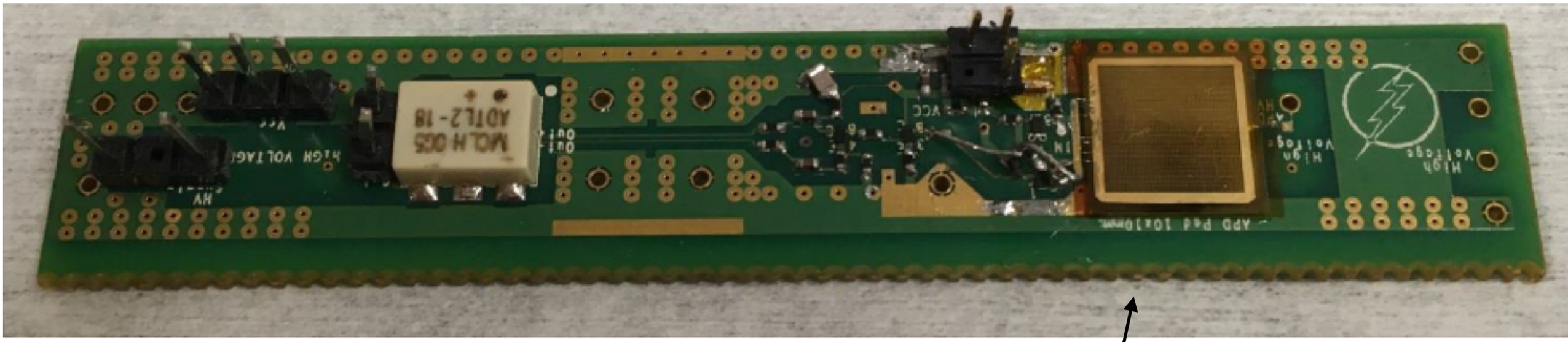
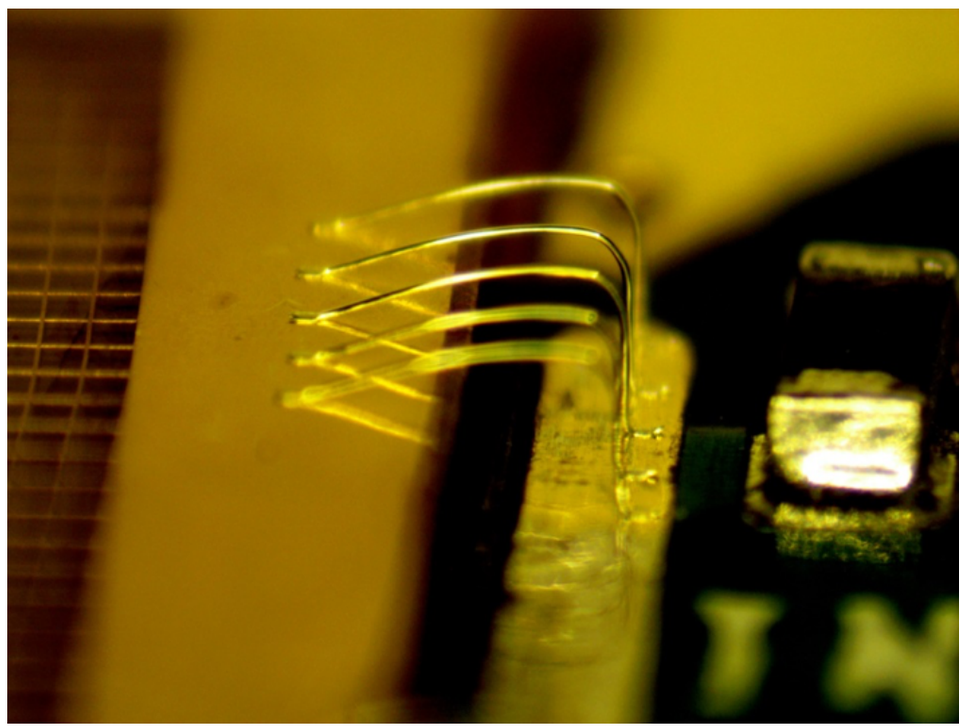
Some Plots from Penn1

SNW, July 16, 2017

this is just a first look at some data before we managed to include tracking and while the MCP and Silicon were still poorly aligned. We later took ~30k events at 2 settings yesterday and will realign things tomorrow but so far looks reasonable.
The main point of the July run is to evaluate the signal quality from a new Hi BW Transimpedance amplifier by Mitch Newcomer “Penn1” and Silicon packaging by Bert Harrop. So even these first few events are of interest.
Nice to see parity between HFS and PICOSEC (new plots from Konstantinos just now)!

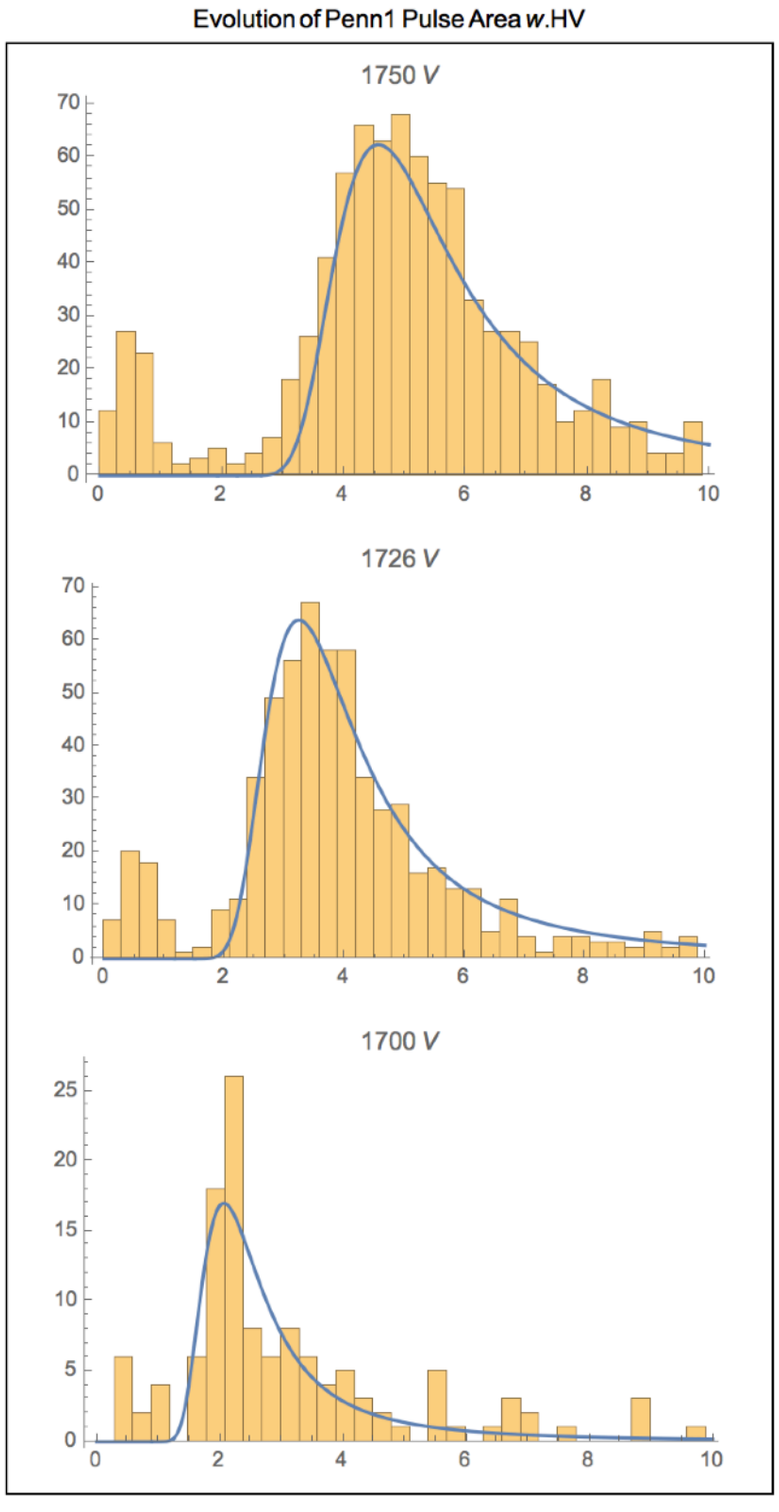
New Package





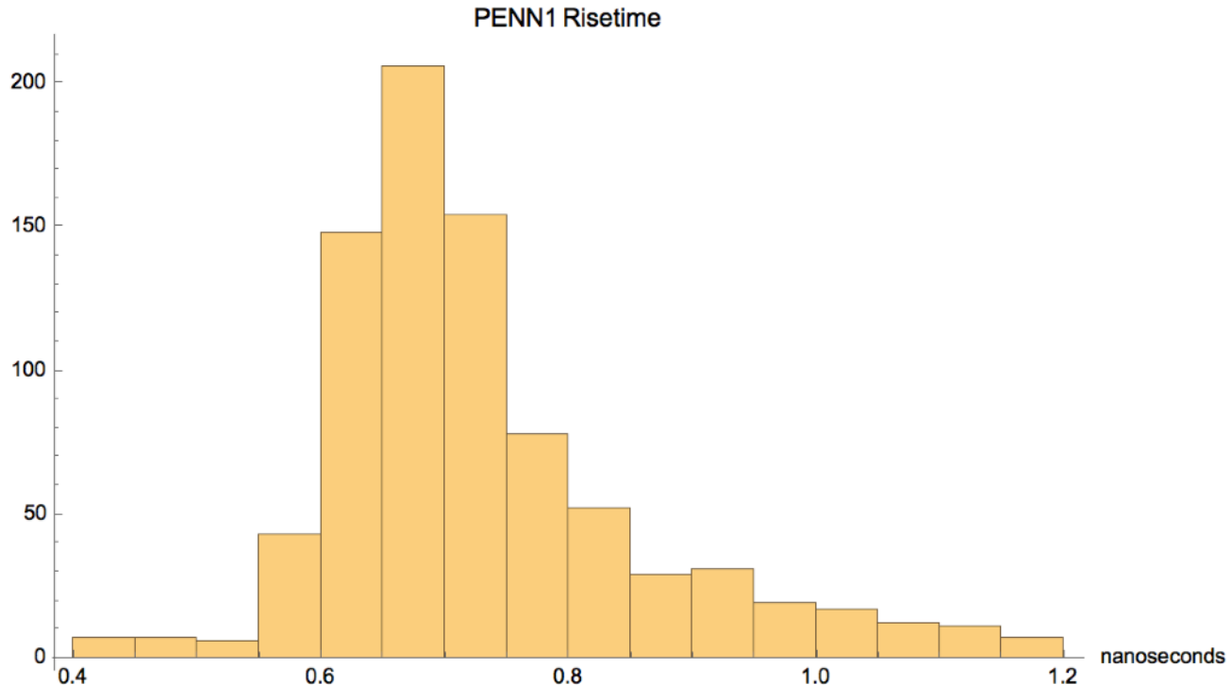
wire bond to input transistor

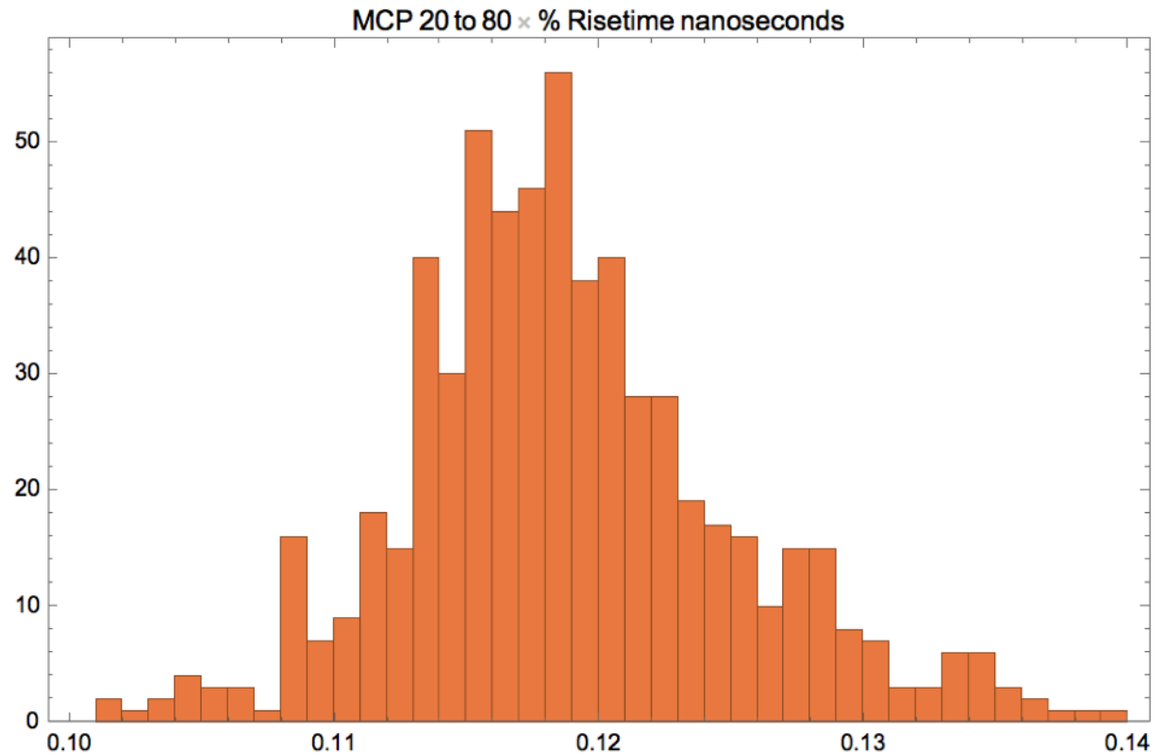
Penn1 @1750V
150 GeV Muons



typical pulse(nanosec hor. scale)

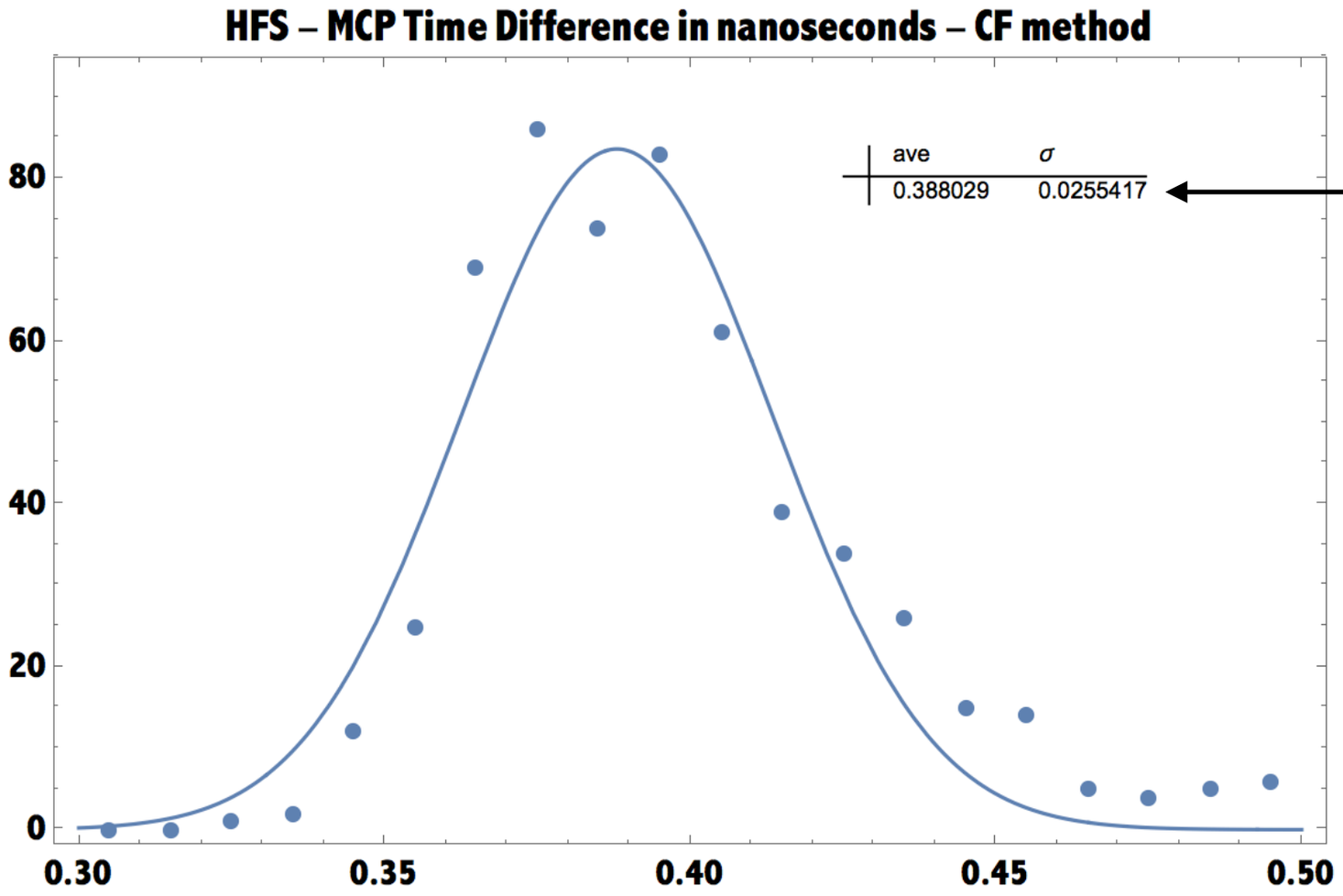
Risetime improvement over earlier





700 picoseconds a nice new result!
tail may not be real

Resolution not bad considering lower gain!



jitter=26 picoseconds

HFS="HyperFast Silicon"
@1750V~1/2 Internal Gain of Previous results