

- Charge collection plots for LGADs there is a second peak (at 2.2 V in slides 46,47,53,54...) which I guess comes from saturation of the oscilloscope scale. If this is true I don't understand why not only the last bin is filled. One of the reasons could be variation of the baseline, but then the variation must be large as the peak is >200 mV from the cut-off. This variation is larger than the most probable signal in 3D. Can you remind me again on trigger condition? 3D: 50-90 mV LGAD: 10-15 mV
- What surprises me is that there is no dependence of CC on voltage. May be possible as this are fast signals and detectors are over depleted. If I am not mistaken you are looking at max_amp(V) for the signal. Can you plot also integral of the charge e.g. in [-3,4 ns] window and see if this is still the same. See presentation
- You must have mislabelled the plots in slide 30 (LGAD and 3D). Why is the trigger condition on LGADs such that you trigger basically close to 0V. ———
- Have you accounted for the change in LGAD gain from 20C to -20C in calculation of time resolution? This has probably a minor effect, but nevertheless.
- Have you calculated the collimation angle for your tracks? Since you are measuring a single cell the angle can have an important effect. 0 in principle (max 7.5)
- Was the noise any different for 235 um device. As the jitter is significantly better there are only two options. Either the noise has changed or the signal is faster for 235 um. I would say the capacitance is so small that it has no effect, so it must be the speed of the signal. Do you have a plot showing the rise time as a function of bias? If it is not the angle effect, I don't understand that large change of sigma_j=35 ps to 25 ps at -20C.
- Do you have CC(V) calculated from the fit of Gaus+Landau to the charge collection spectrum for both thicknesses. The mean charge loss is not a good estimator, but nevertheless the mean signal shifts from 0.17 V to 0.11 V which is more than expected from the thickness? I guess you haven't changed the triggering conditions between 235 and 285 um? No trigger difference – noise was very small (10-12 mV for 235) vs (15-17 mV for 285) shorter columns? (ans see presentation)

