The dead-zone space in the TDC spectrum is fully understood. The dead-zone exactly matches with the maximum width of the pulse elsewere before the point of measurement.

Currently, we have made a setup where only the discriminators had proper width corresponding to the narrow and wide paths; all other modules or channels elsewhere, wherever applicable, had 15 ns width (may be this is the reason we could not see the pileup-corrected deadtime of narrow path would not match to that of the wide path as discussed in the previous meeting. In the earlier setup, the narrow path and wide path had everywhere narrow and wide hardware width, respectively). In the following first two figures, two dedicated runs were taken so that the channels plotted were directly fed into the TDC inputs.

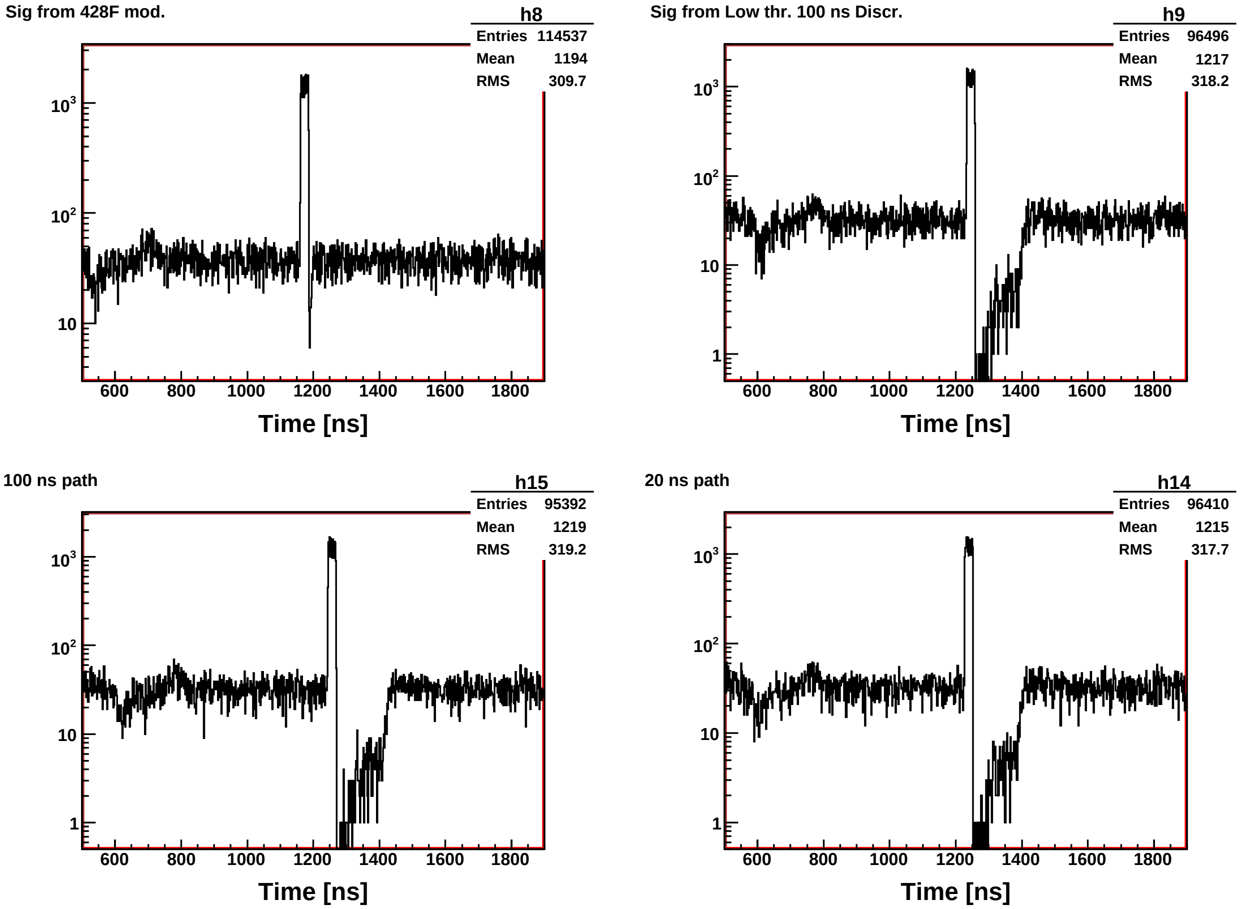

Figure 1: The plot showing a dead region in the TDC spectrum. The dead region is the deadtime in ns. In this fig., h8 had pulse of 15 ns wide, and all others 100 ns wide. The 20 ns path had also input from the 100 ns path, hence all other dead-zones had to be 100 ns wide.

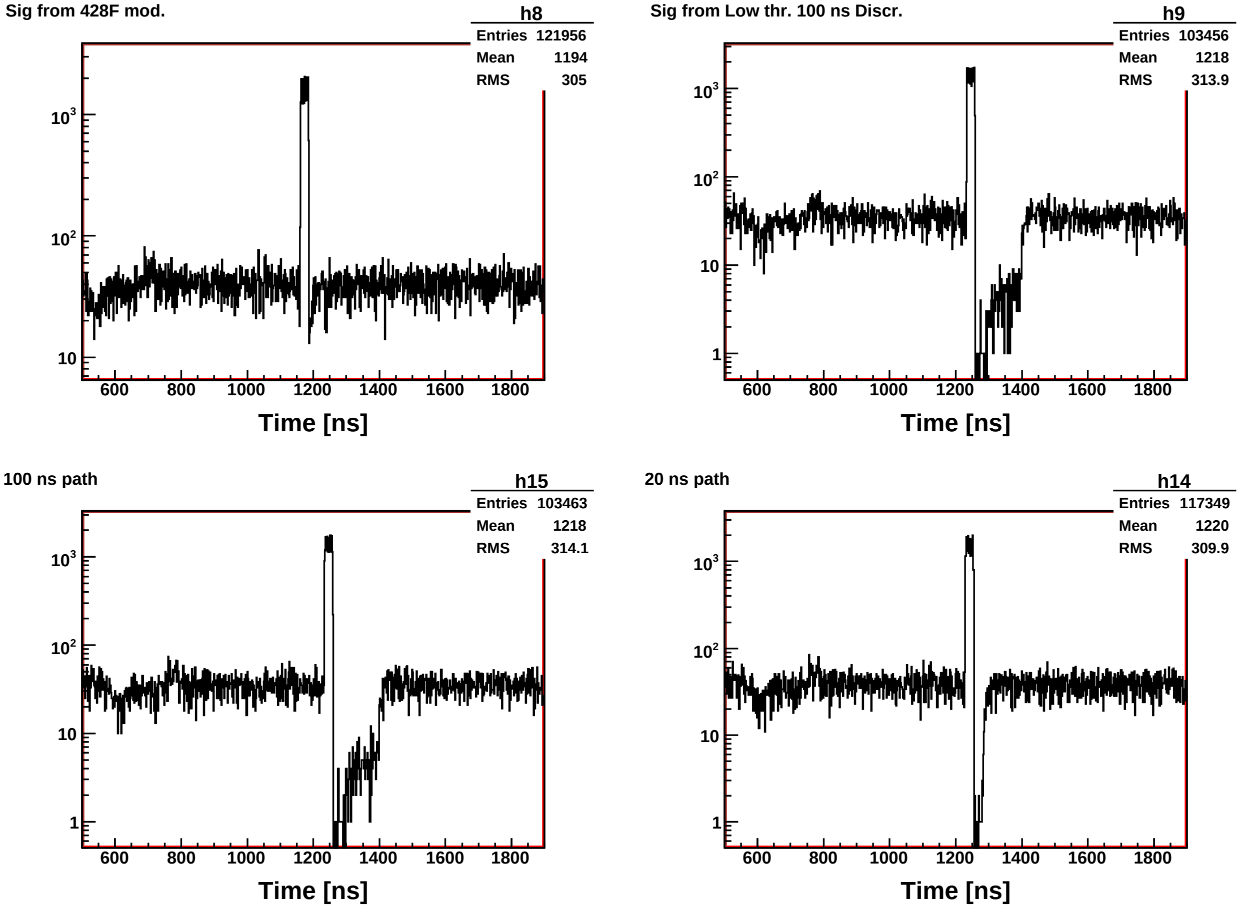

Figure 2: The plot showing a dead region in the TDC spectrum. The dead region is the deadtime in ns. In this fig., h8 had 15 ns pulse input, h9 and h15 had 100 ns pulse input, h14 had 20 ns pulse input. All dead-zones match with the pulse width of the input pulse.

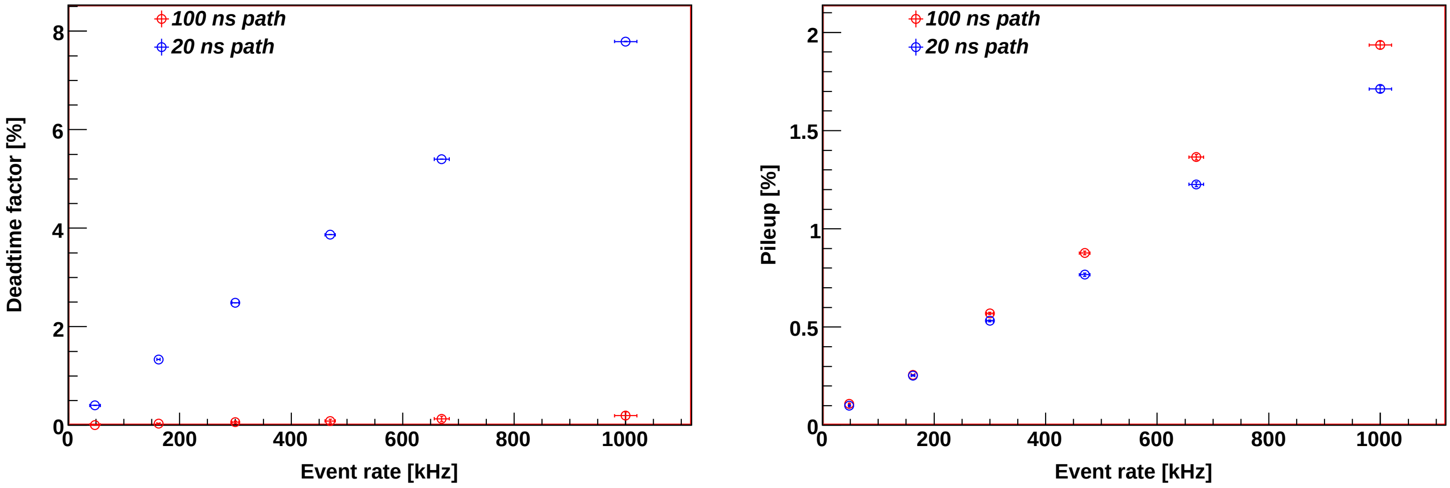

Figure 3: Left: The deadtime-factor versus random-rate plots. The deadtime-factor is computed from $\frac{tagger-signal}{signal}$ for the narrow and wide paths. Right: Pileup as a function of random-rate. Pileup is obtained by using TDC.

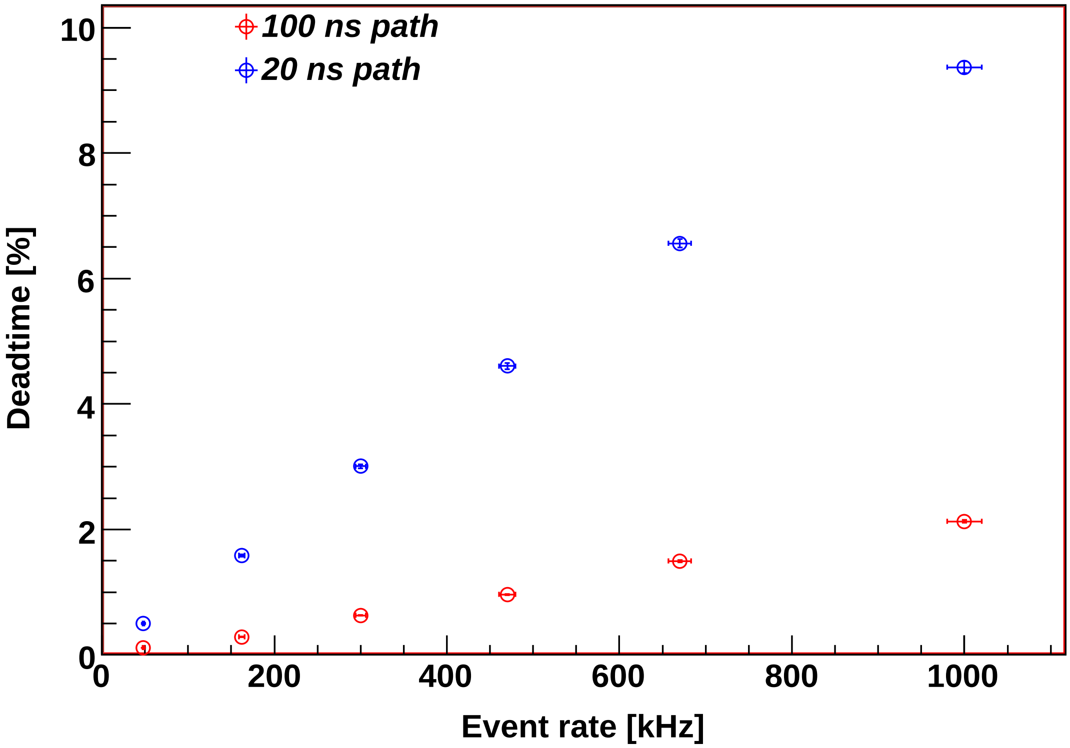

Figure 4: The Pileup corrected deadtime plots as a function of random-rate. The deadtime in this case is obtained from $\frac{tagger-signal\ (1-pileup)}{tagger}$.