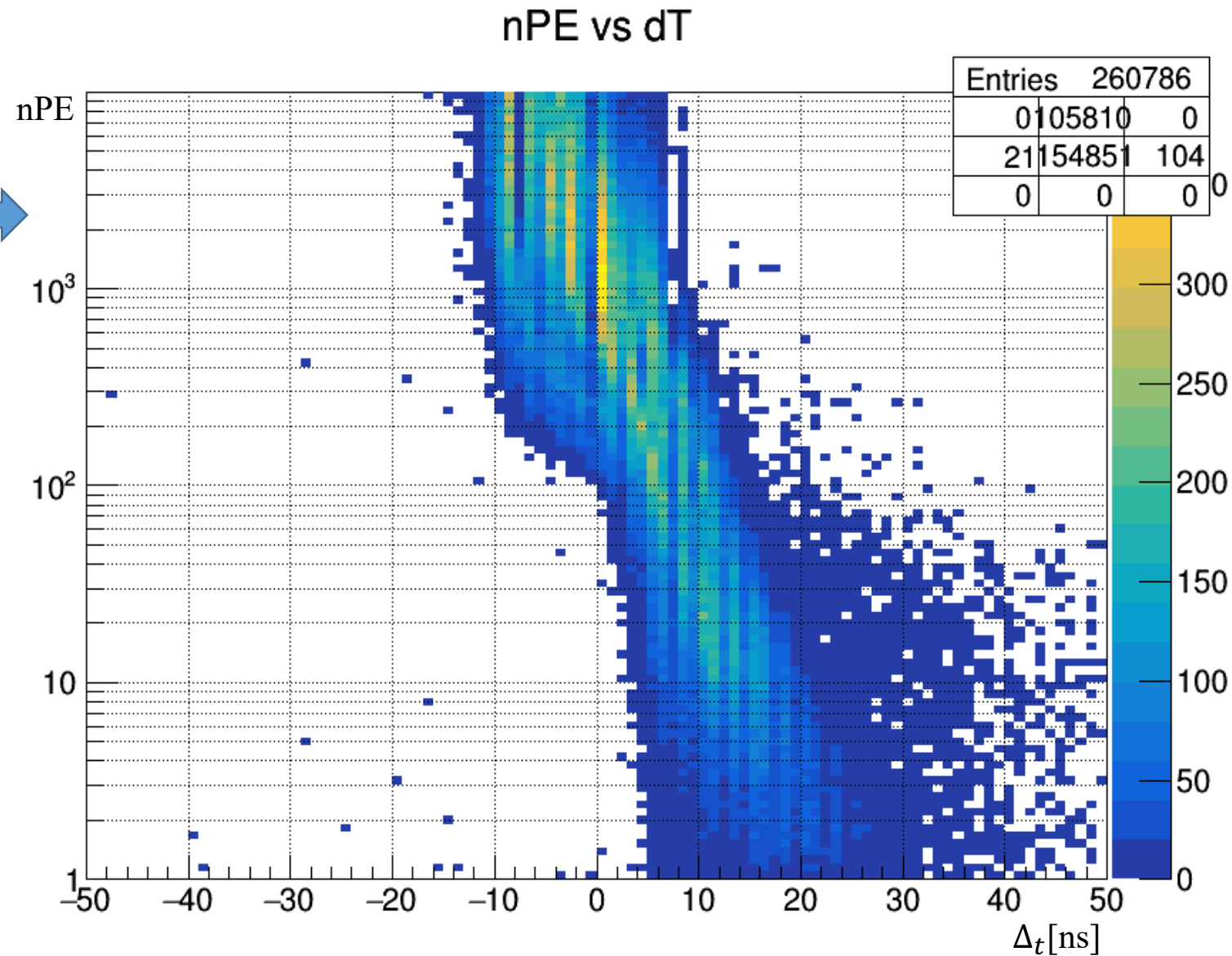


Simulation-Data Comparison

Francesco Setti

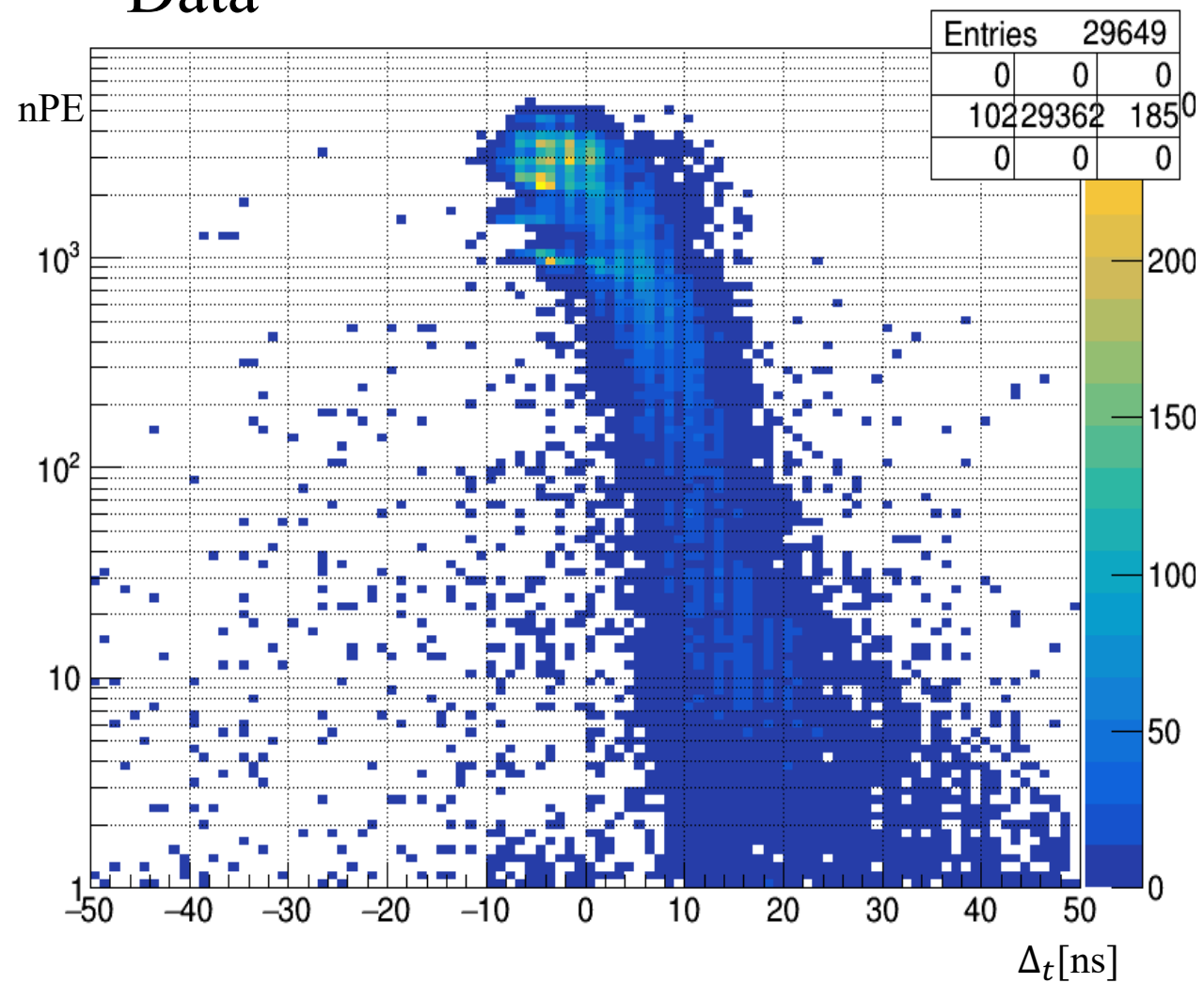
Simulation-Data Comparison

- Use of simulation with signal injection
- 4 Slab hits (plot any pulse in the bars):
 - 2D plot of nPE vs Δ_t (wrt muon hit in following slab)
 - Min nPE = 1
 - No saturation of pmts



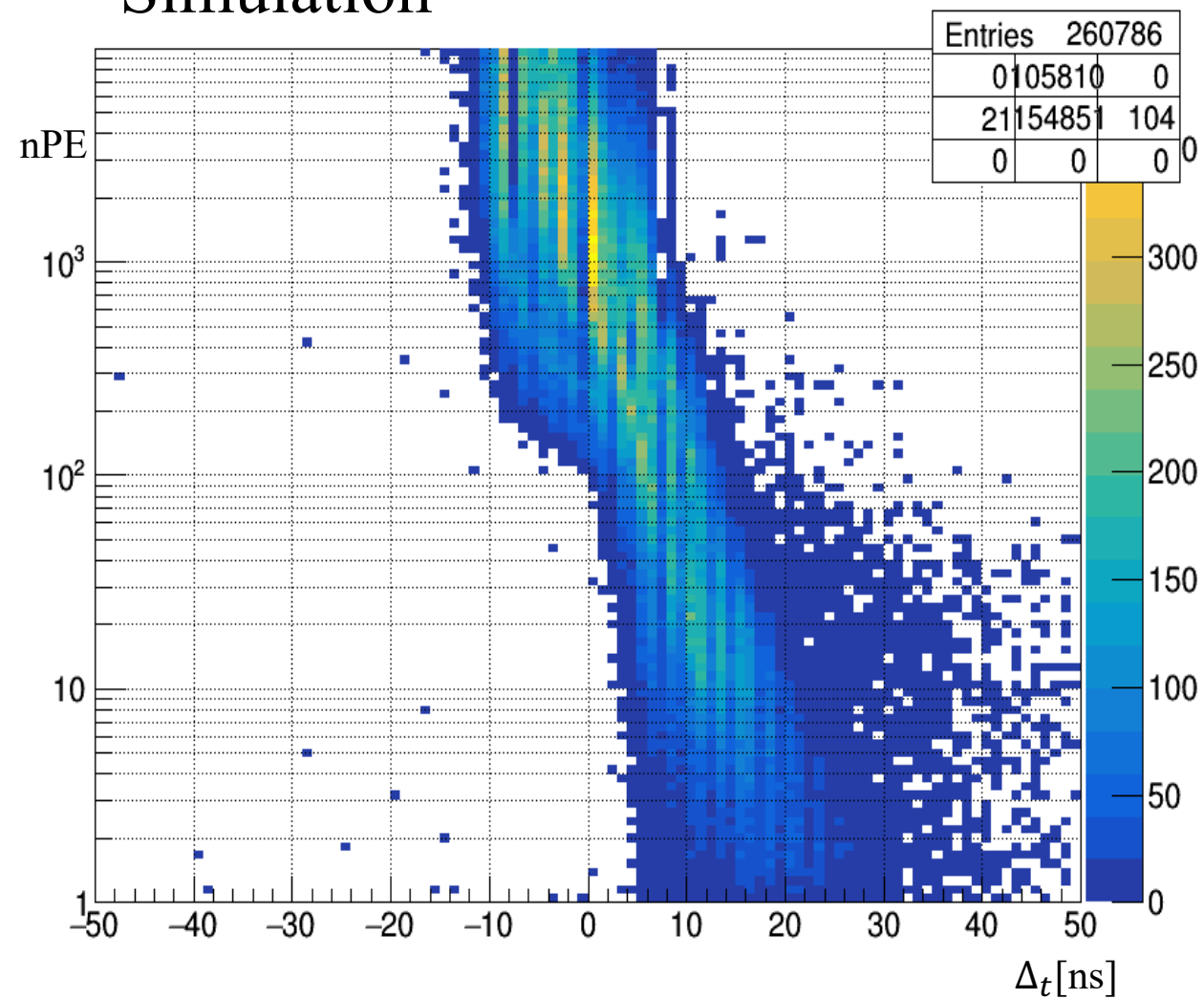
Data

nPE vs dT



Simulation

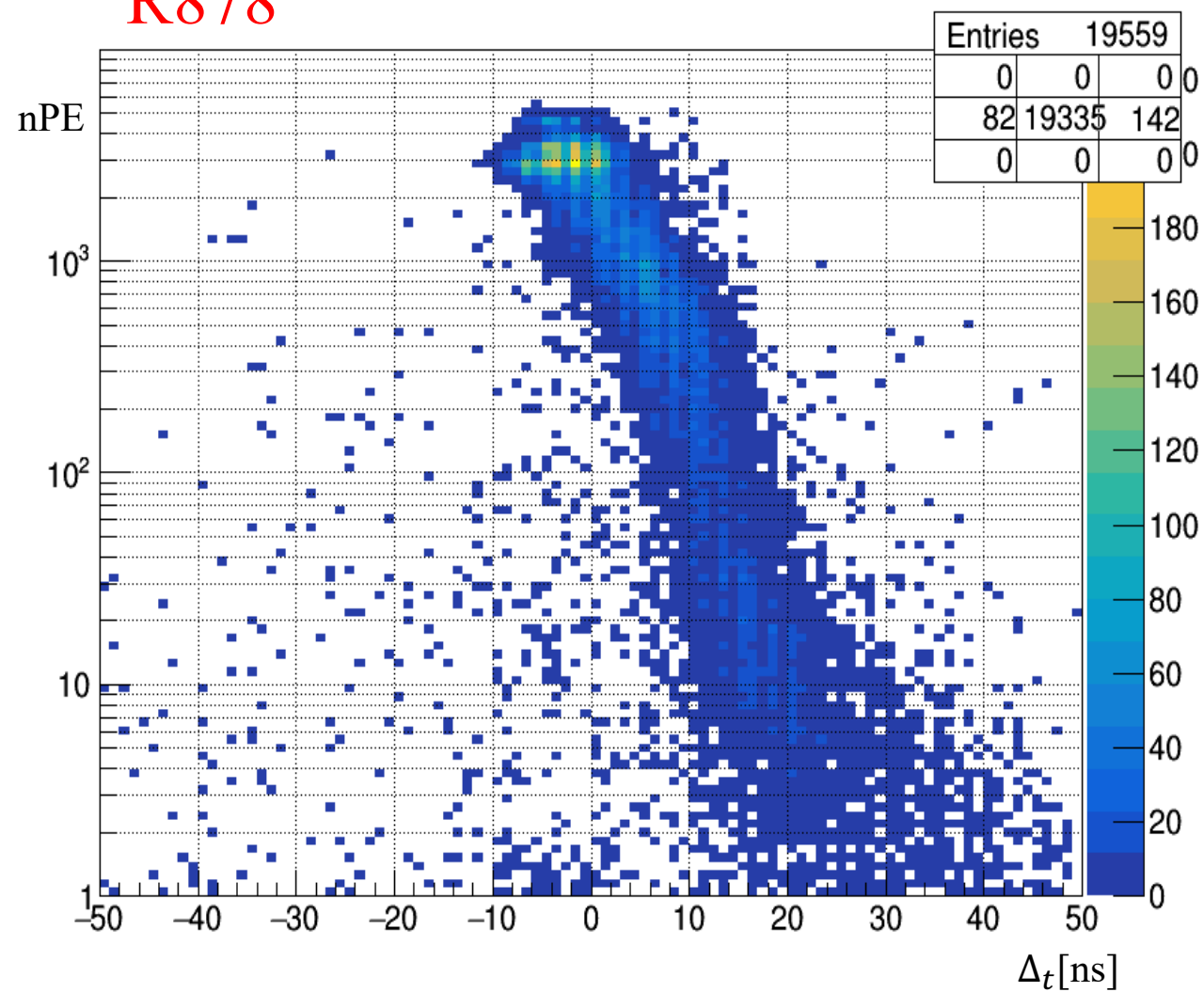
nPE vs dT



Data

R878

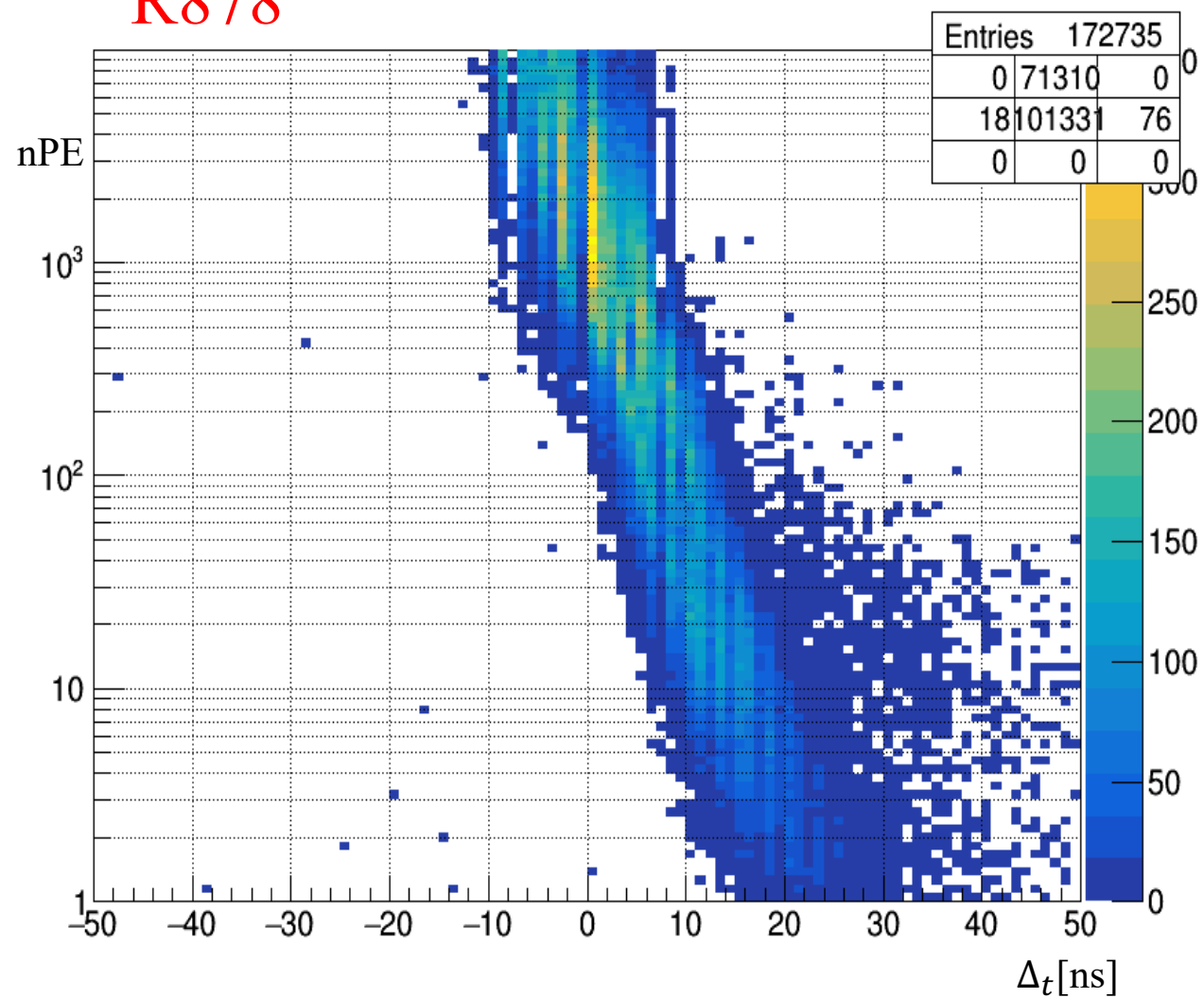
nPE vs dT



Simulation

R878

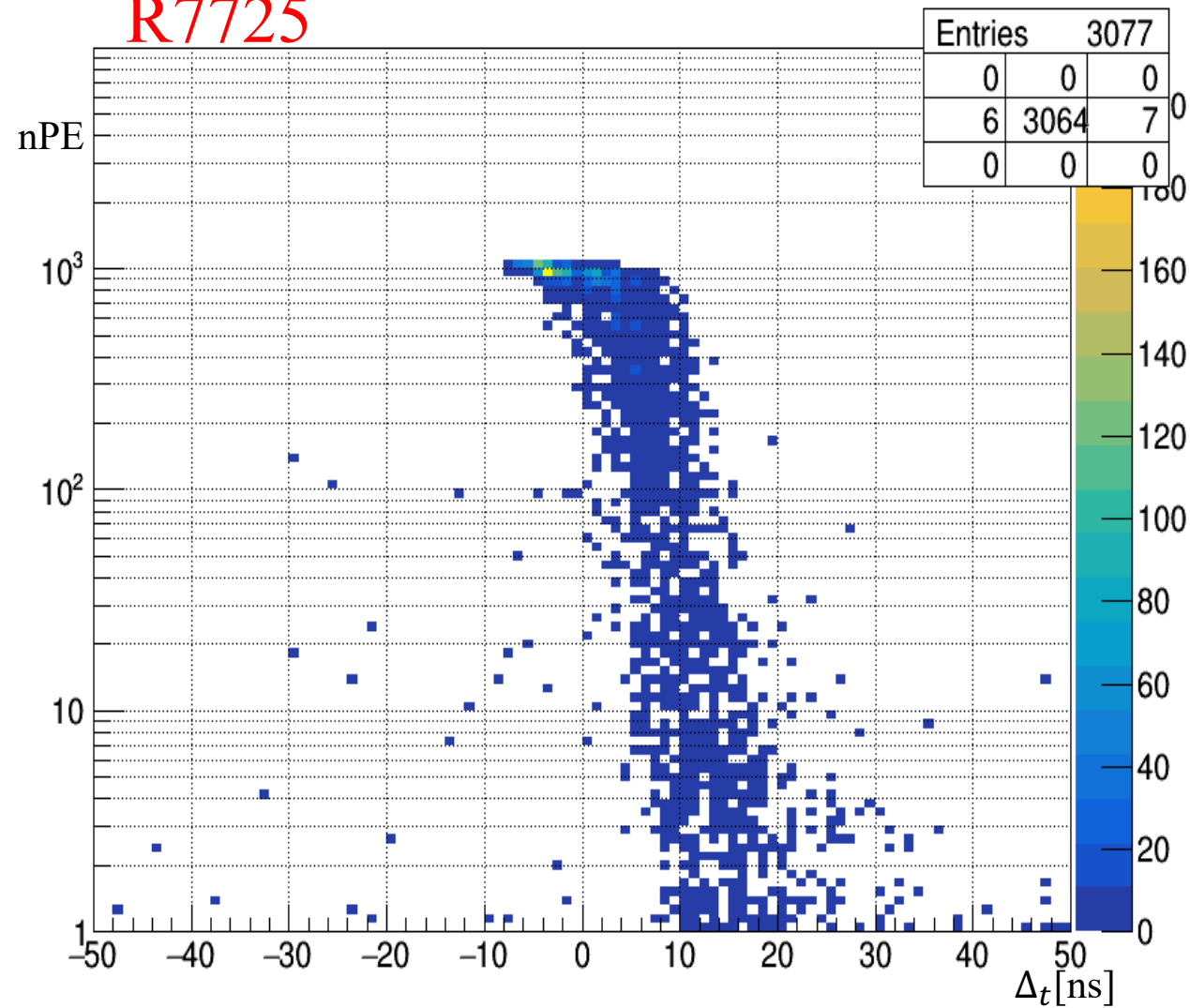
nPE vs dT



Data

R7725

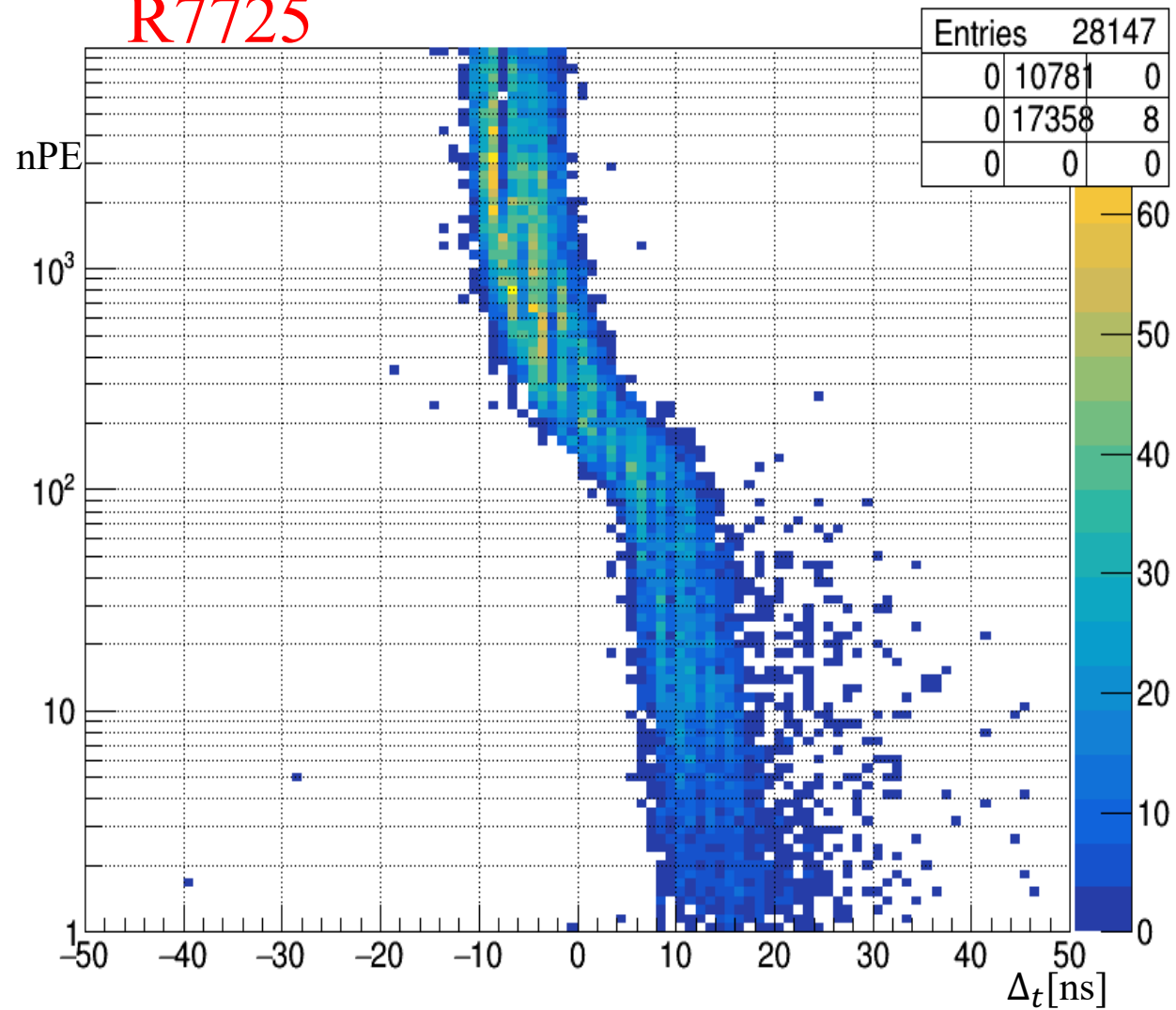
nPE vs dT



Simulation

R7725

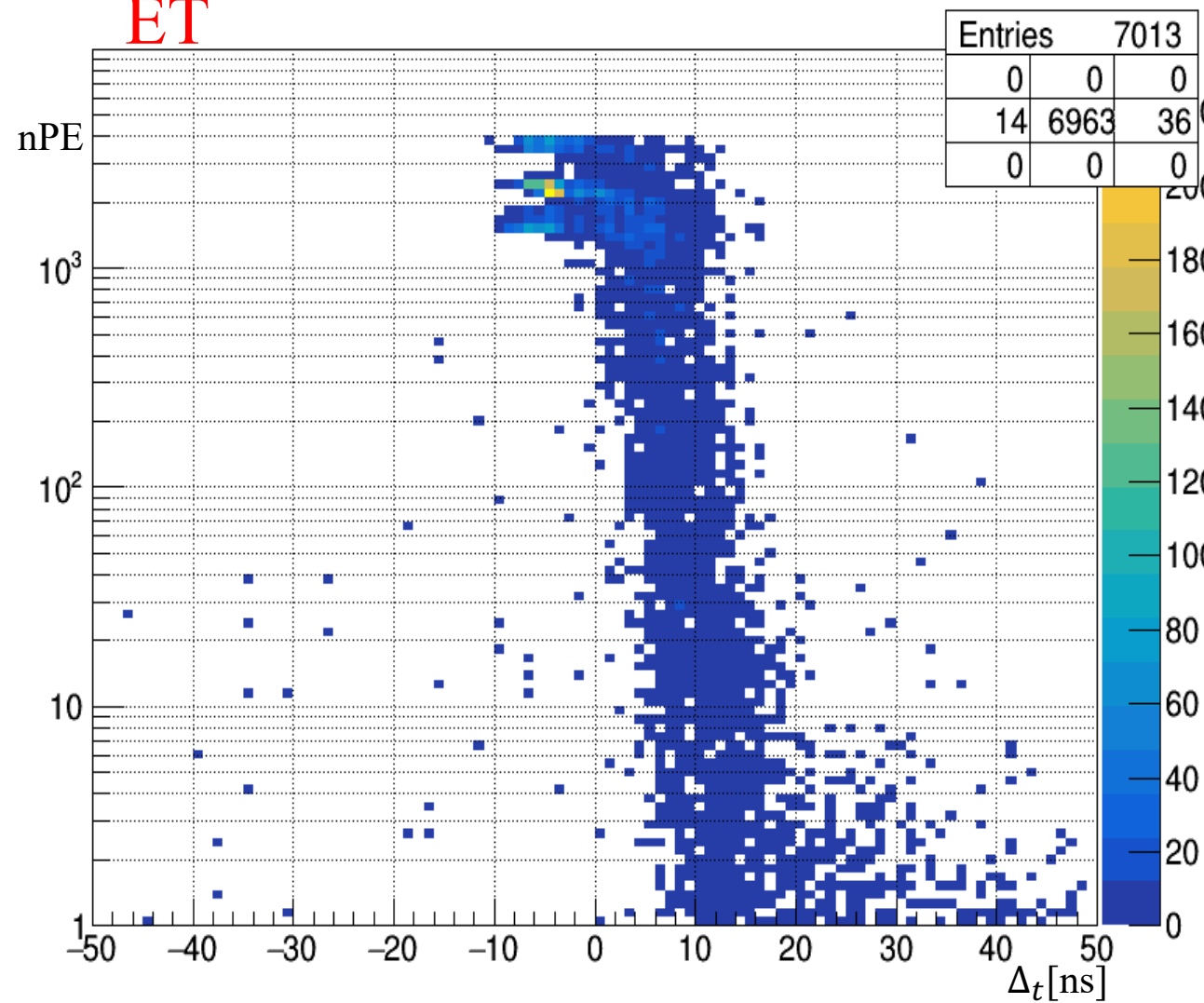
nPE vs dT



Data

ET

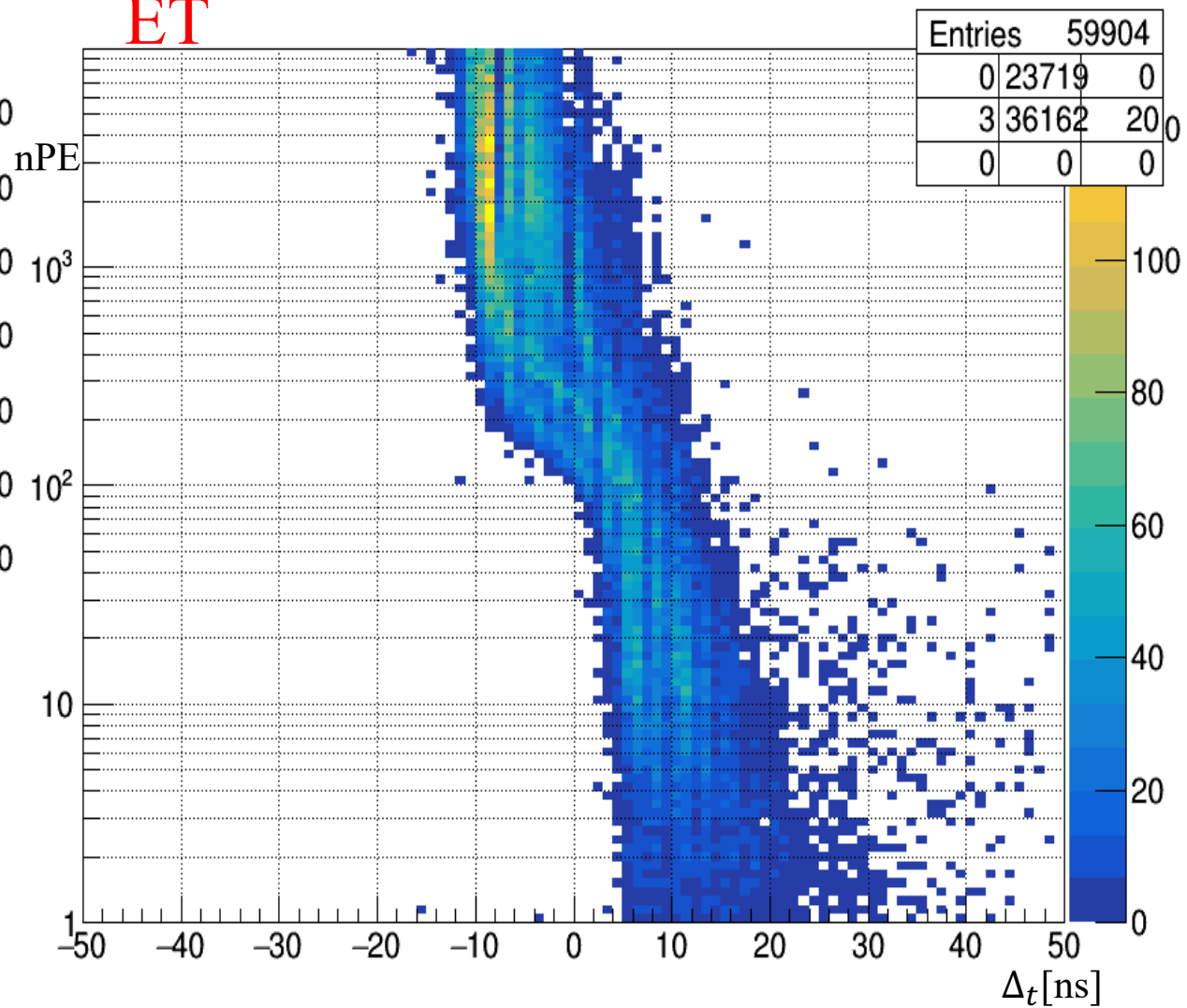
nPE vs dT



Simulation

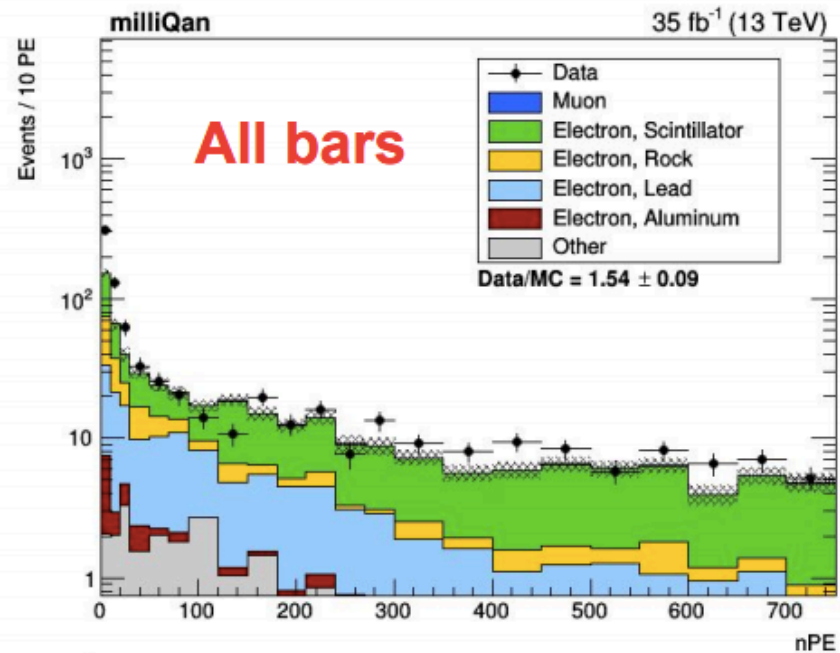
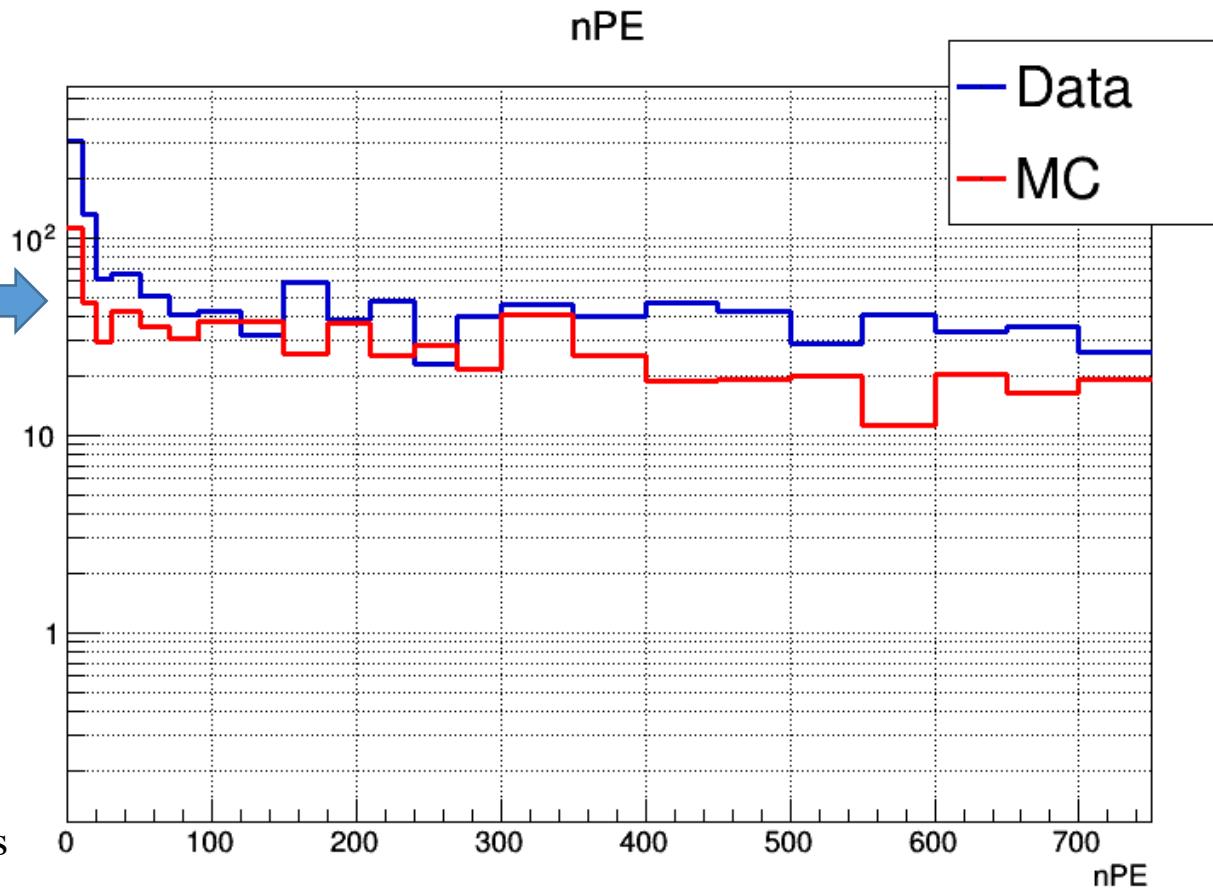
ET

nPE vs dT

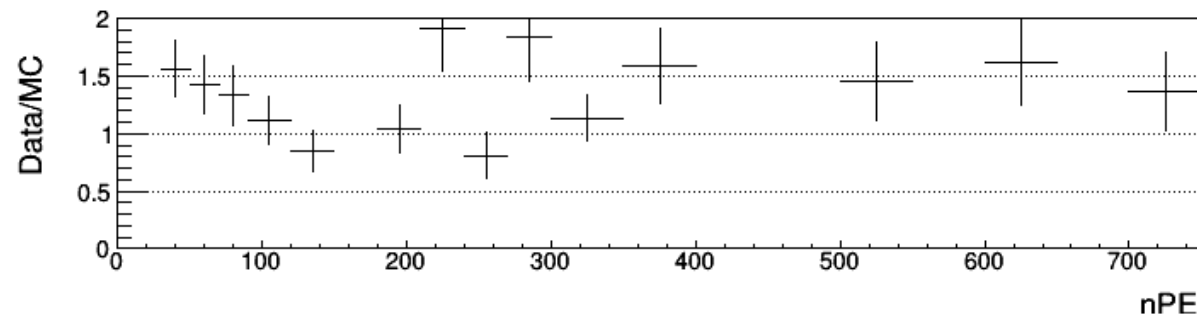
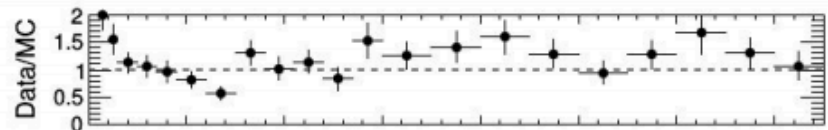


Slab, no bar events:

- Through going muon in 4 slabs, no muon hits in any bar ($nPE < 750$ (350 for R7725))
- MC weighted by process (qcd, qcd_nonbc, DY,W)

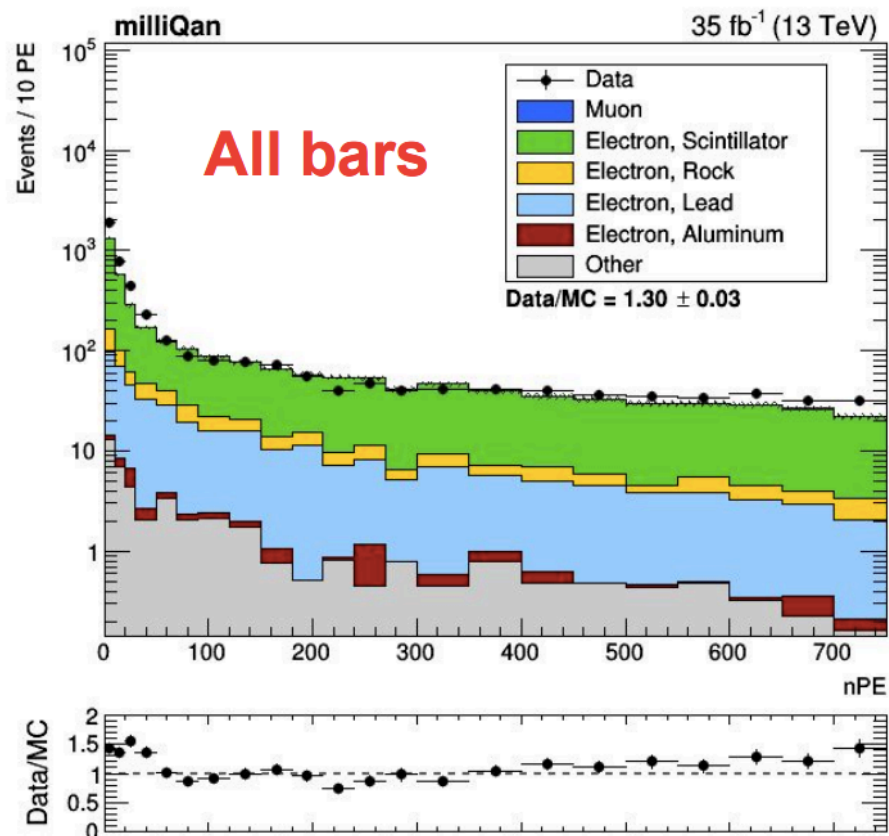


Plot from Bennet's slides last week

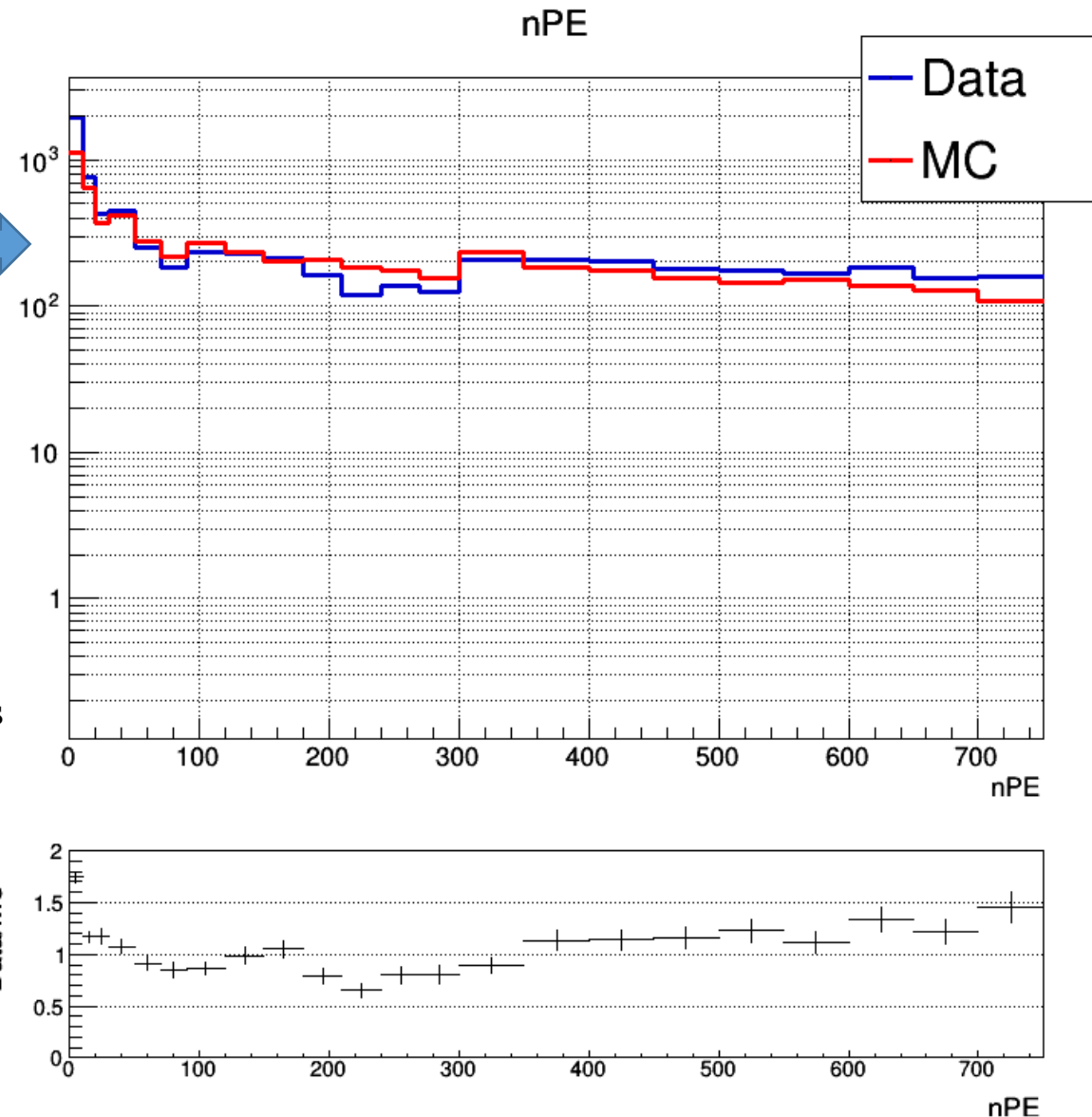


Neighbouring Bars:

- Through going muon in 4 slabs
- nPE of pulses in channels nearby muon hit

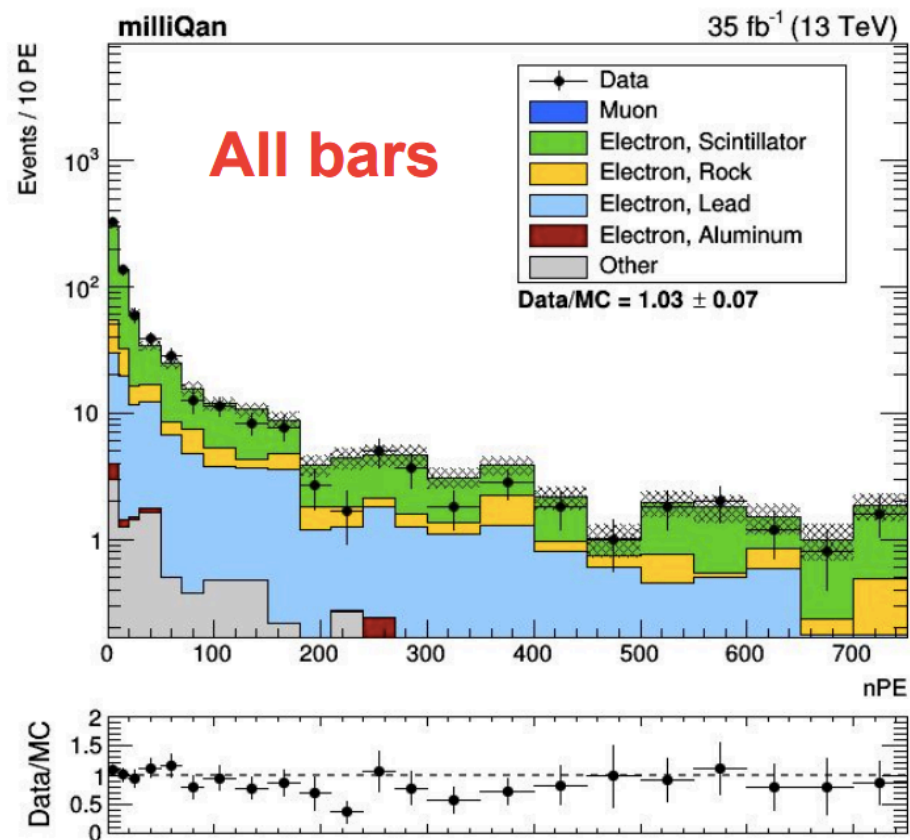


Plot from Bennet's slides last week

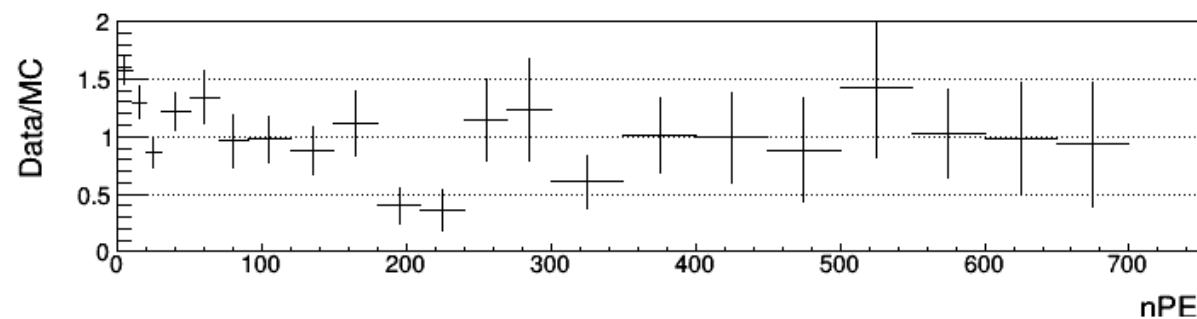
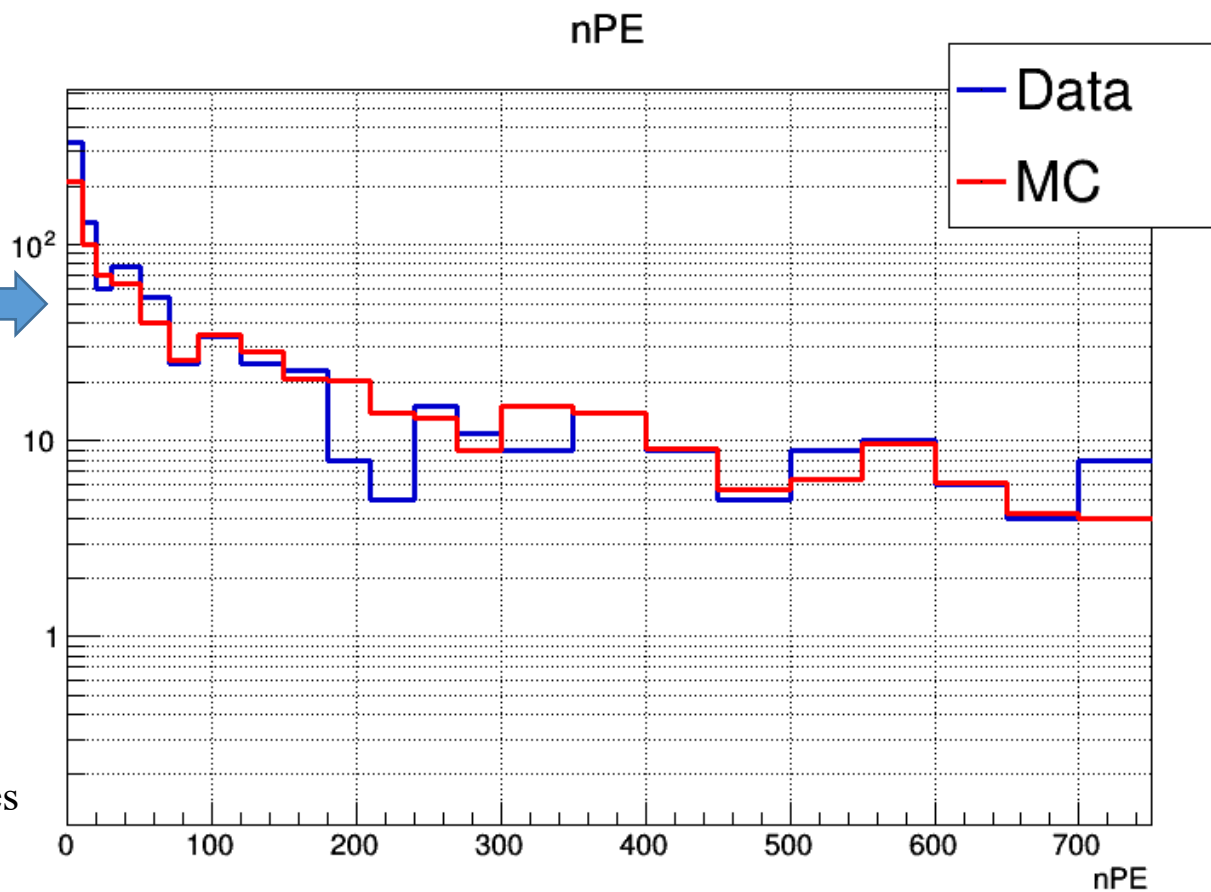


Non-neighbouring Bars:

- Through going muon in 4 slabs
- nPE of pulses in channels non-adjacent to muon hit



Plot from Bennet's slides last week

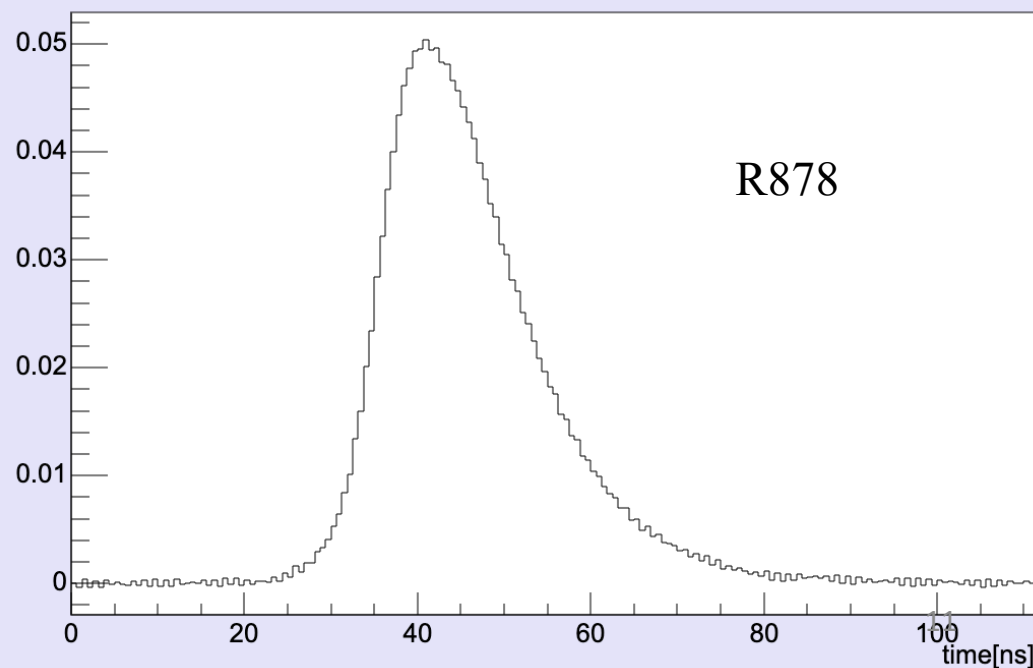
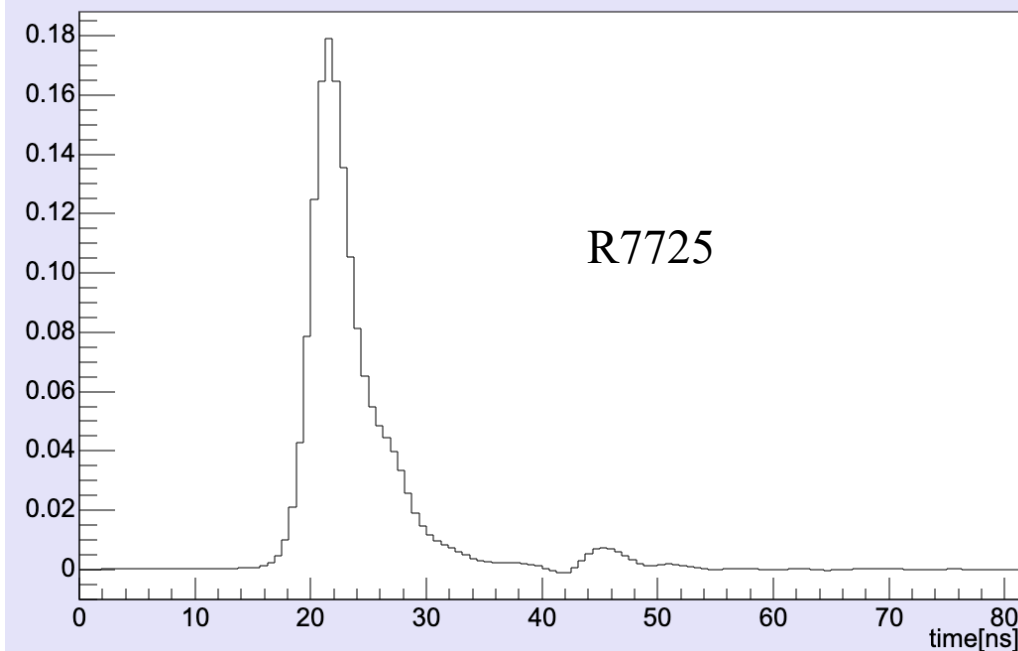
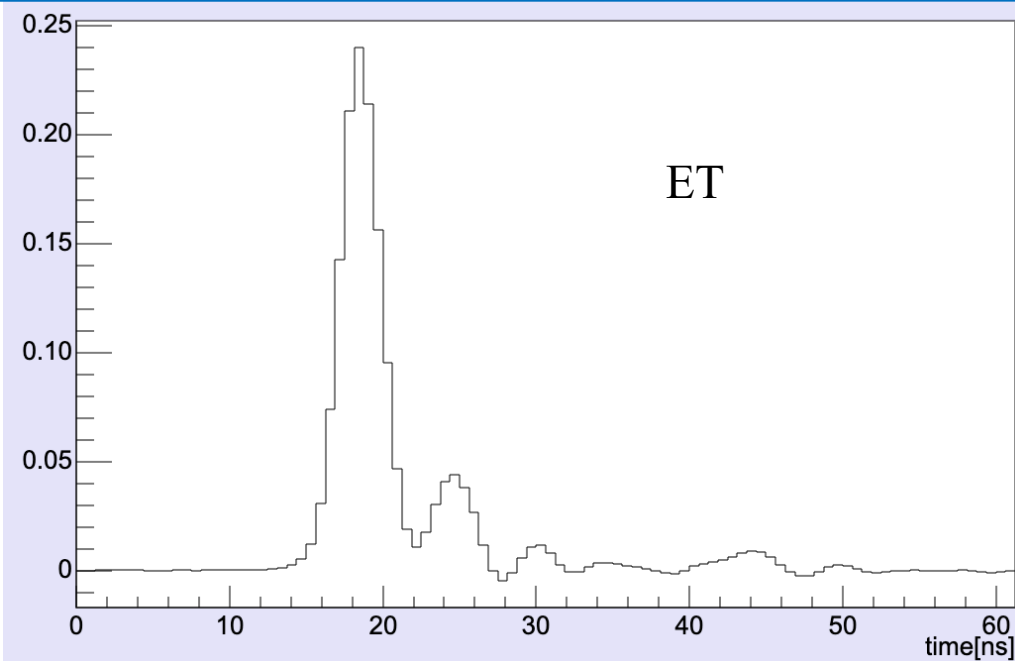


Time Walk of PMTs (from Friday group meeting)

Francesco Setti

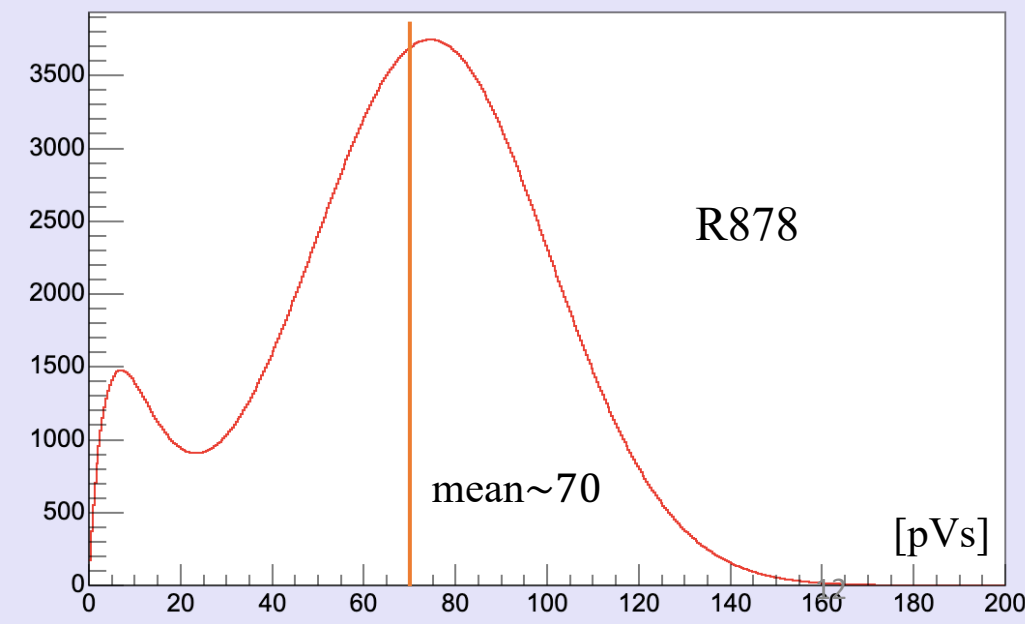
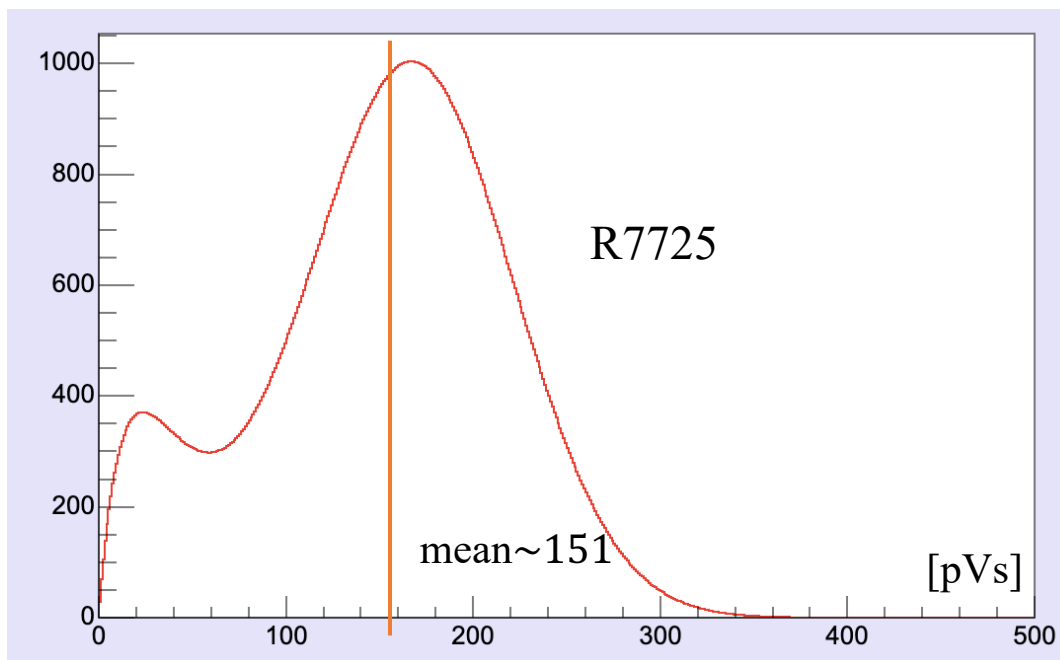
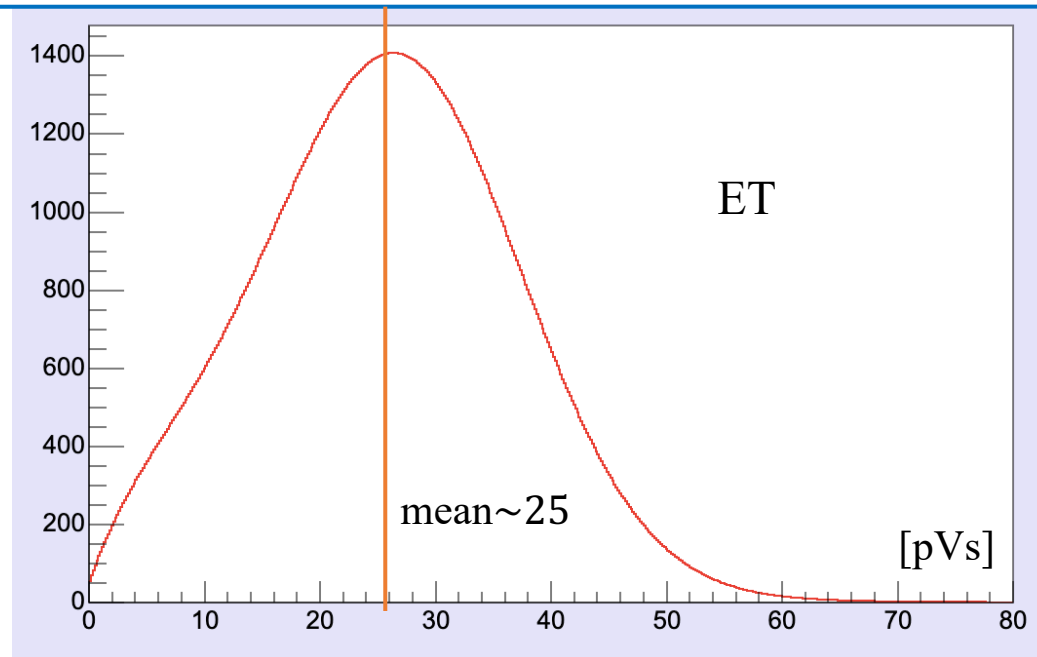
Estimate of Time Walk effect

- Use of Bennet's templates for pmt pulses
- Scale profiles by average area of SPEs (pmt dependent) times #PE we want to probe
- Check time when waveform crosses threshold




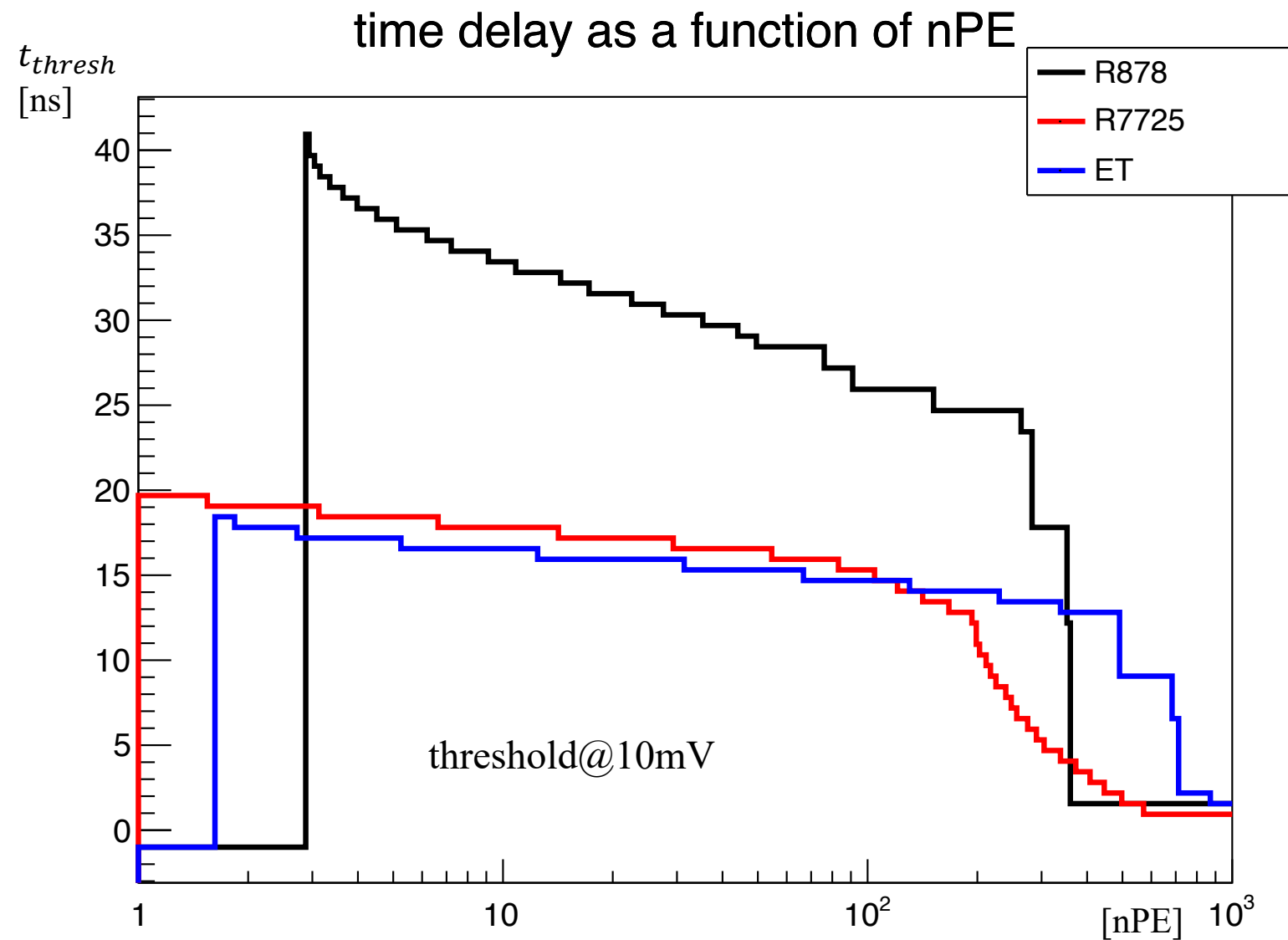
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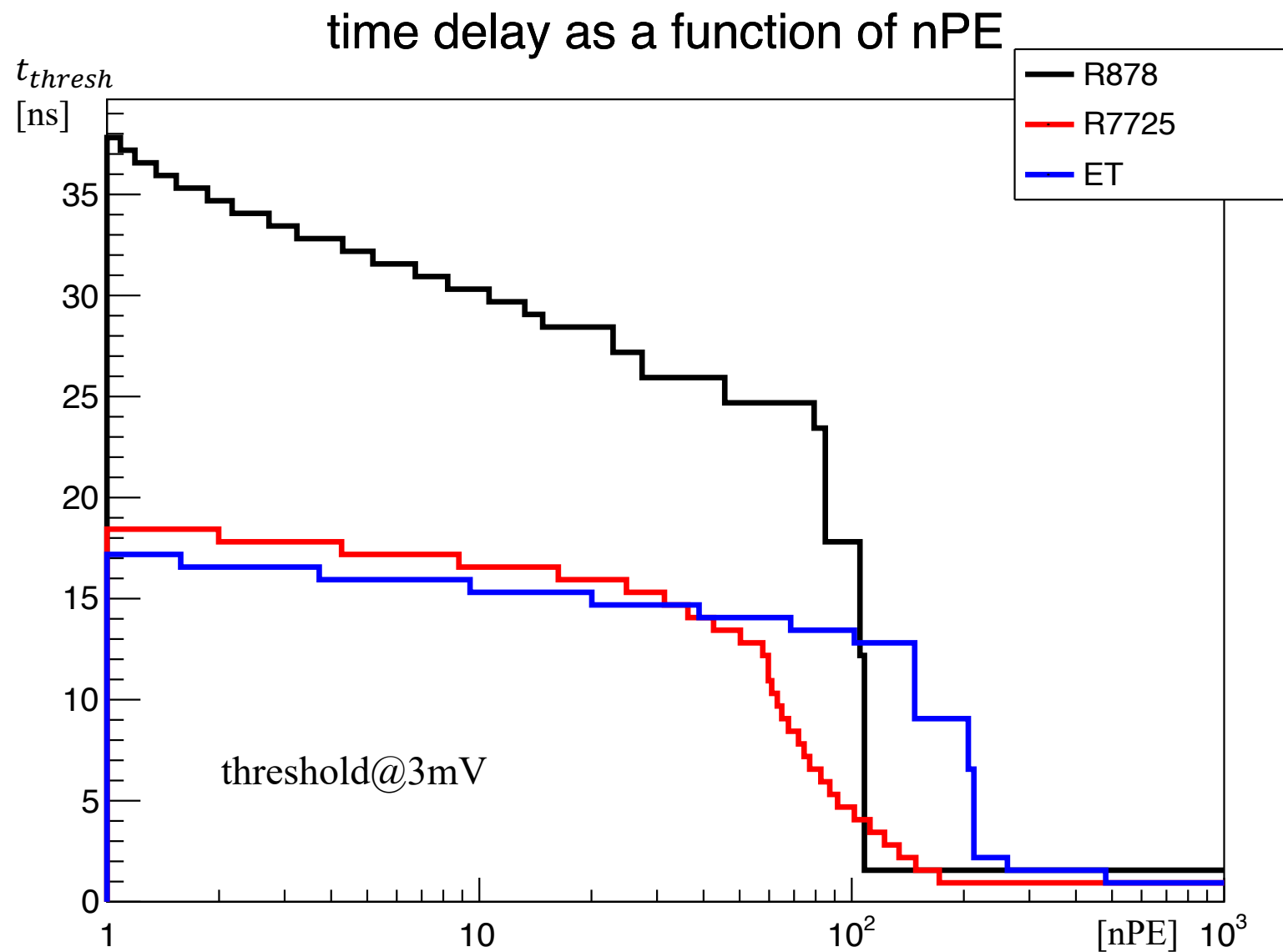
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