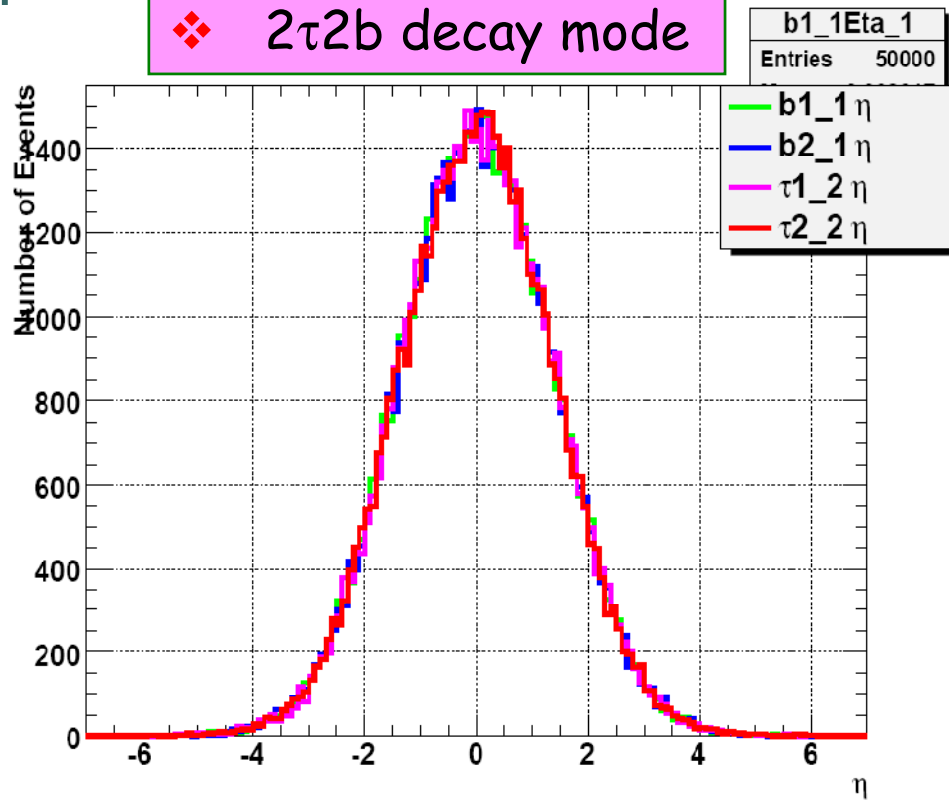


Children's η Distribution...

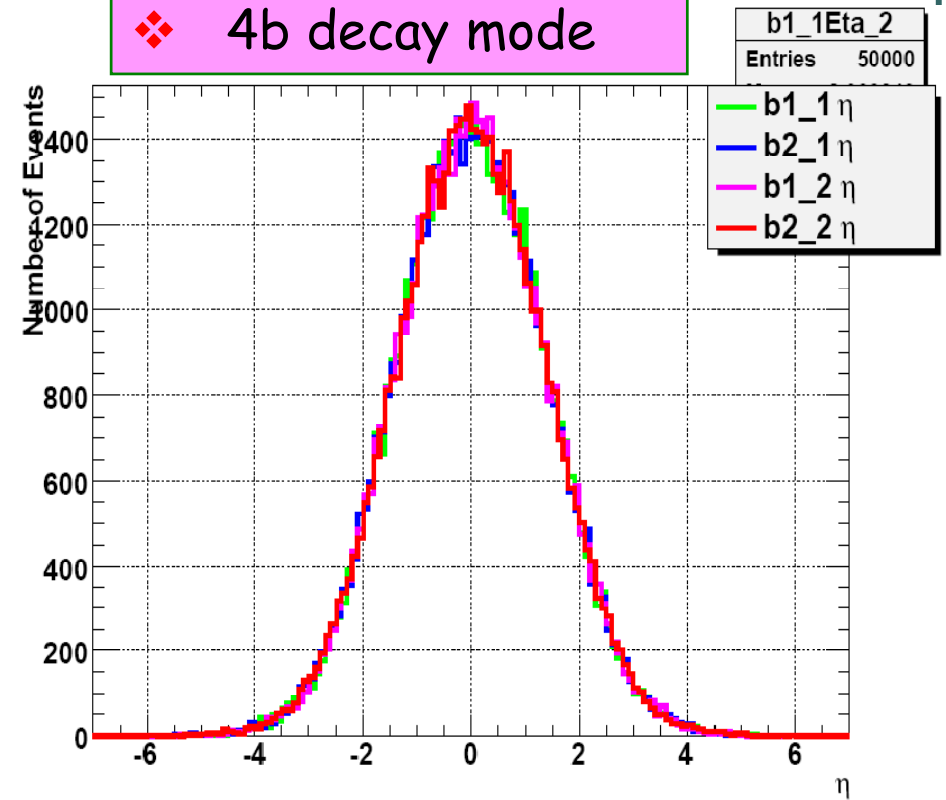


➤ Decay products η distribution.

❖ $2\tau 2b$ decay mode



❖ $4b$ decay mode

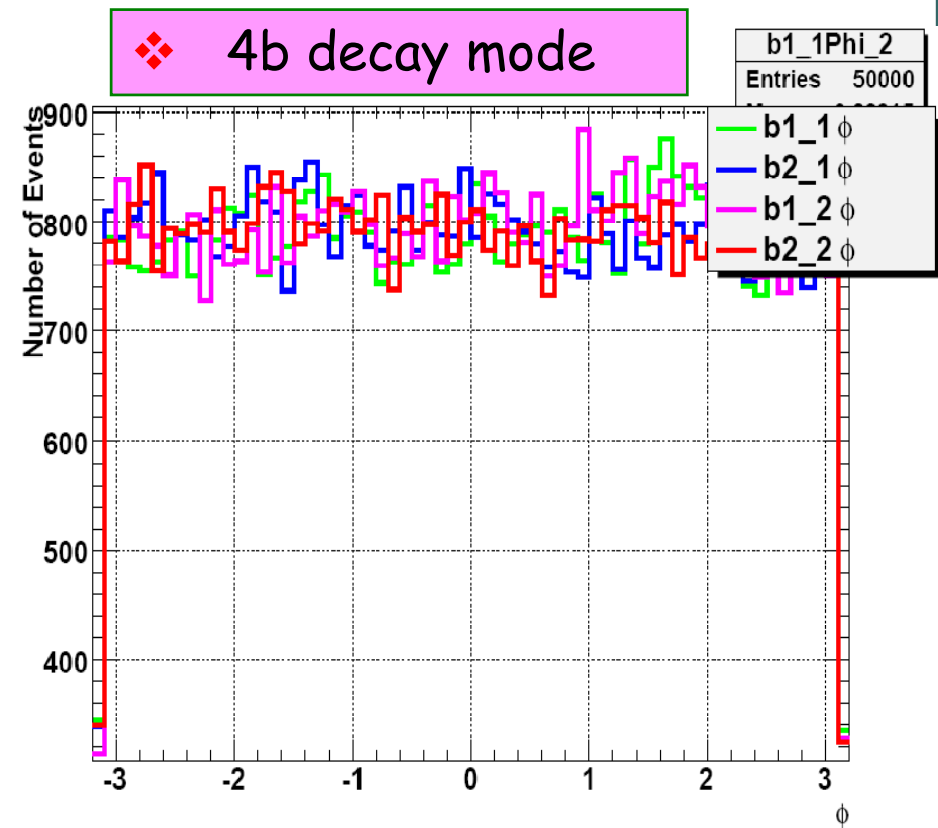
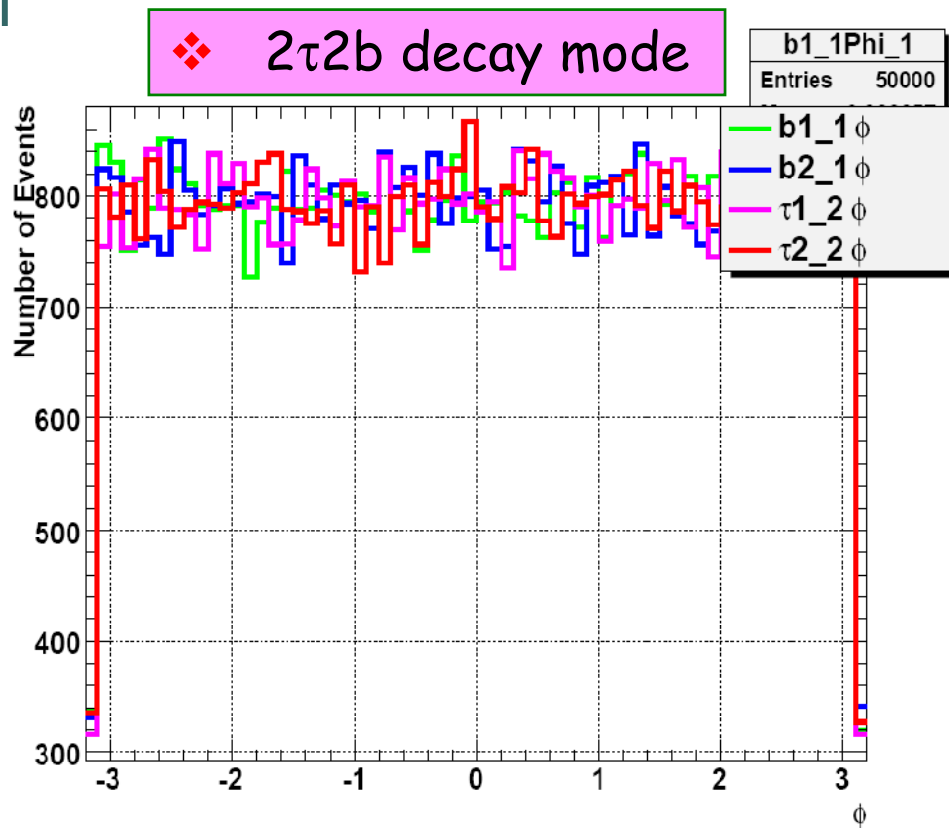




ϕ Distribution...



➤ Decay products ϕ distribution.

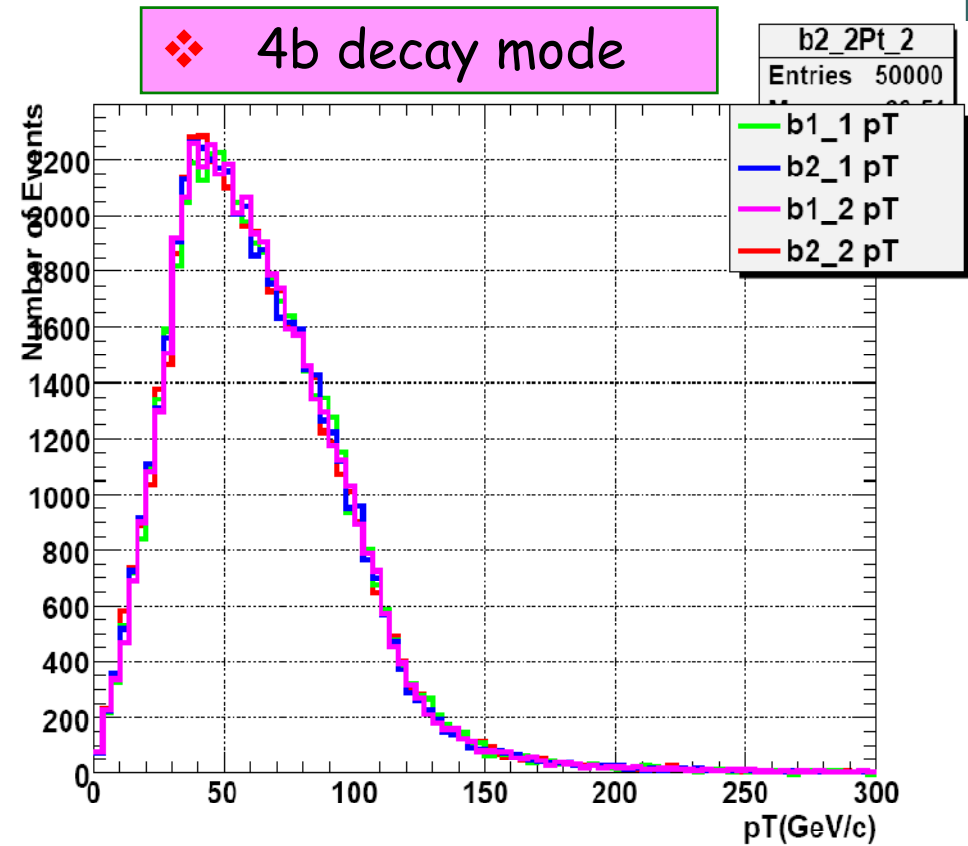
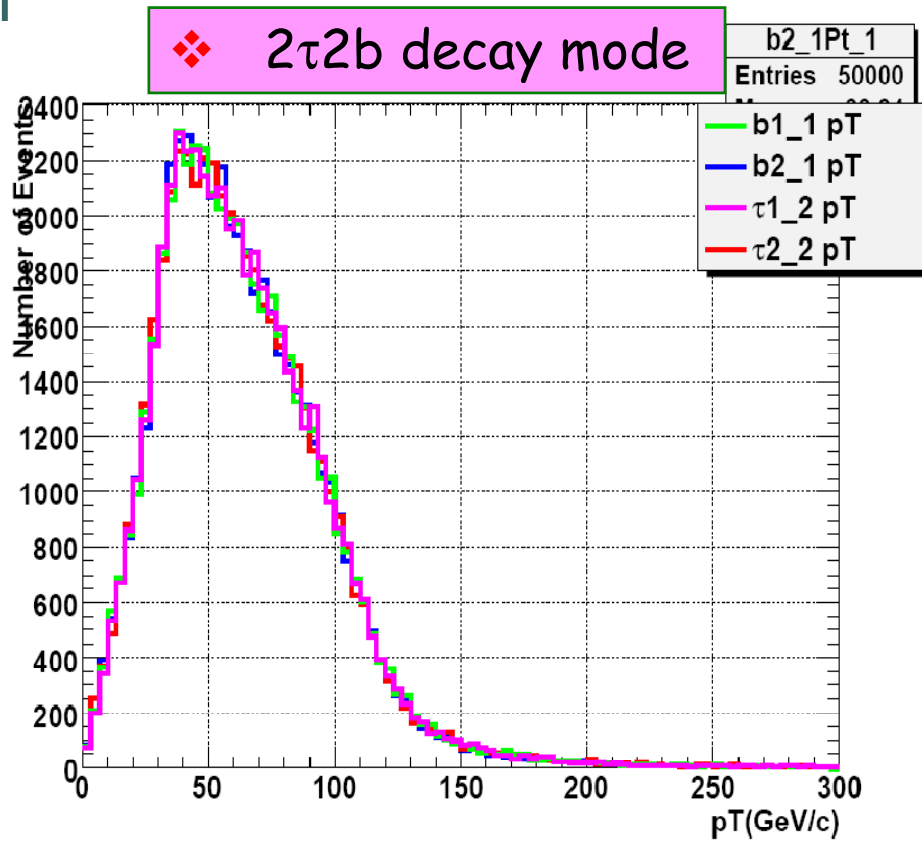




pT Distribution...

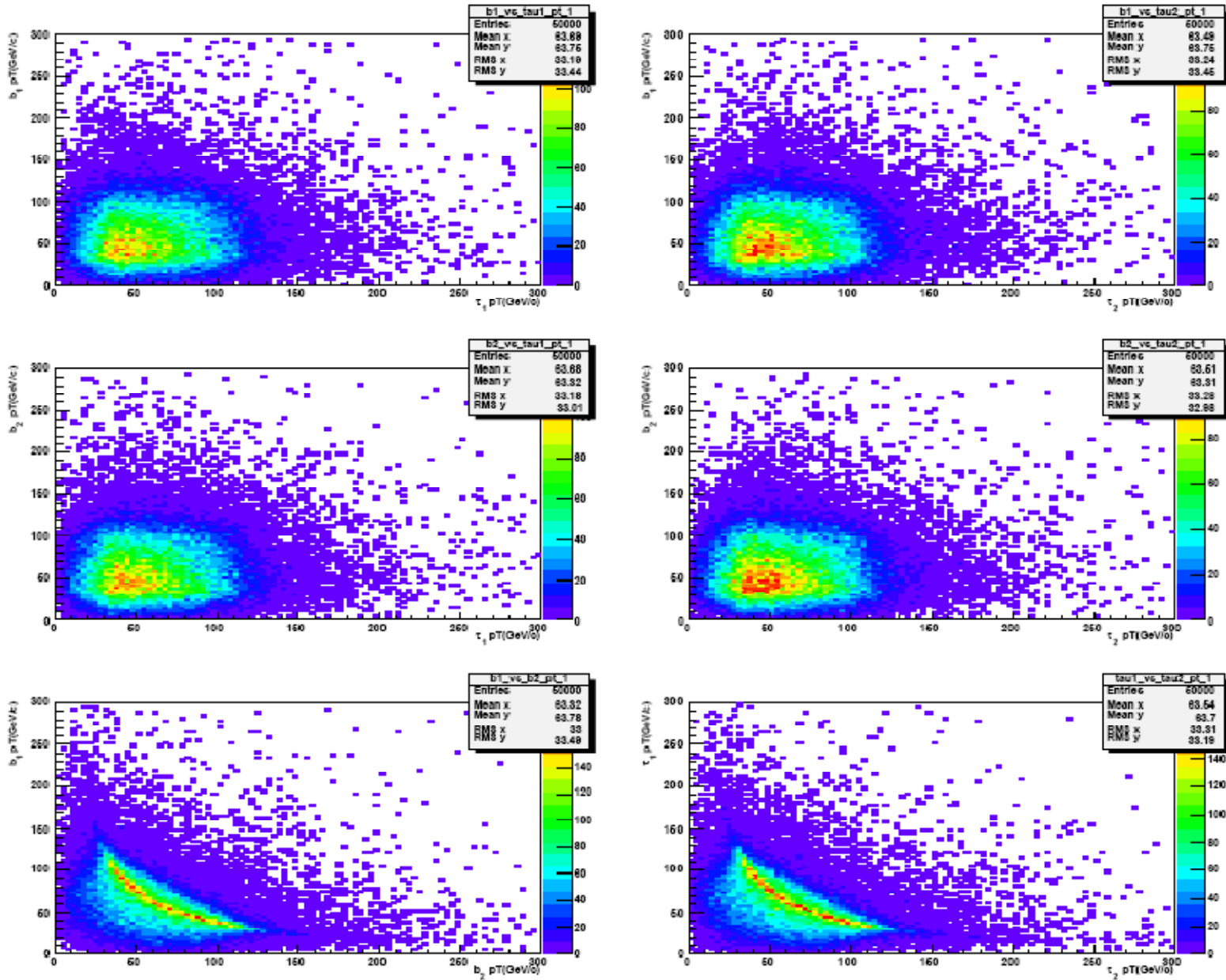


➤ Decay products pT distributions.





pT Correlation Plots for $2\tau 2b$ decay mode...





pT Correlation Plots 4b decay mode...

