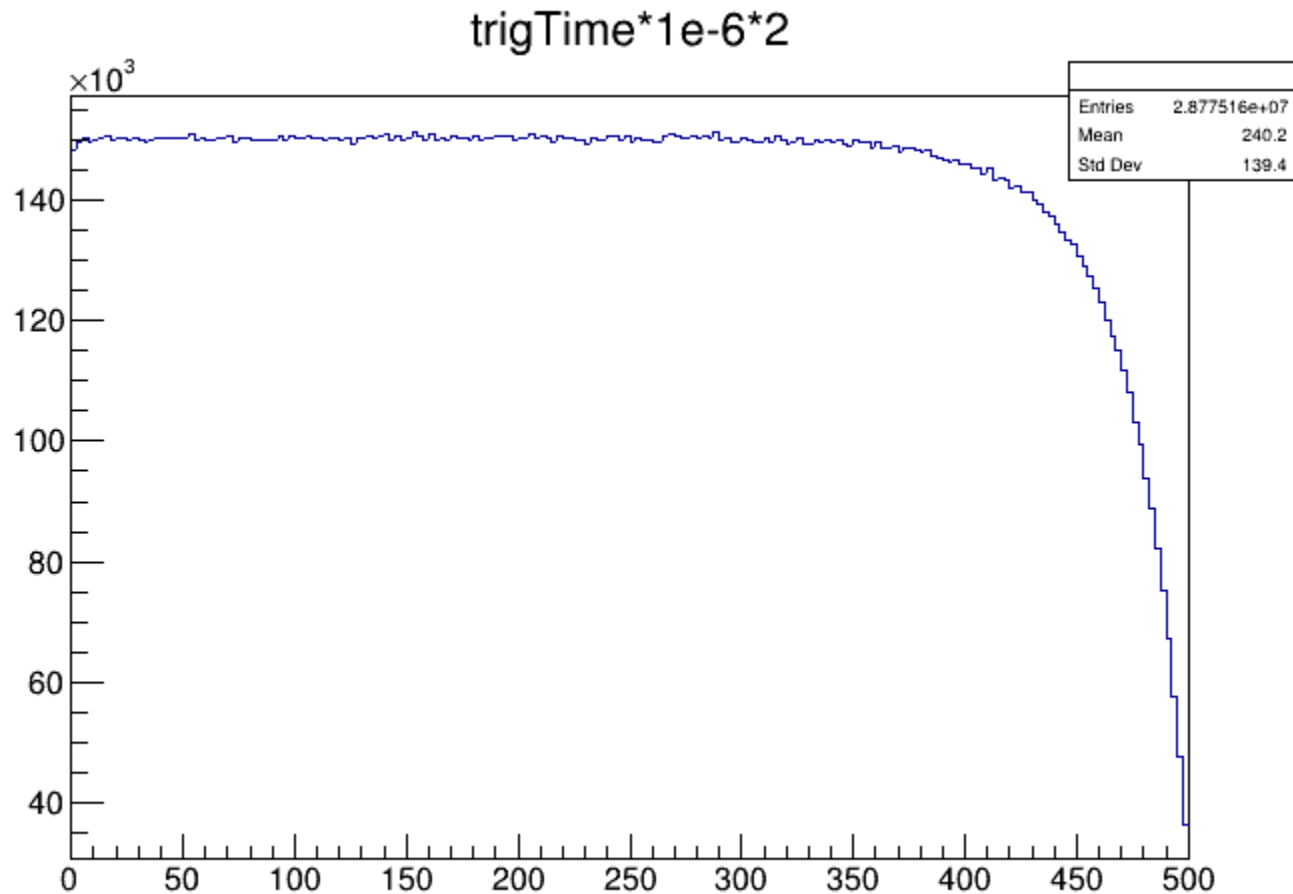


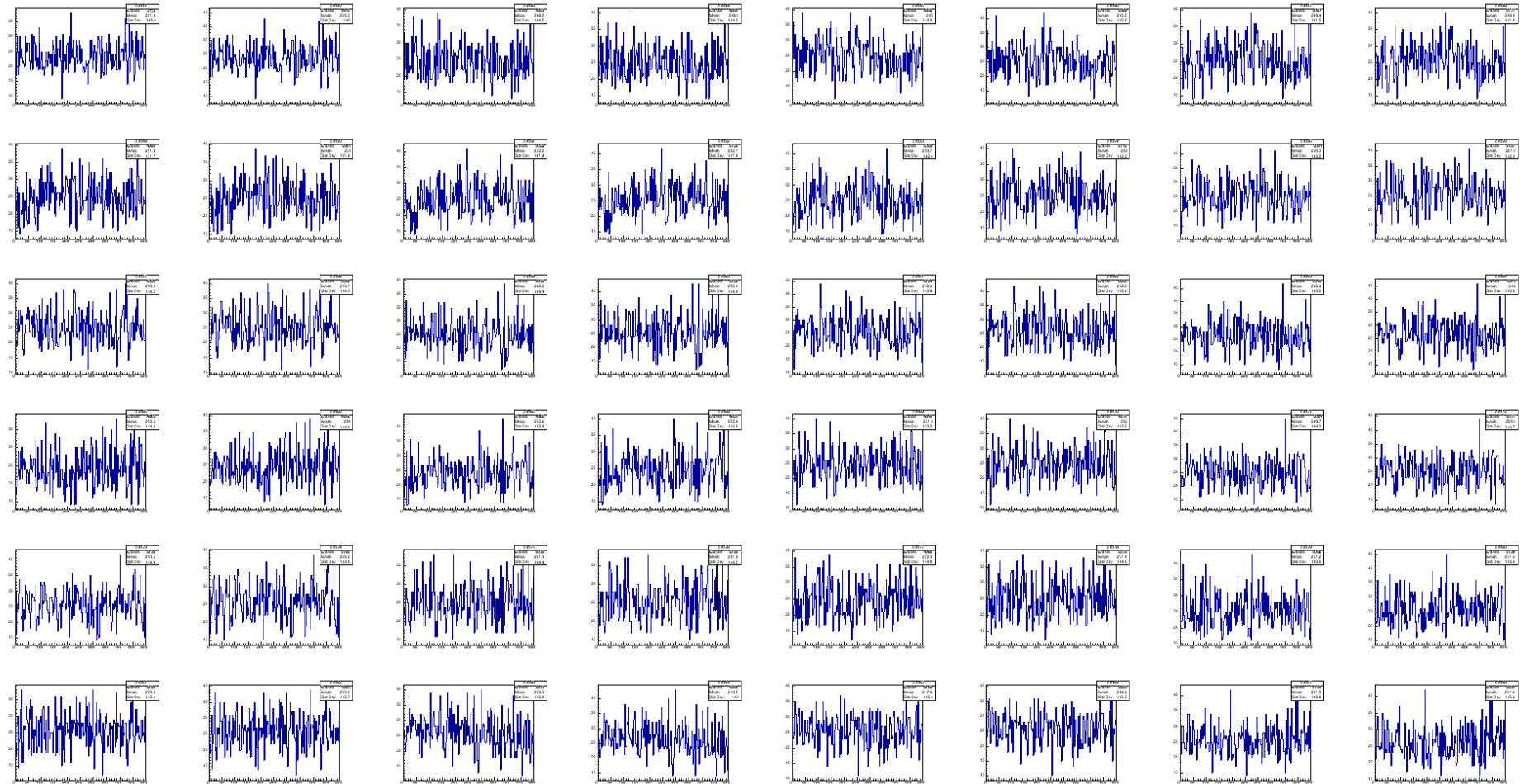
# Simulation trigger bug

- The last hit for a FADC in 500ms is sometimes ignored.



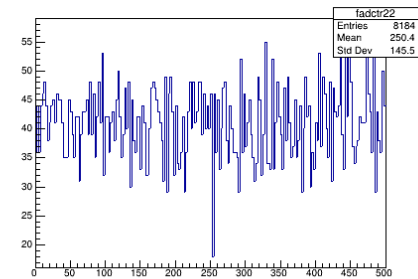
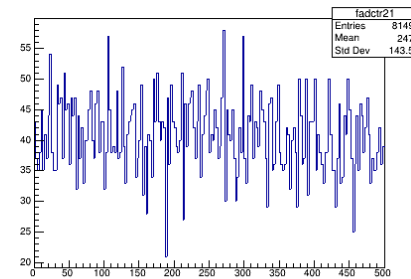
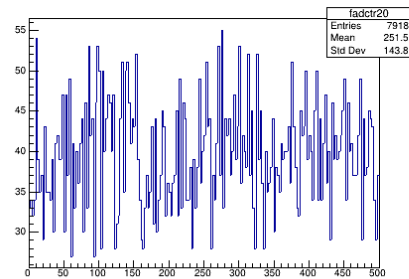
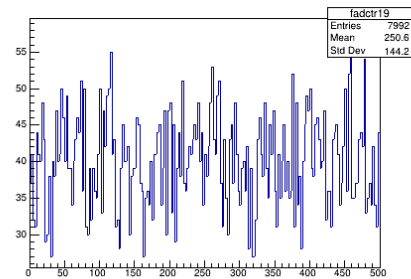
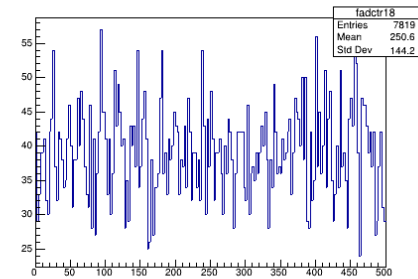
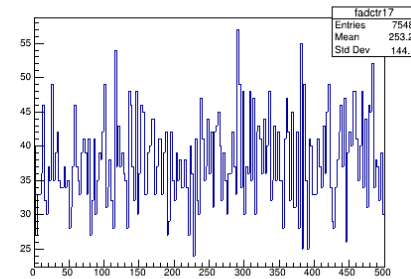
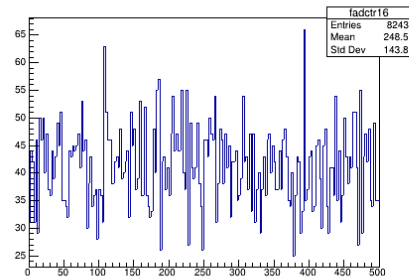
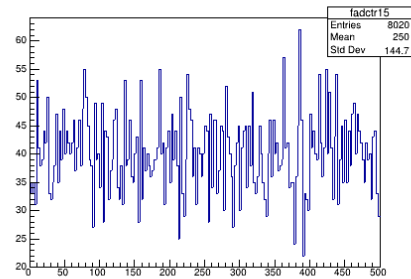
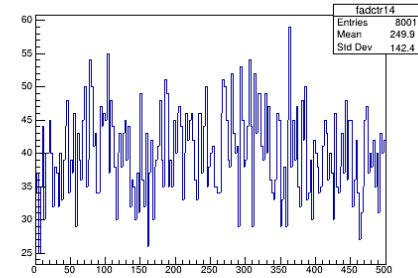
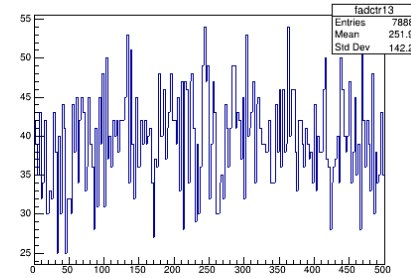
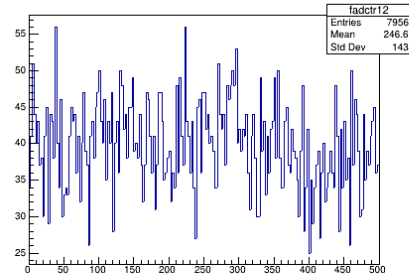
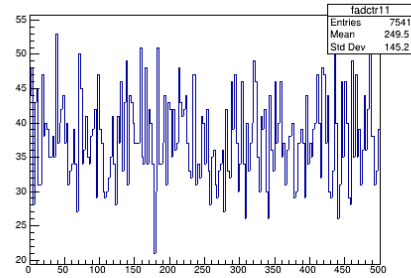
# Bug fix

- Ch trigger



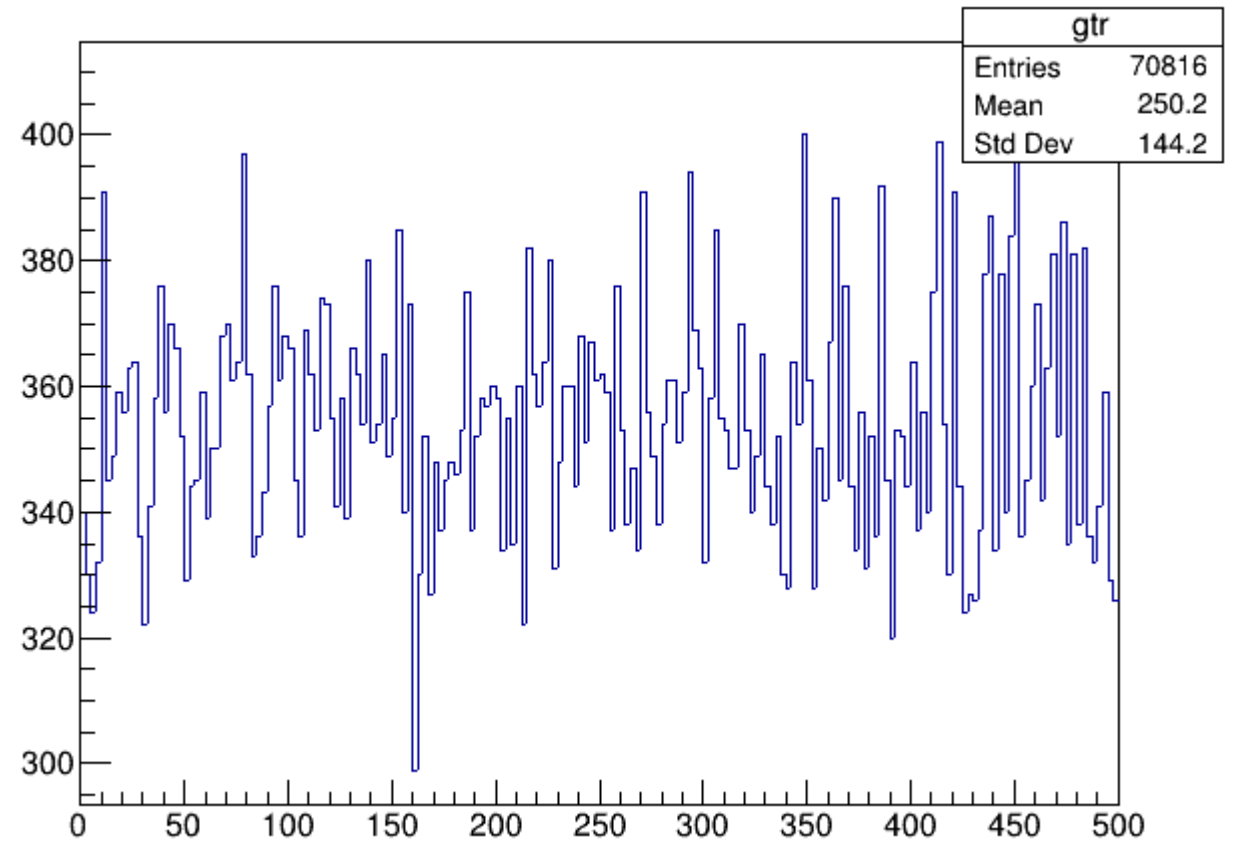
# Bug fix

- fadc trigger



# Bug fix

- Global trigger

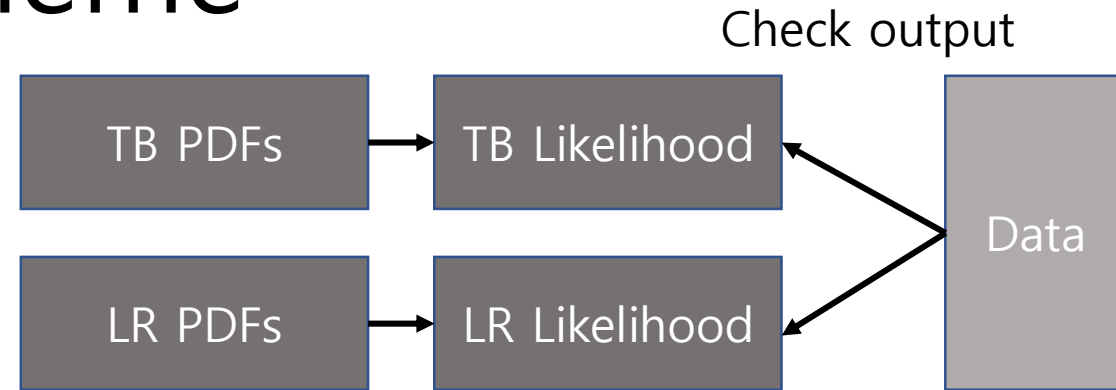


# Cosmic ray rejection with precut

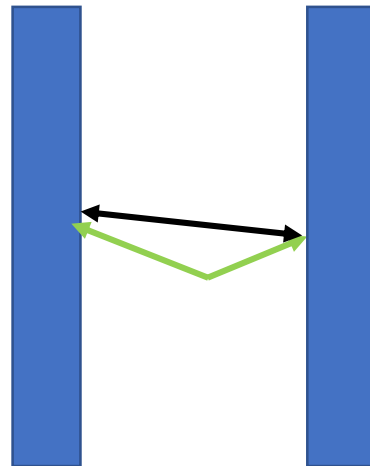
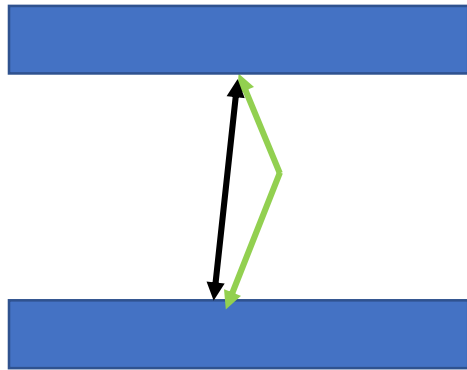
- T-B or L-R hits combination
- 3MeV threshold
- $dt_{TB} < 3$  and  $abs(dt_{LR}) < 2.8$
- Cut by hand should be performed on 6 dimension.
- Likelihood with 5 variables will be introduced.
- With no cut on dt, likelihood gets worse because other variable separations are not good compared to dt separation.

# Input variables and scheme

- dt (already precut)
- # of Hits
- Total energy loss
- The fastest hit position of x coordinates.
- cdt/dr in T-B or L-R

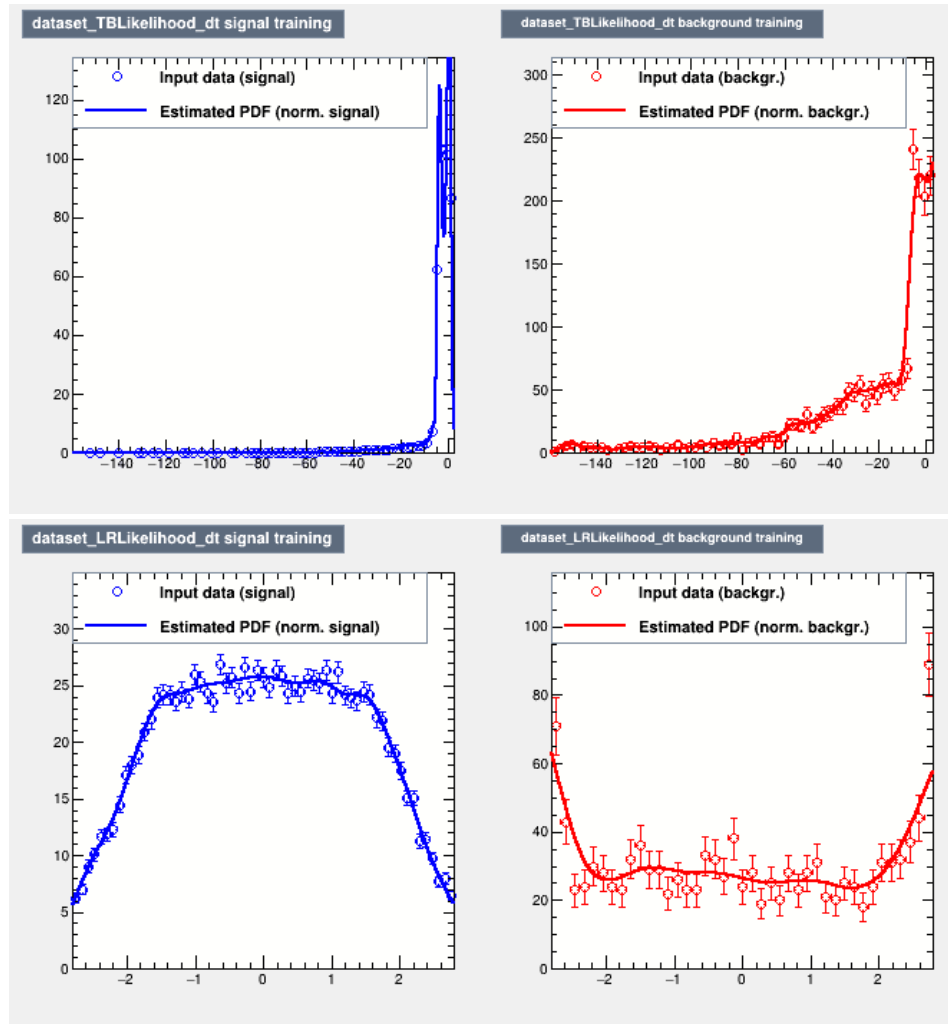


Check both likelihood. If the data pass a cut of TB or LR likelihood, it becomes a signal.



# input variable interpolation

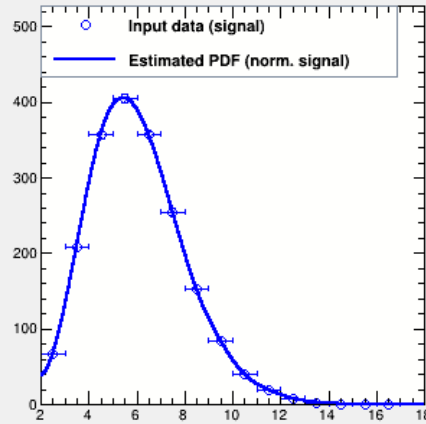
- up: TB , dw: LR , dt



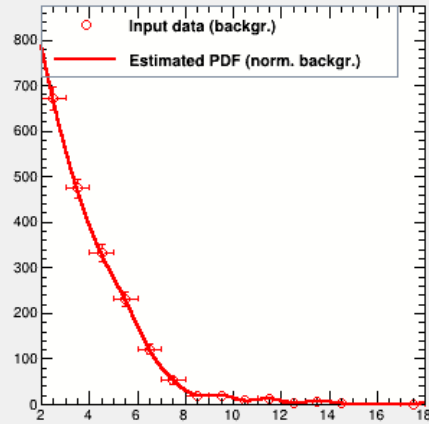
# input variable interpolation

- up: TB , dw: LR , nHits

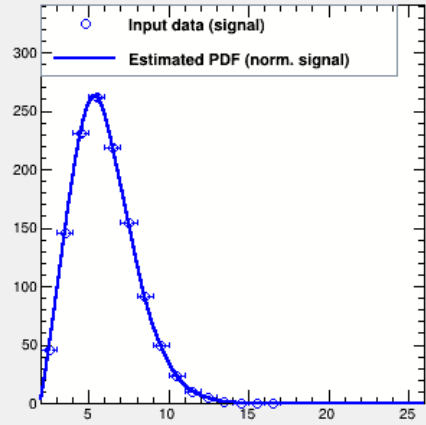
nHits signal training



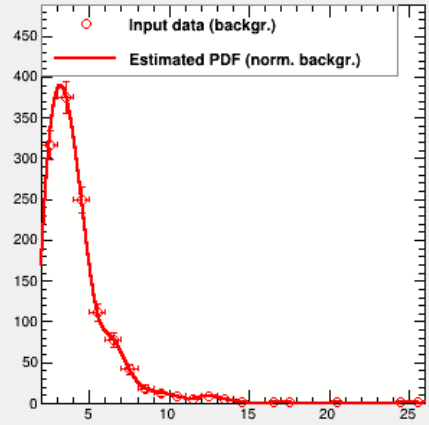
nHits background training



nHits signal training



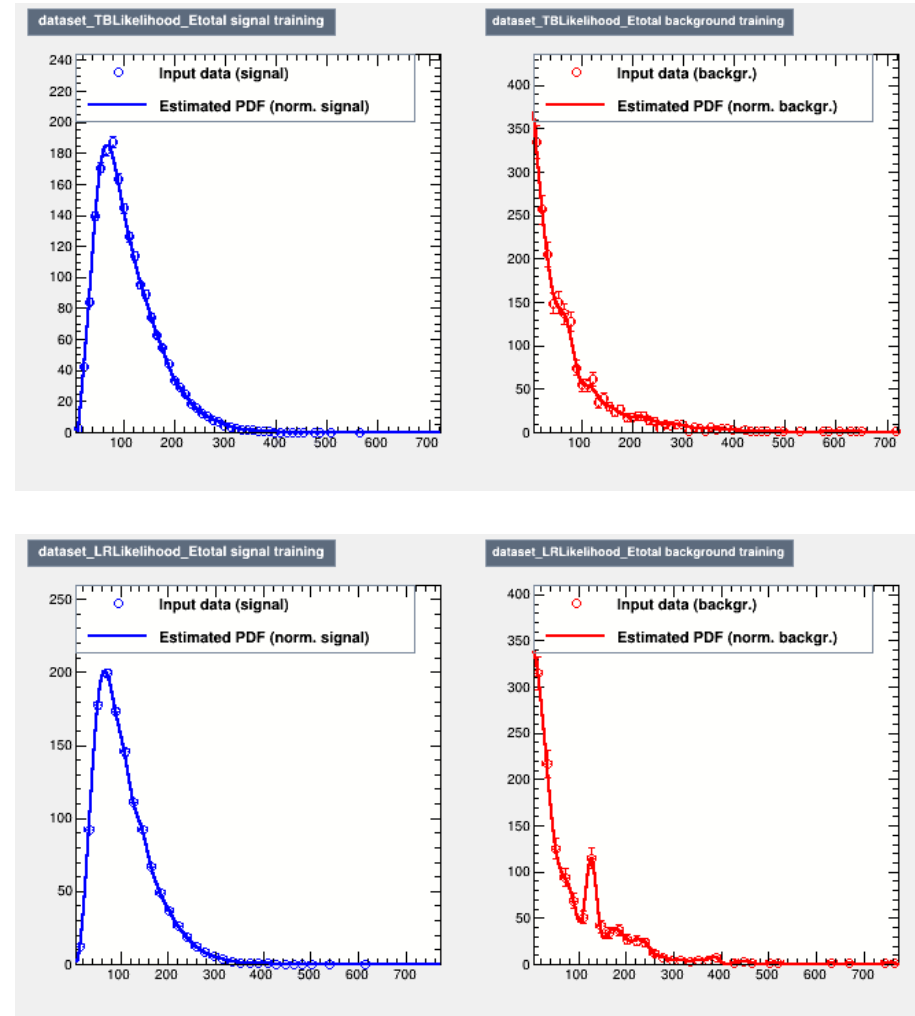
nHits background training





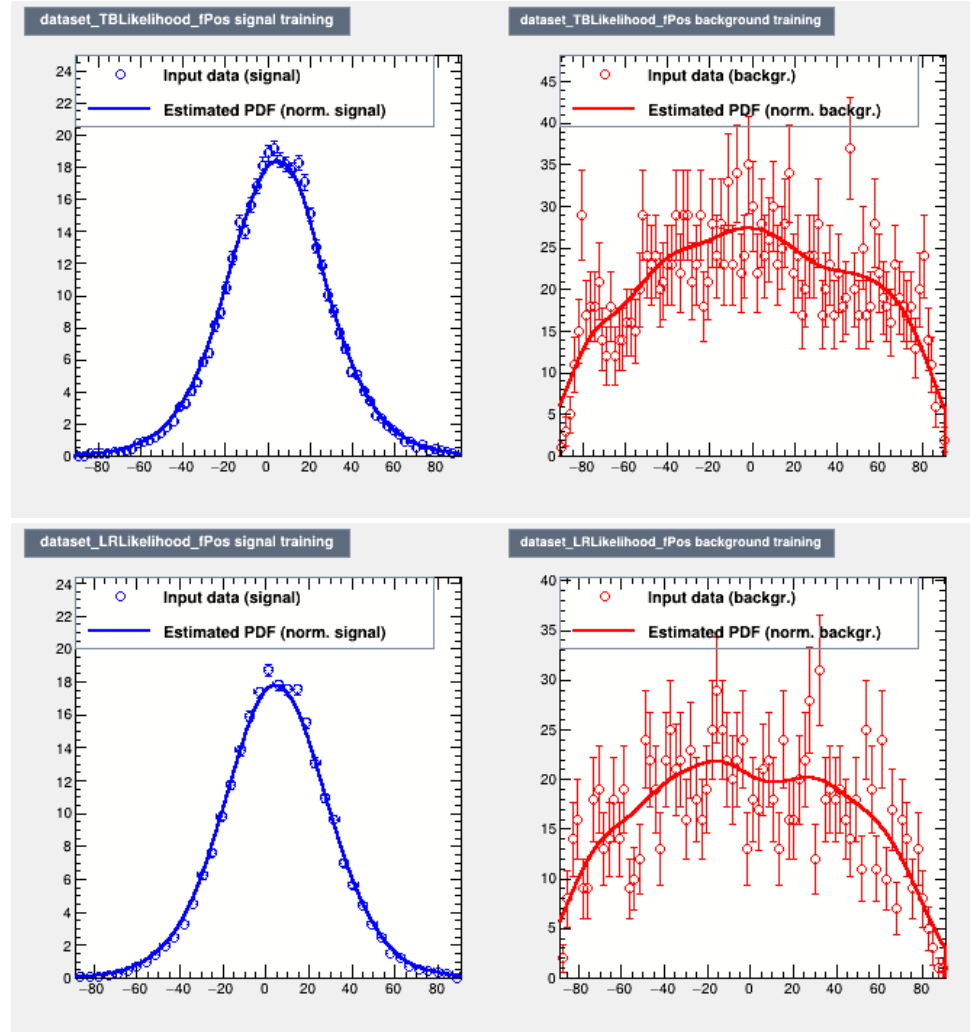
# input variable interpolation

- up: TB , dw: LR , Eloss



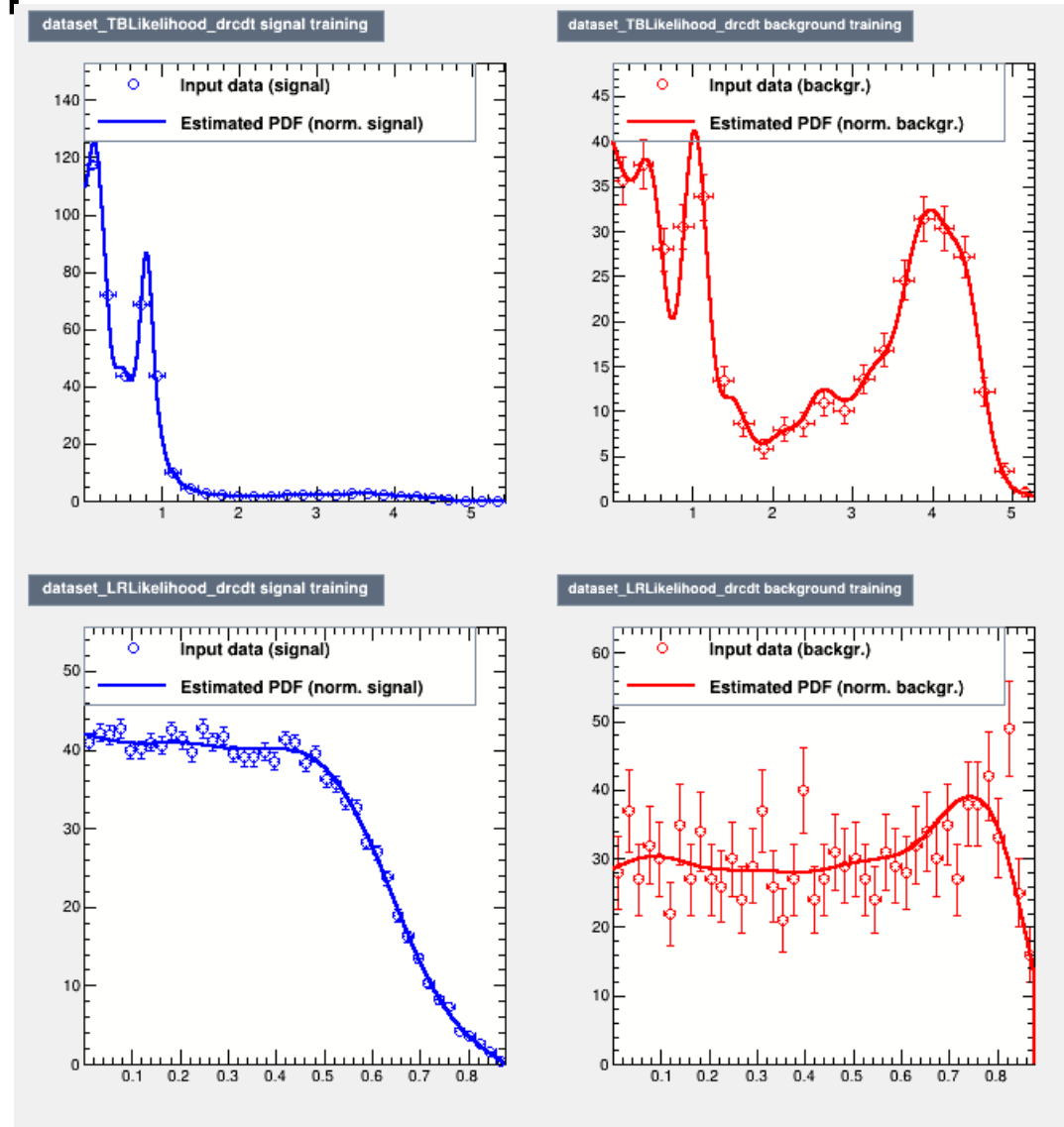
# input variable interpolation

- up: TB , dw: LR , fastest X pos



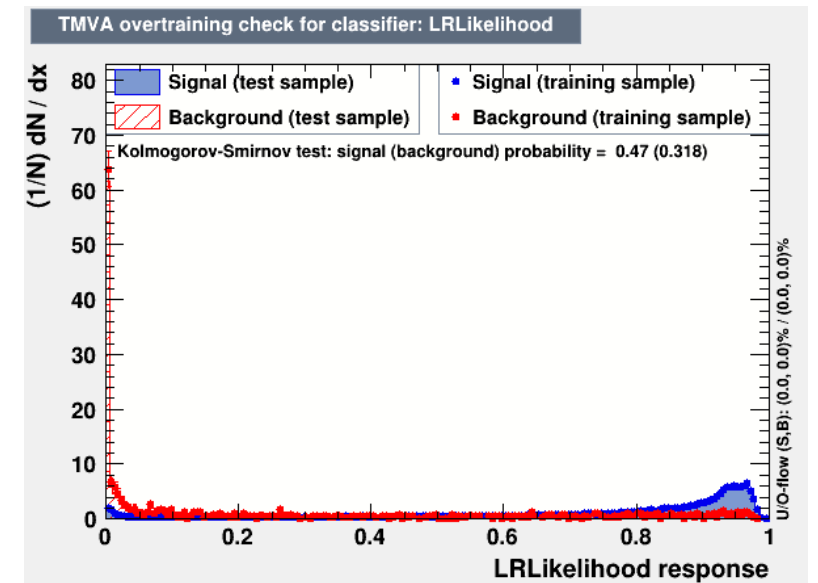
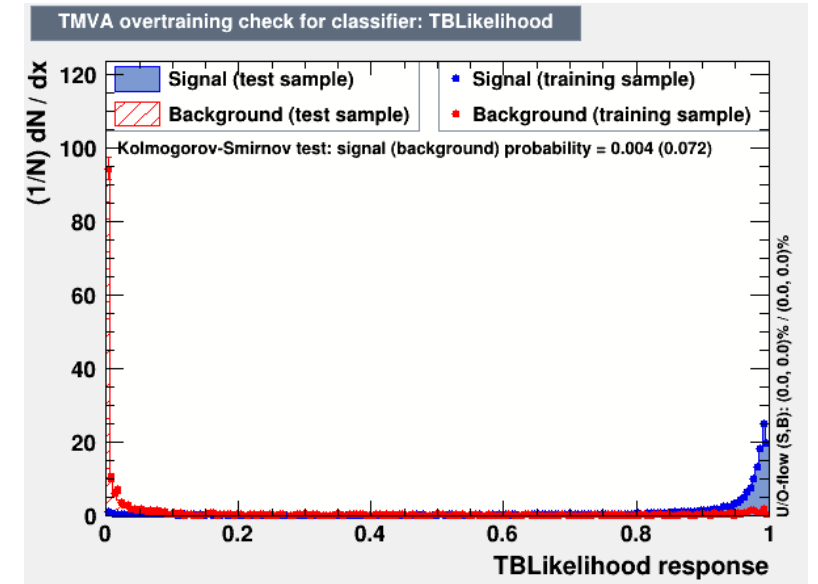
# input variable interpolation

- up: TB , dw: LR , cdt/dr



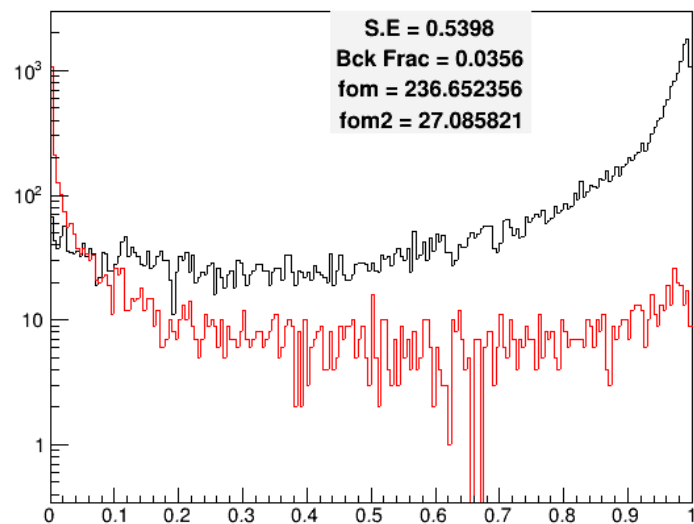
# Output

- Up: TB, dw: LR
- Find optimal point which makes significance maximum.

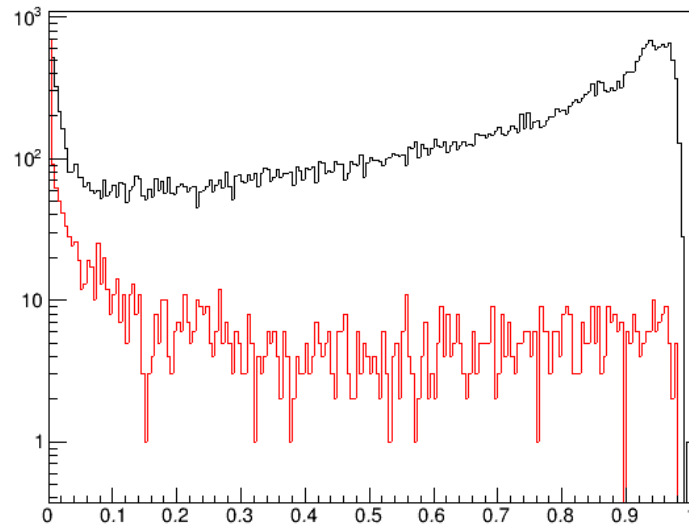


# Test

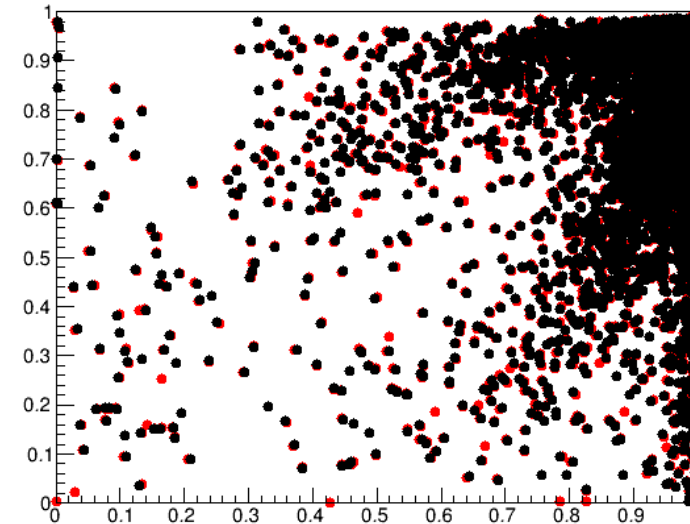
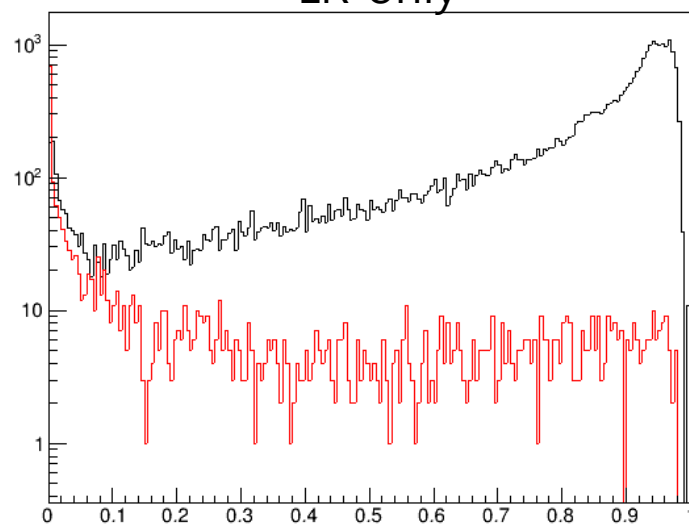
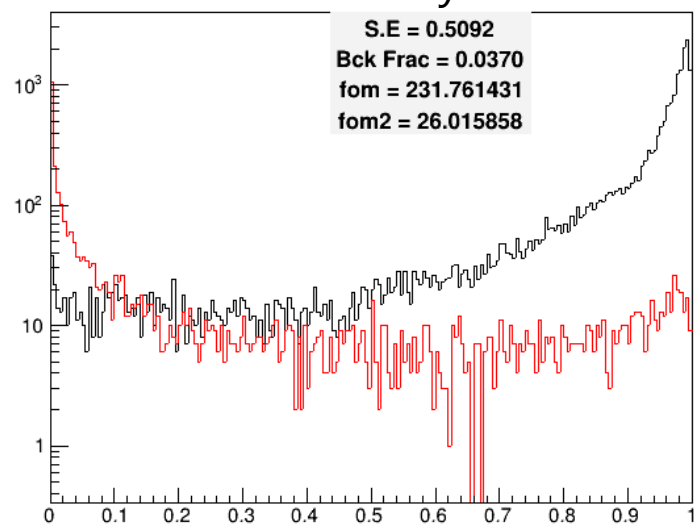
- Up: upward, dw: downward



TB only



LR only



TBLR

