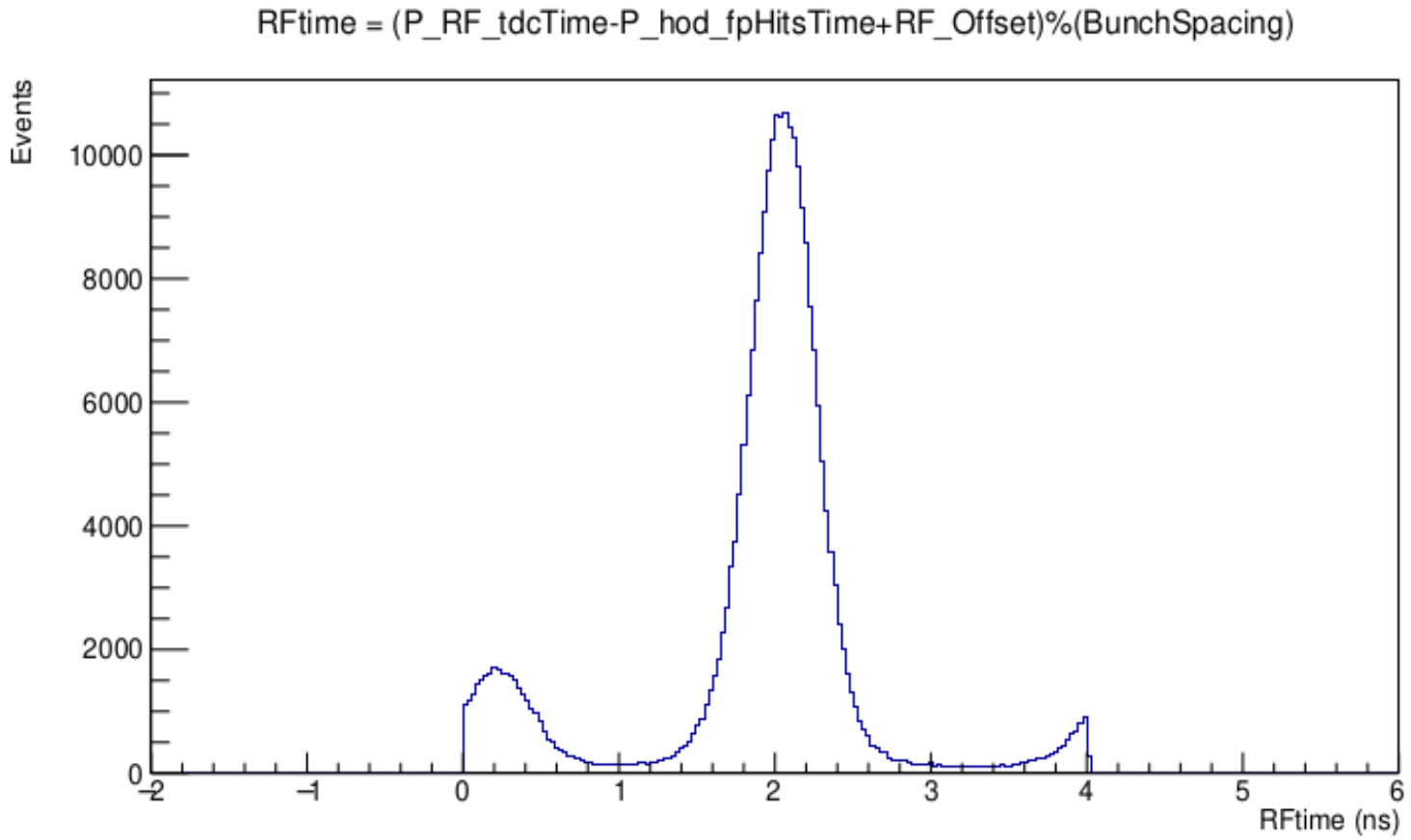
Analysis updates

PID Study (SHMS)

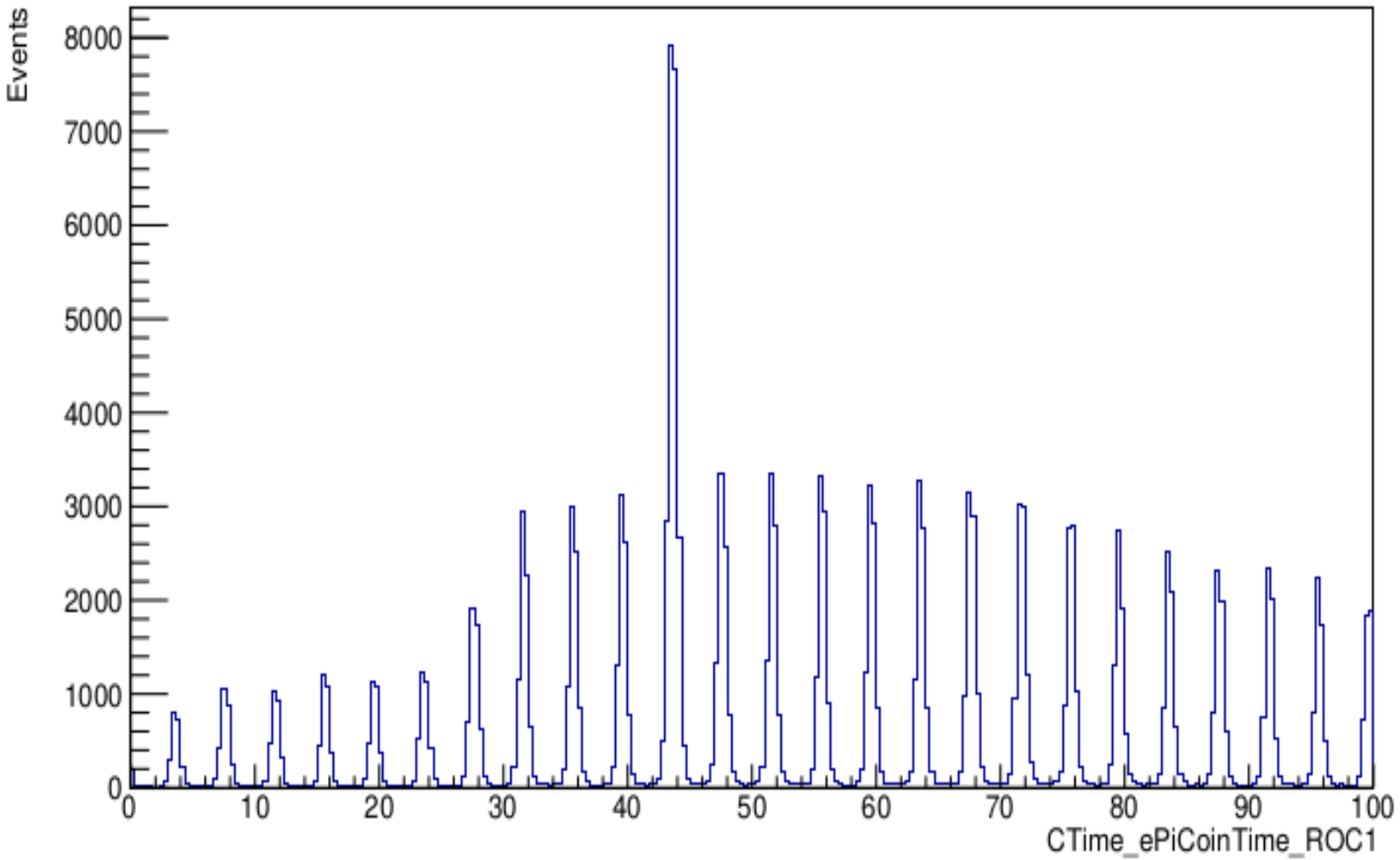
RF Timing Plot

- RF timing plots of the pion, Kaon and proton have an extra bump in the both sides to the main peaks.

Pion RF timing plot:

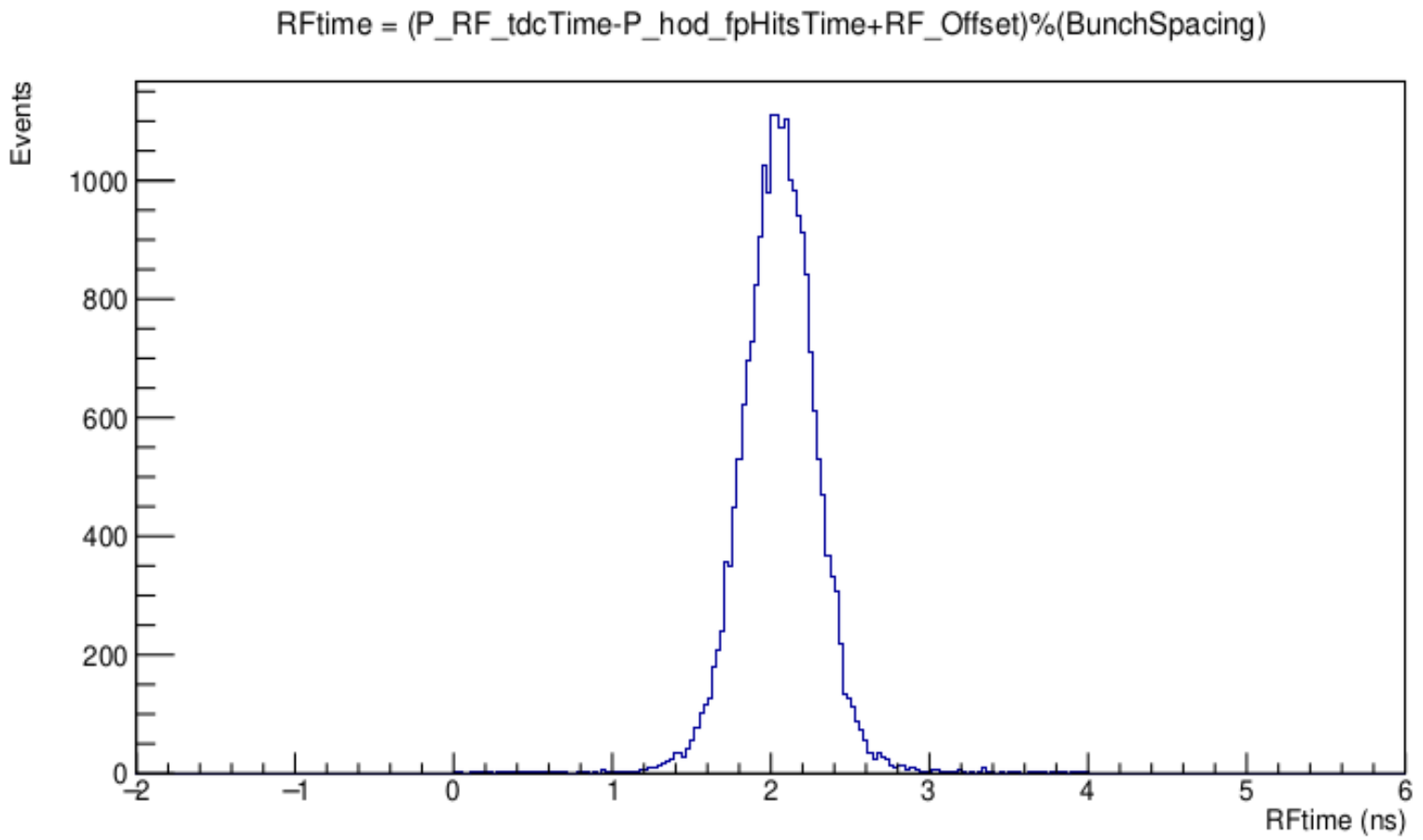


Electron-Pion coin time:

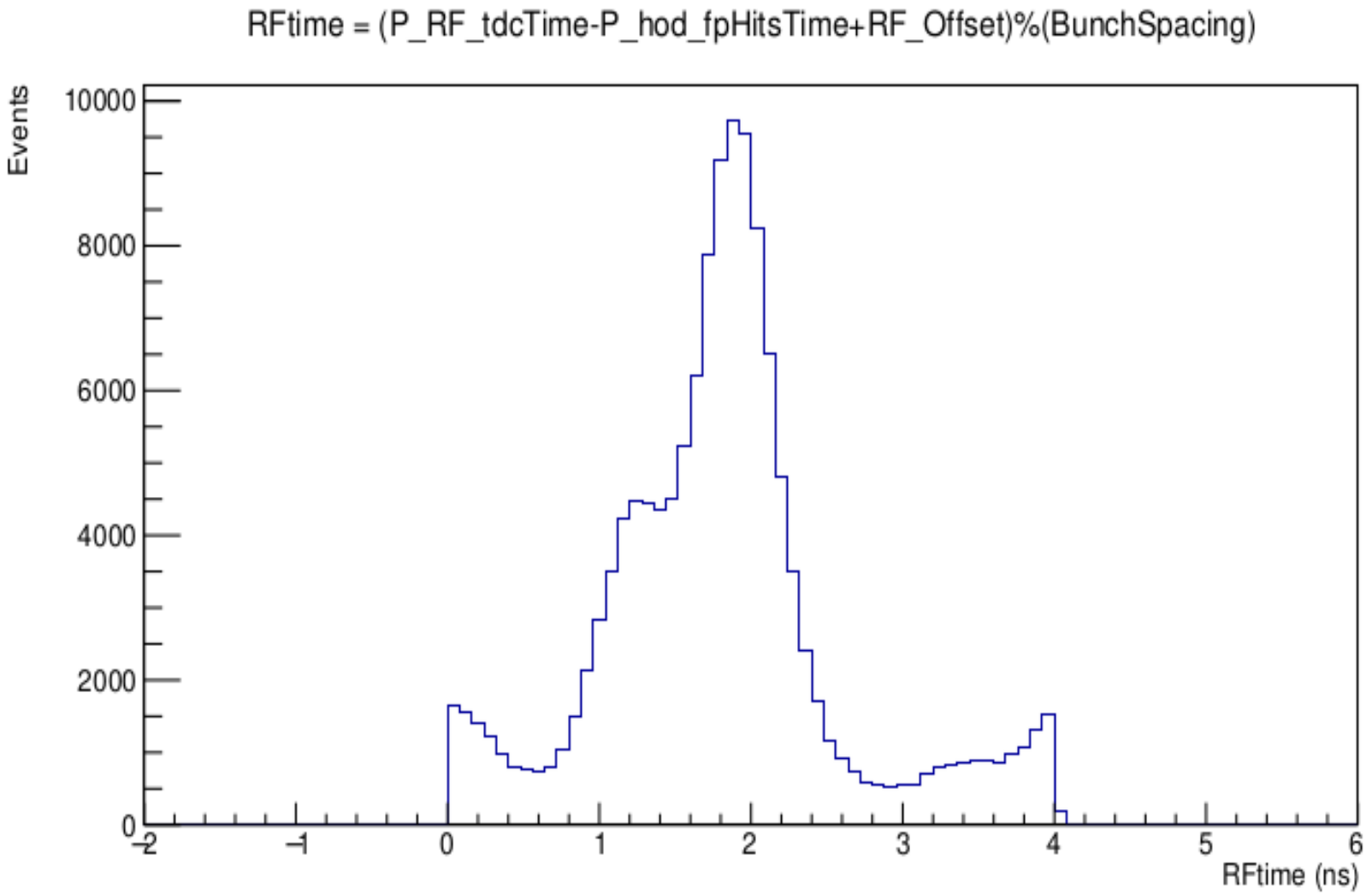


- The extra bumps in the RF timing plot have gone on selecting the prompt peak from the electron-pion coin time.

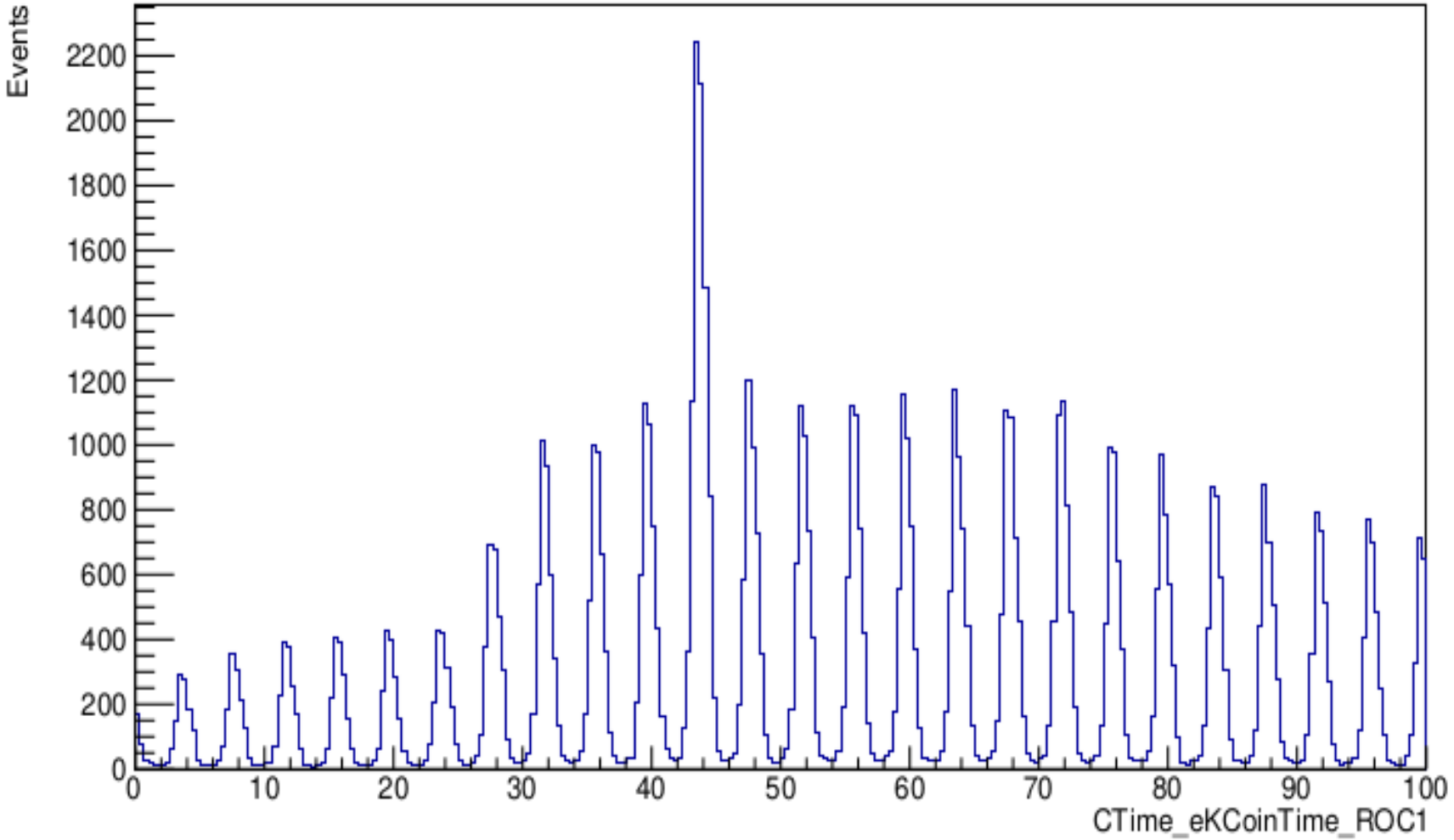
Pion RF timing plot with cuts:



Kaon RF timing plot:

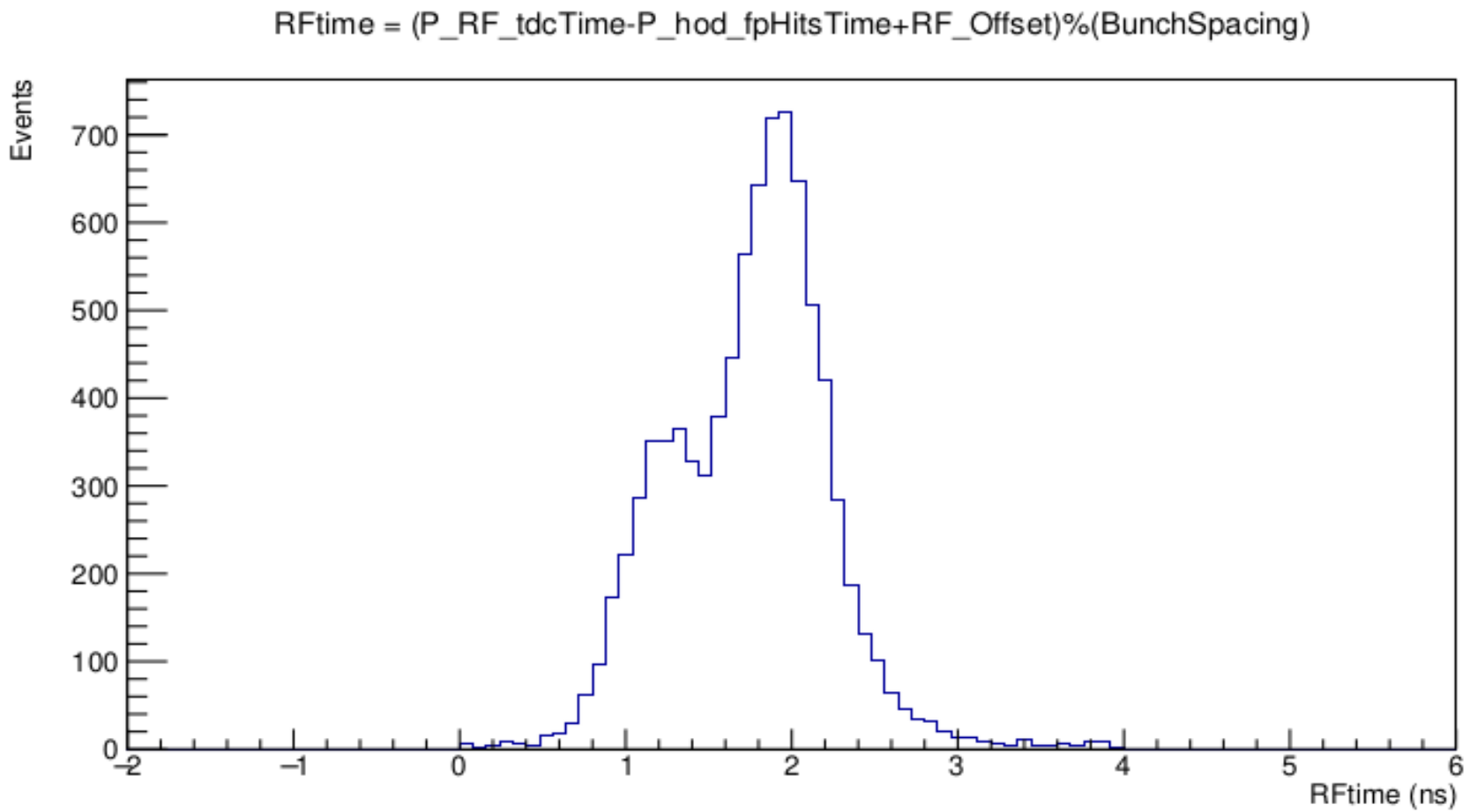


Electron-Kaon coin time:

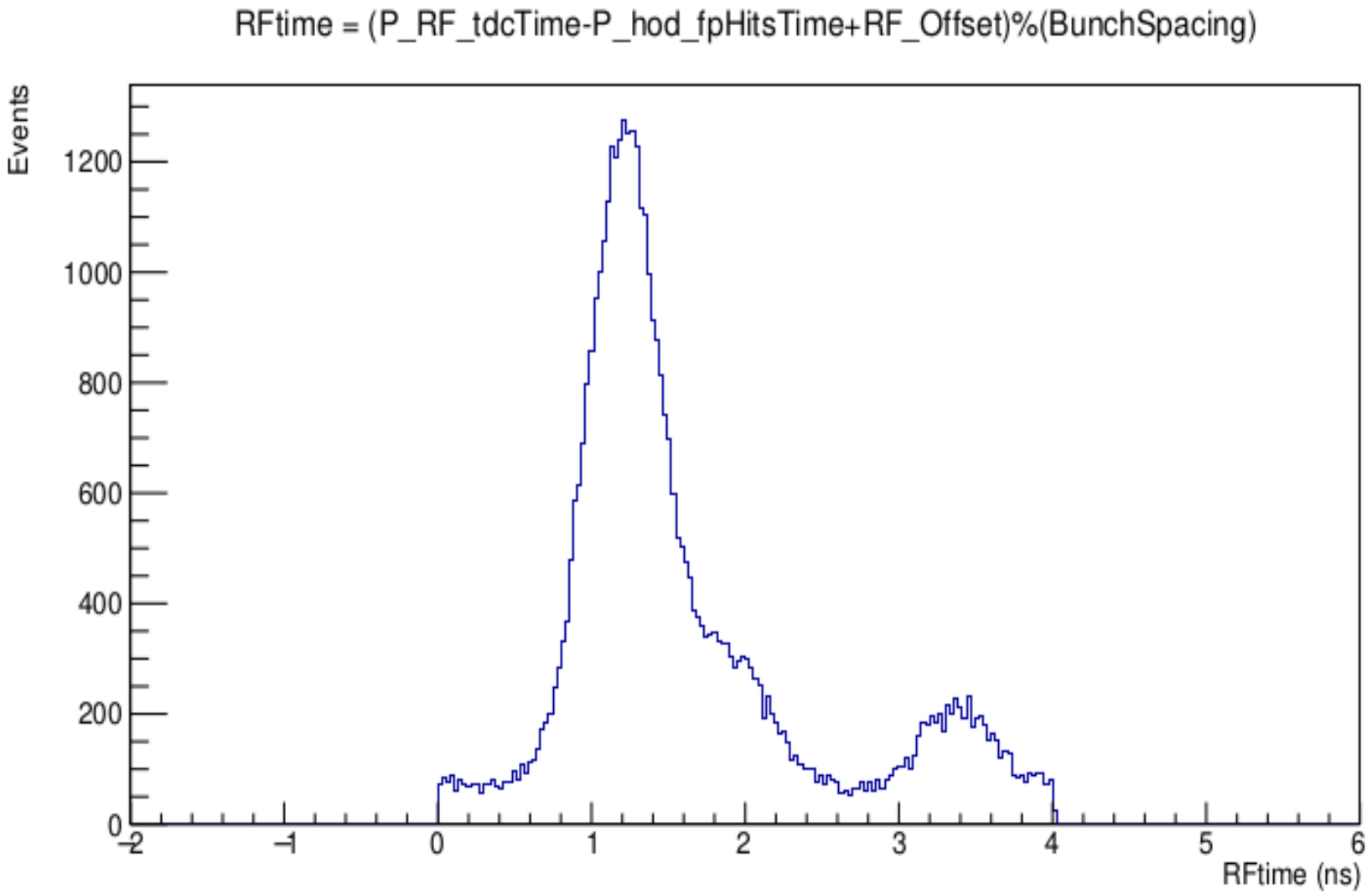


- The extra bumps in the RF timing plot have gone on selecting the prompt peak from the electron-kaon coin time.

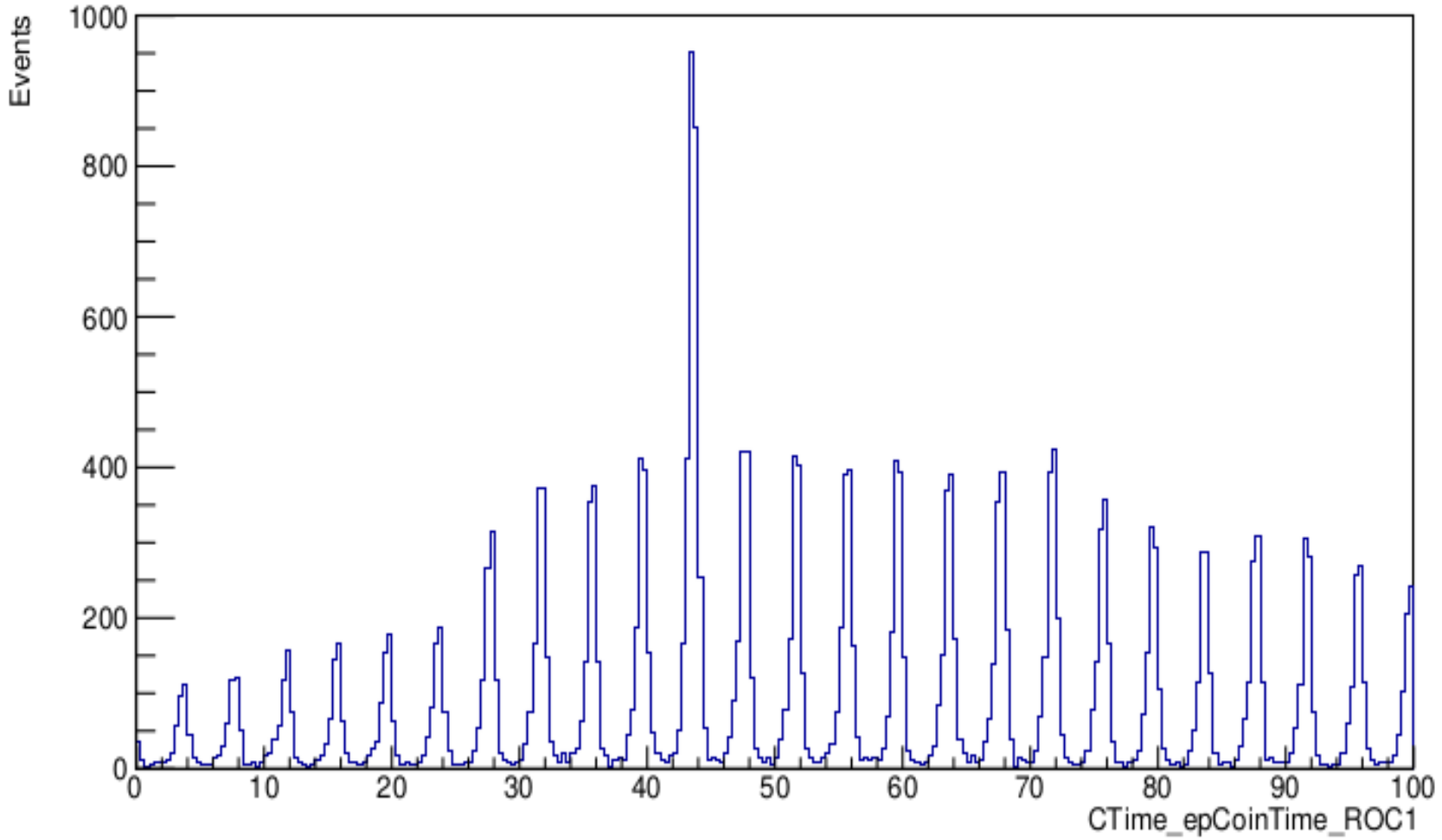
Kaon RF timing plot with cuts:



Proton RF timing plot:

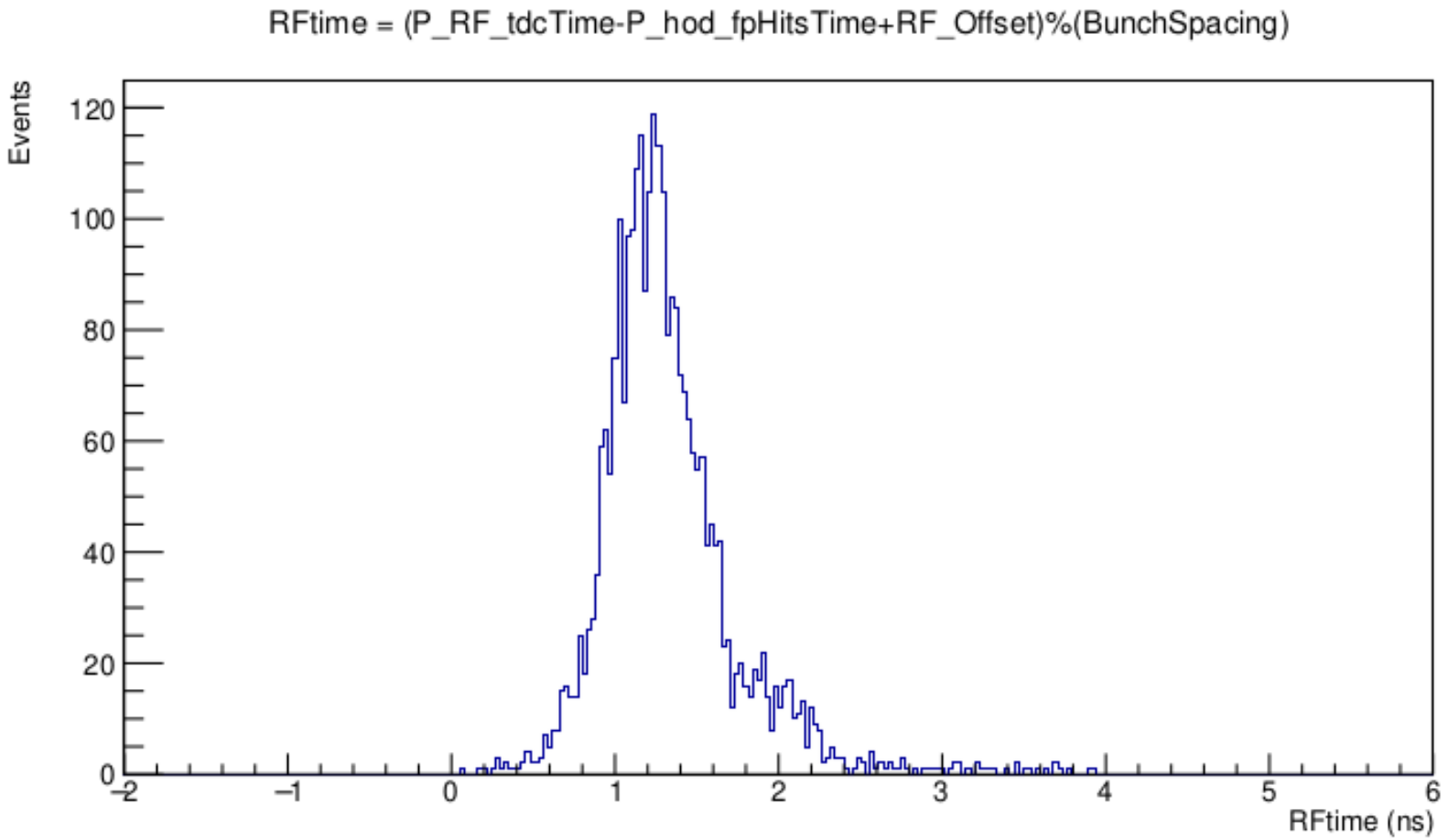


Electron-Proton coin time:



- The extra bumps in the RF timing plot have gone on selecting the prompt peak from the electron-proton coin time.

Proton RF timing plot with cuts:



Conclusion

- The extra bumps in the RF timing plot in all cases, pion, kaon and proton are coming from the random coincidence.

- This investigation has been done for the following experimental settings.

  Run no. 8045
  E_beam = 8.18 GeV
  P_SHMS = 6.054 GeV/c
  theta_SHMS = 6.91 degree