

Predicted dilution distributions :

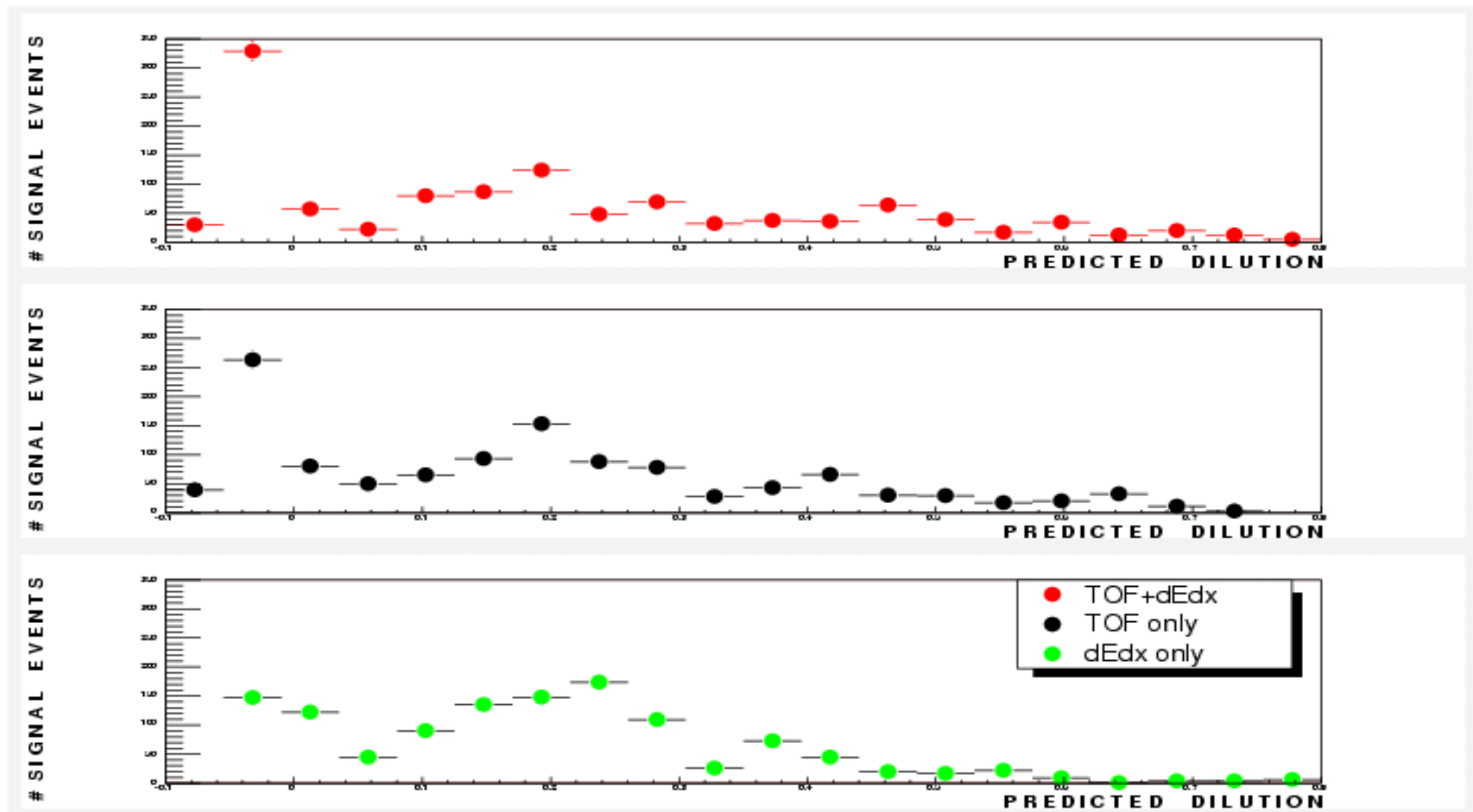
We are trying to understand the differences between the likelihood profiles seen in Gavril's plots.

We go to a previous step and again compare the dilution distributions (signal only) for *all* the different NN-SSKT tagger configurations (TOF and dEdx combined, TOF only and dEdx only).

We are using 1st 1.3 fb⁻¹ in all this.

[NOTE : Chunlei, could you please confirm you include similar (modulo binning) ditributions to these ones as input on the likelihood-fit ?]

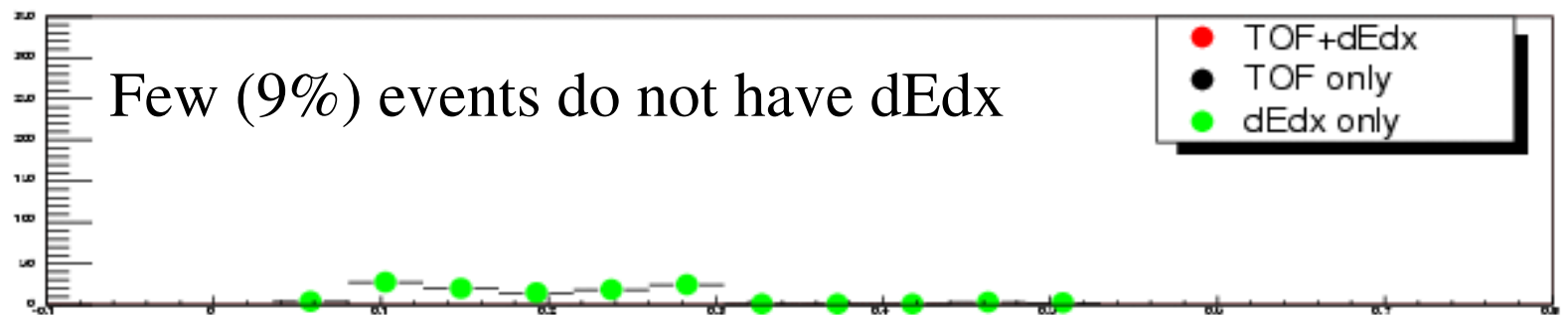
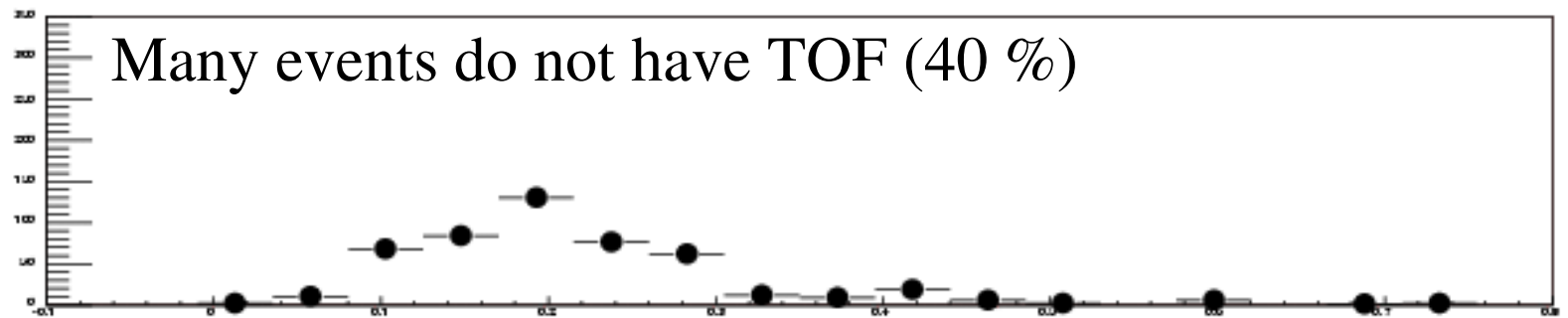
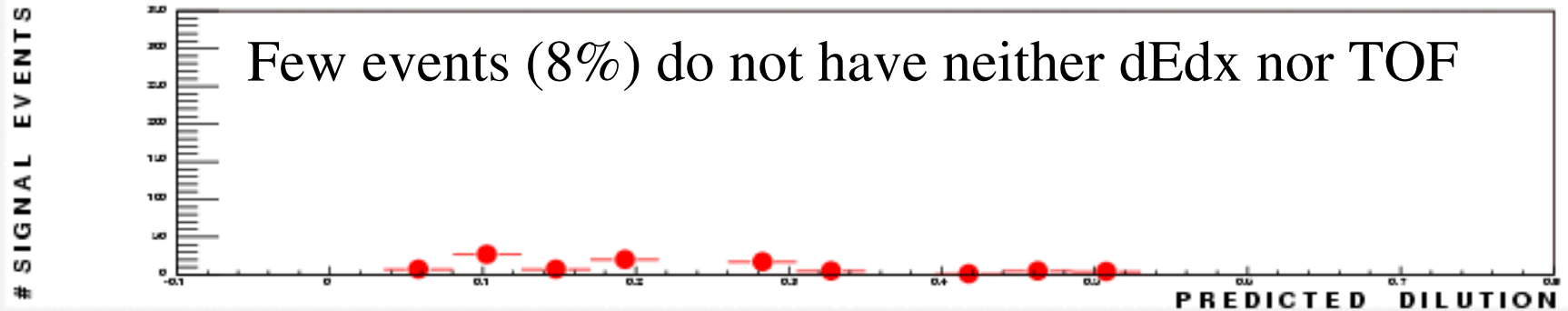
NN SSKT Predicted Dilution for signal (sideband subtracted)
using $\text{TOF}+\text{dEdx}$ / TOF / dEdx as input for PID likelihood



Crucial difference between dEdx only w.r.t. the other two: **peak at zero**
 dEdx -only gives a “Kaon-like” predicted dilution to candidates that
 TOF says are pions.

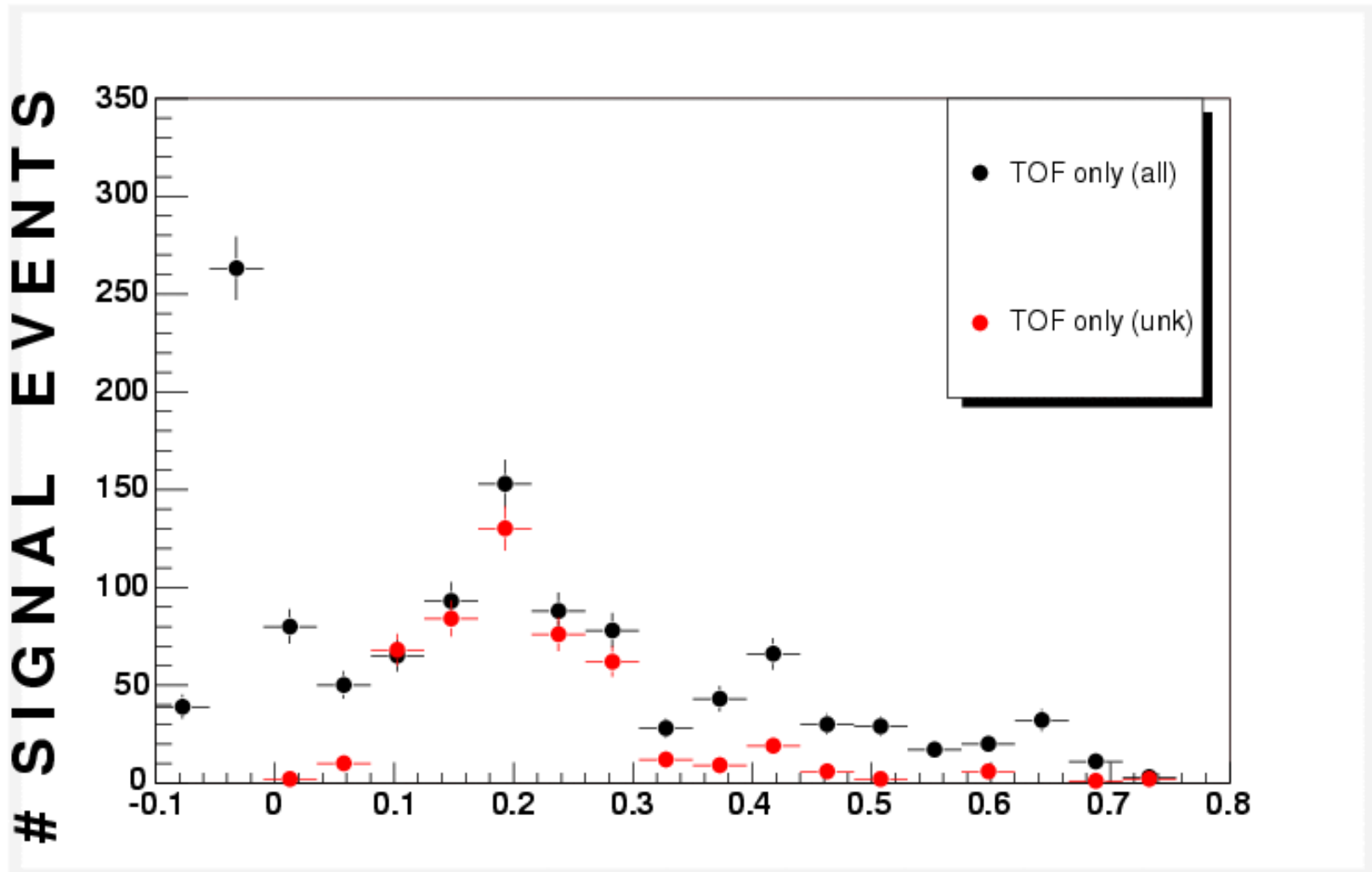
Is that **artificially “improving”** the “ dEdx _only” lik. profile?

Predicted dilution for the cases in which we do not have PID info (a.k.a. “unknowns”)



In all cases the distribution peaks at 0.2

Predicted dilution for NN-SSKT using as input TOF for PID likelihood.
black: all tracks , red: tracks with no TOF info. , a.k.a. “unknown”



How the so many unknowns affect the “TOF_only” $[\Delta\Gamma, \beta_s]$ contour ?