

Aug2022 testbeam first results

SiC Lab weekly meeting

Analysis summary

Tracking cuts: nTracks=1, SlopeX, SlopeY<0.00025, Chi2<10, track within the fiducial area.

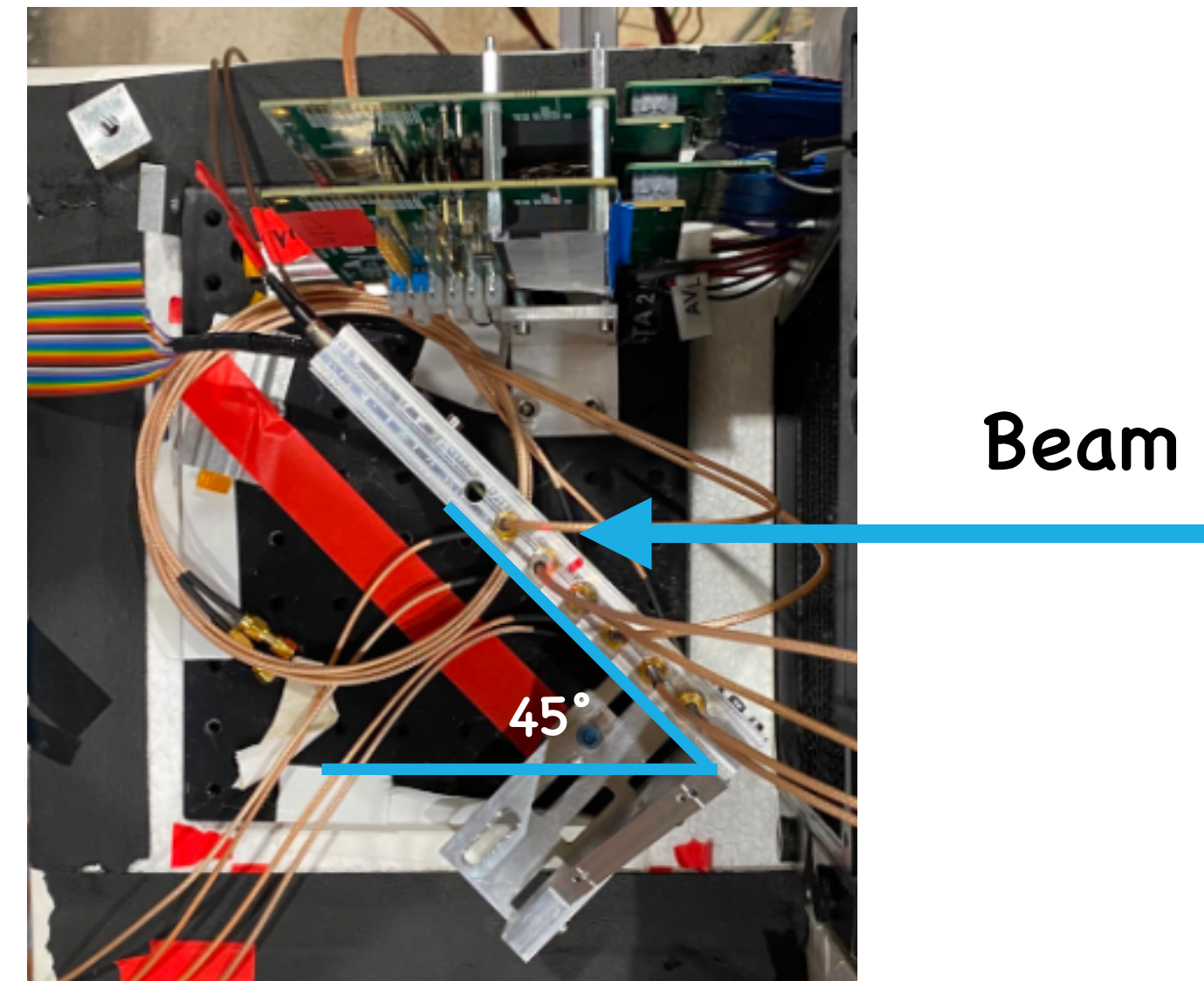
Timing cut on tracking planes: ± 10 ns time window around the peak of distribution for Plane0, Plane1 and Plane2

Signal sampling: Waveform maximum taken in ± 6.25 ns time window around expected peak position. Five bin average (± 2 bins) around maximum value taken as pulse height.

Noise sampling: 30 points from each waveform at the beginning of the waveform (before the signal).

MPV: MPV is taken as the maximum of a moving average of histogram bins within ± 5 mv (rebinning of histogram).

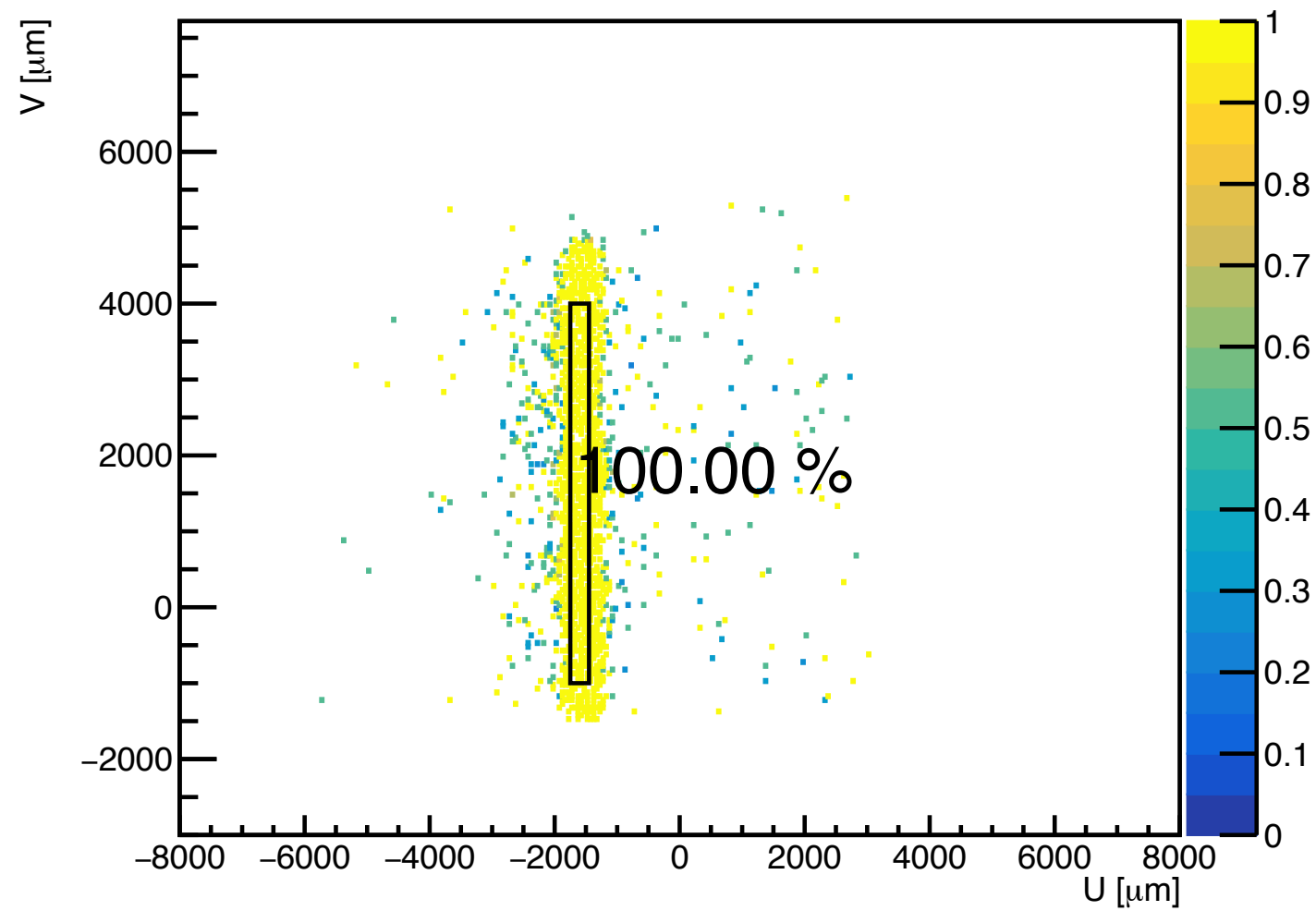
PD corrected: Pedestal shift is corrected for each event.



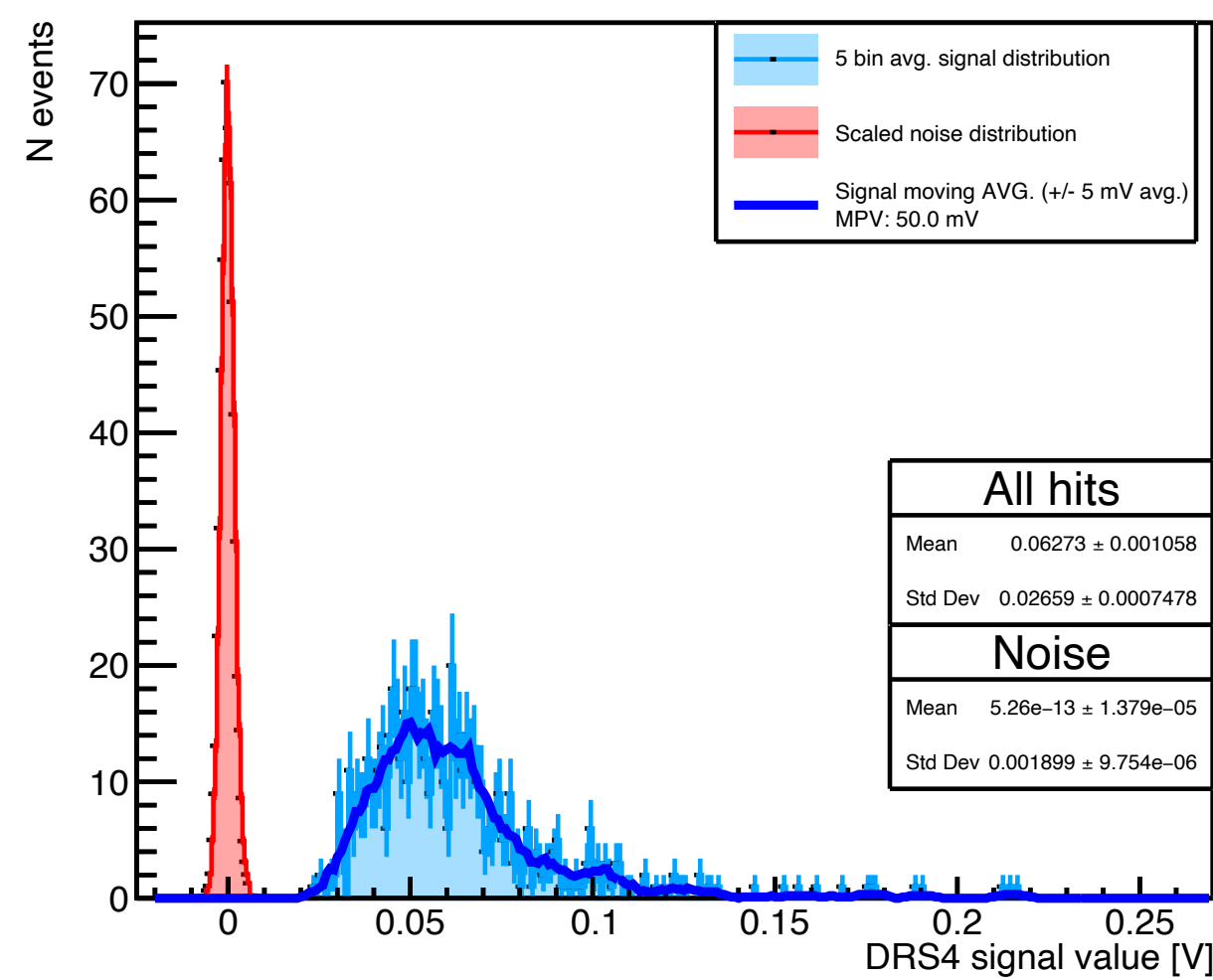
II6-S0 10 mm x 10 mm diamond, pad size ratios: 1, 2, 4, 8

50k events, +1000V,
small pad (1):

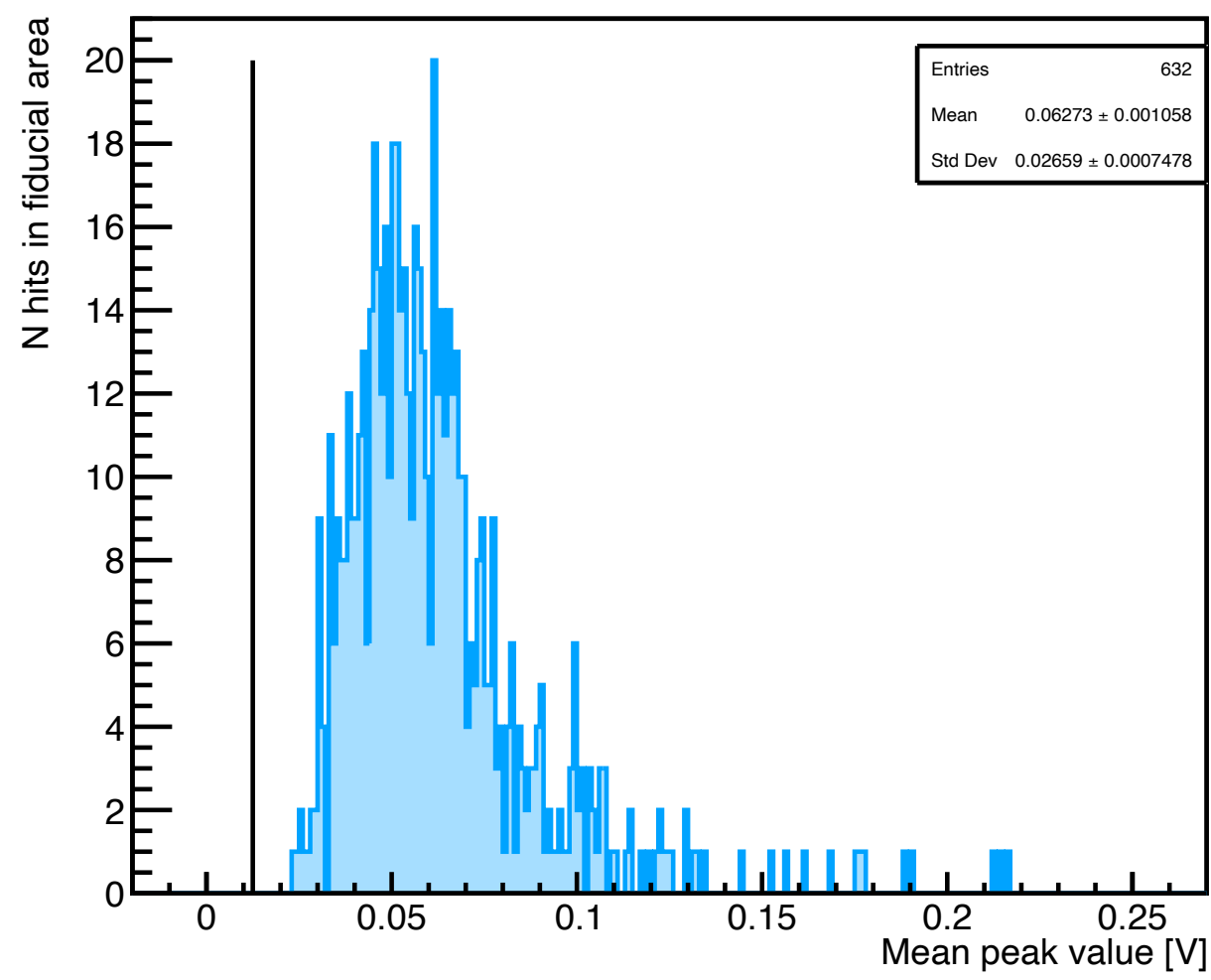
Efficiency for peak between bins 0-1023, threshold at 12.5 mV:



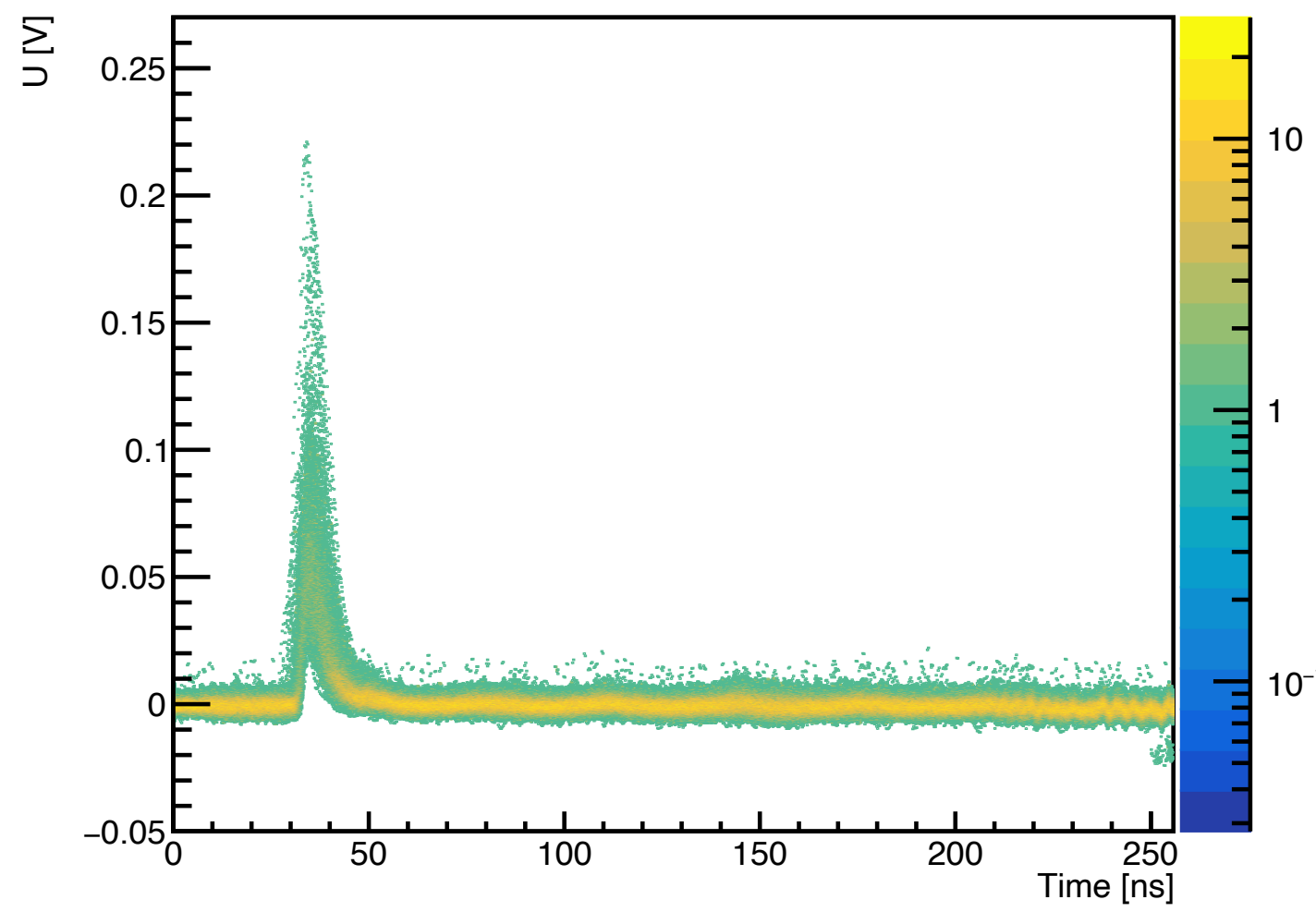
Signal and noise comparison, N: 632



Signal, contents below 12.5 mV: 0, All contents: 632, Raw eff.: 100.00 %

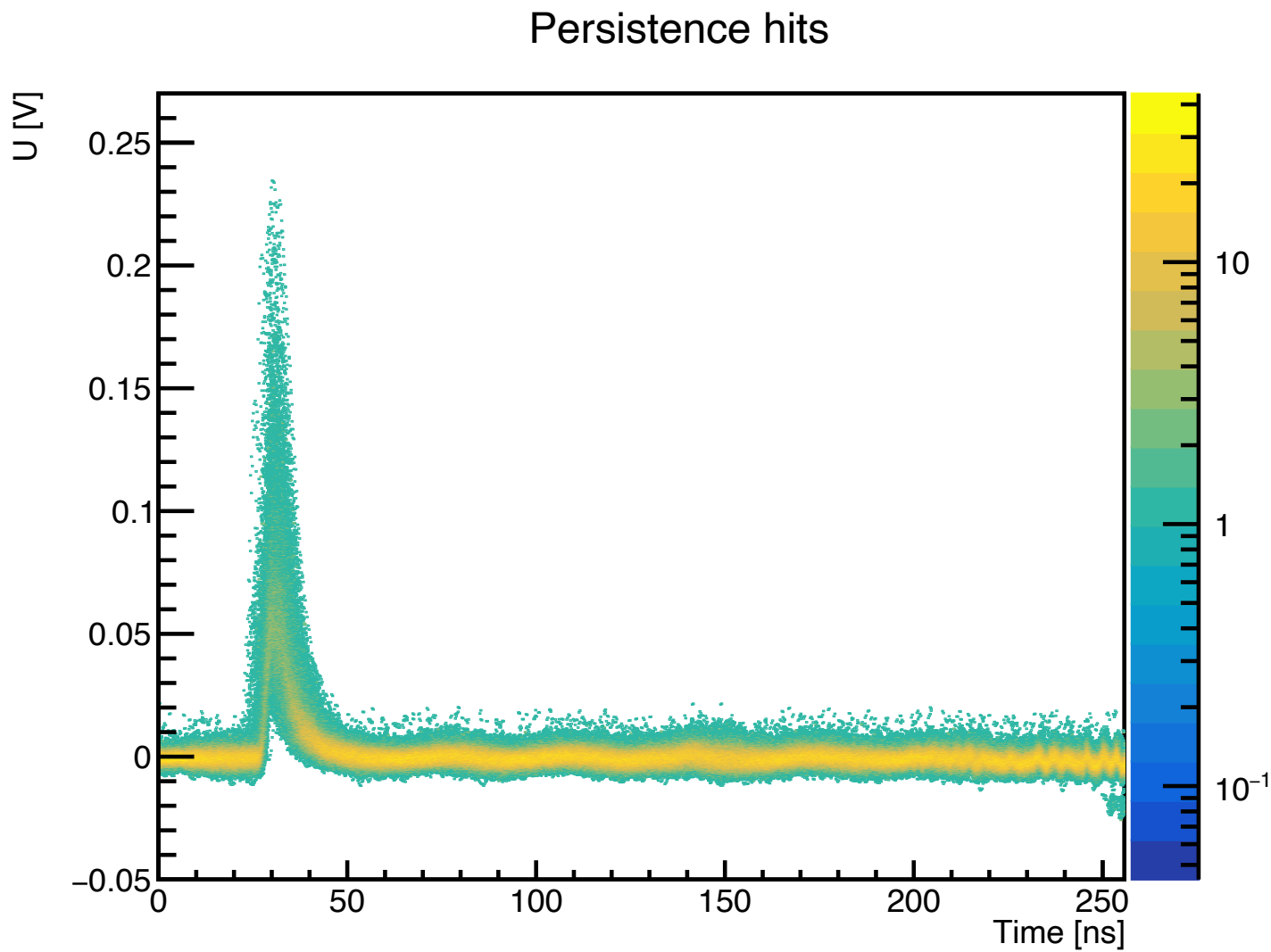
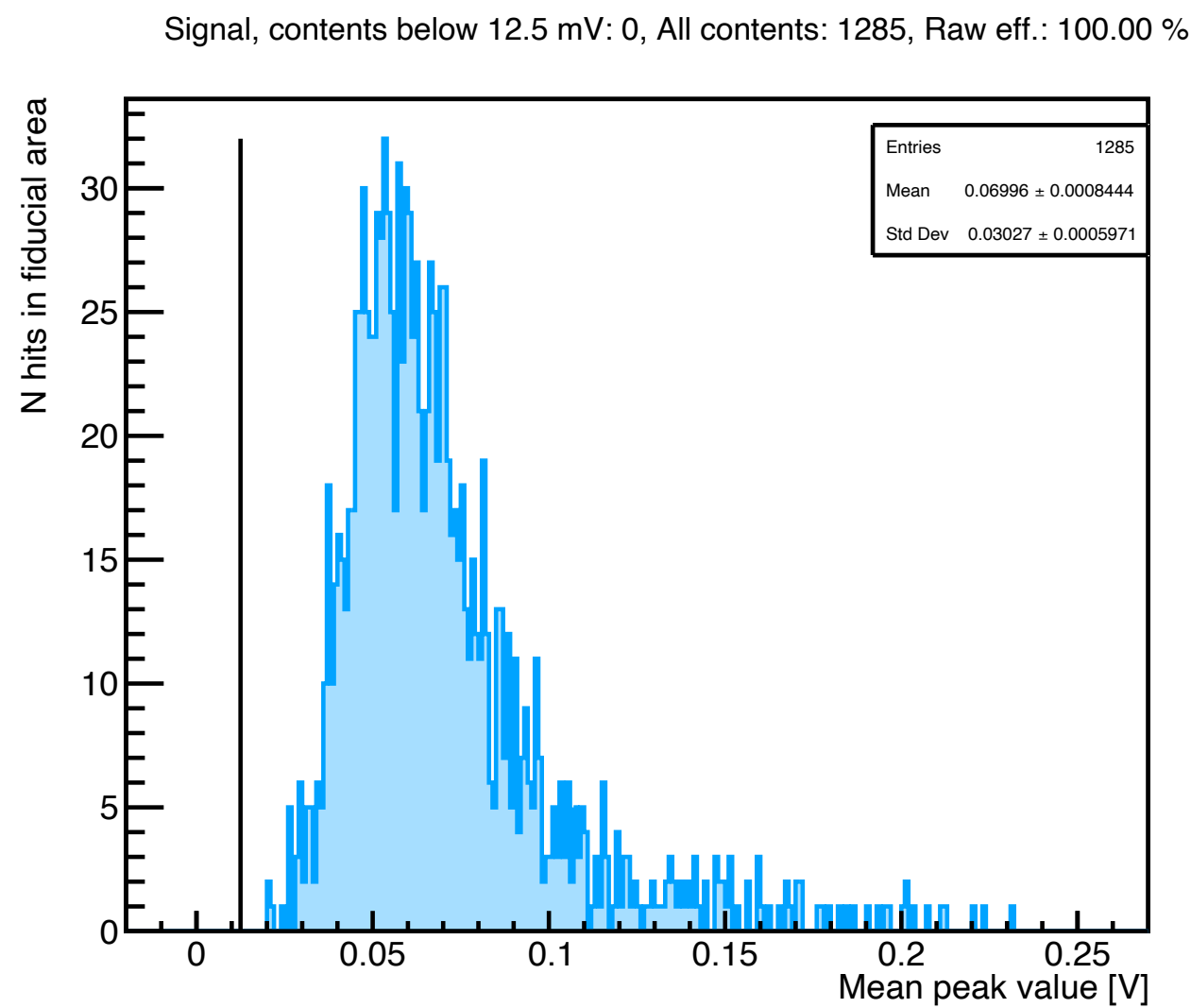
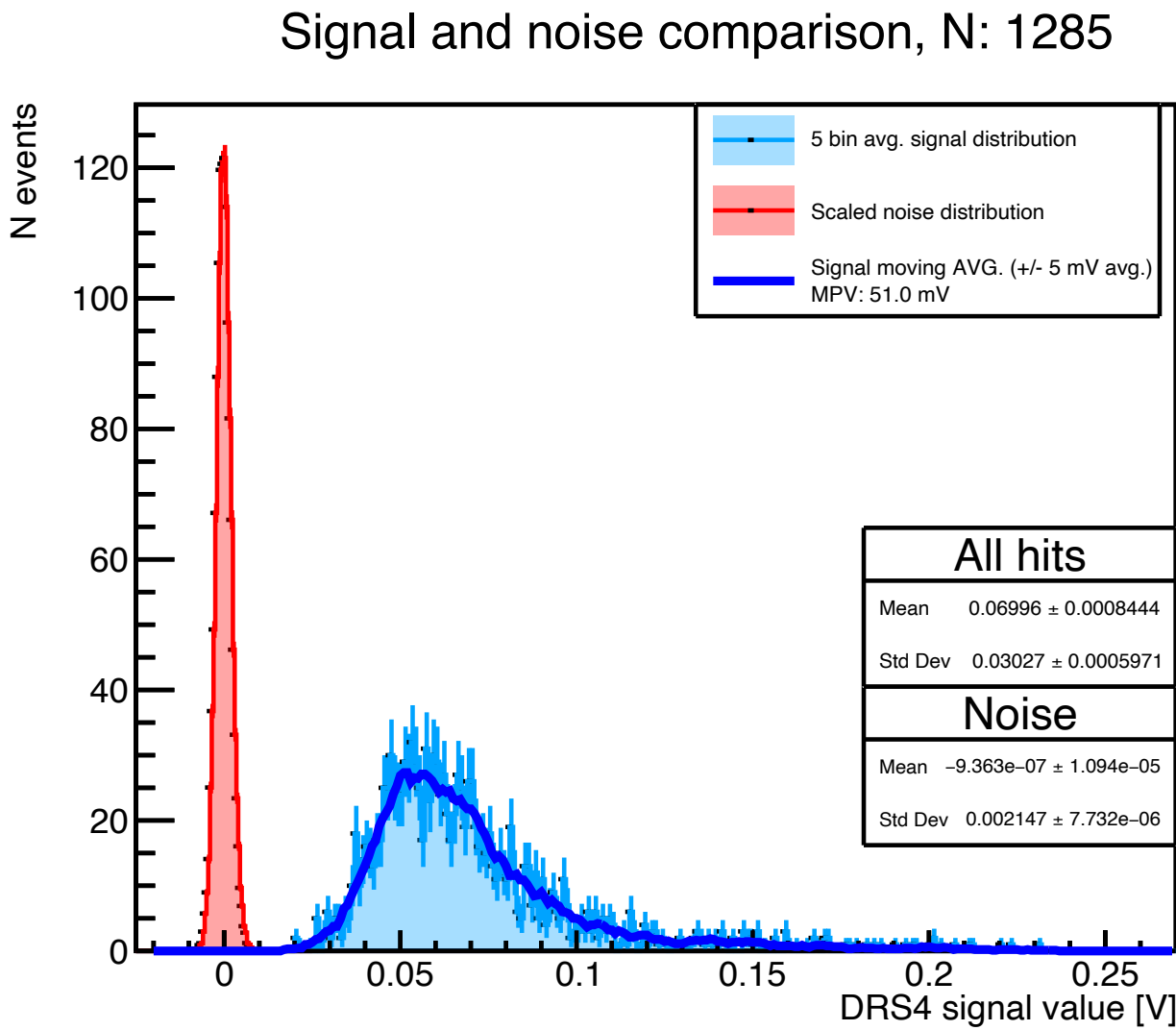
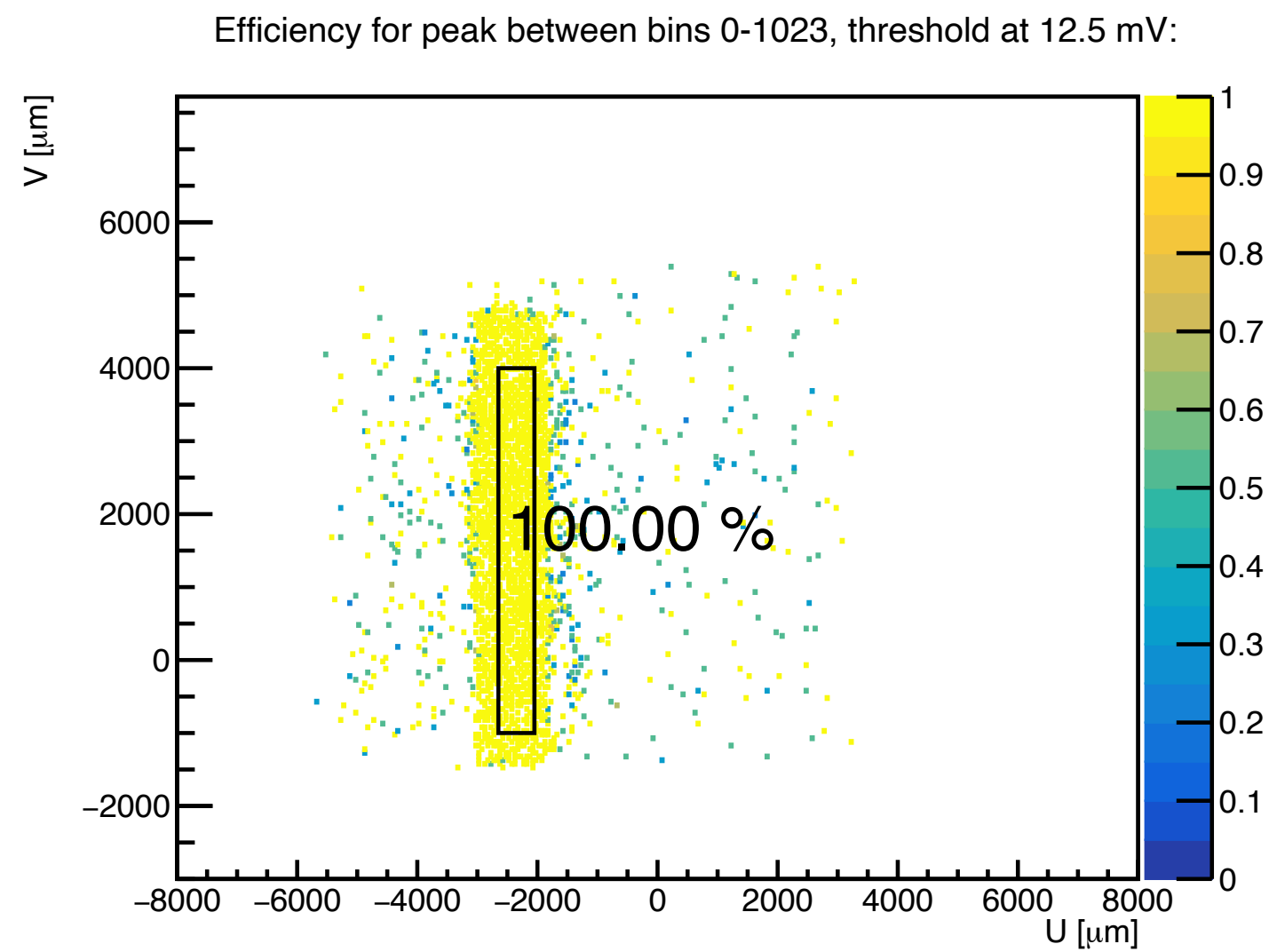


Persistence hits



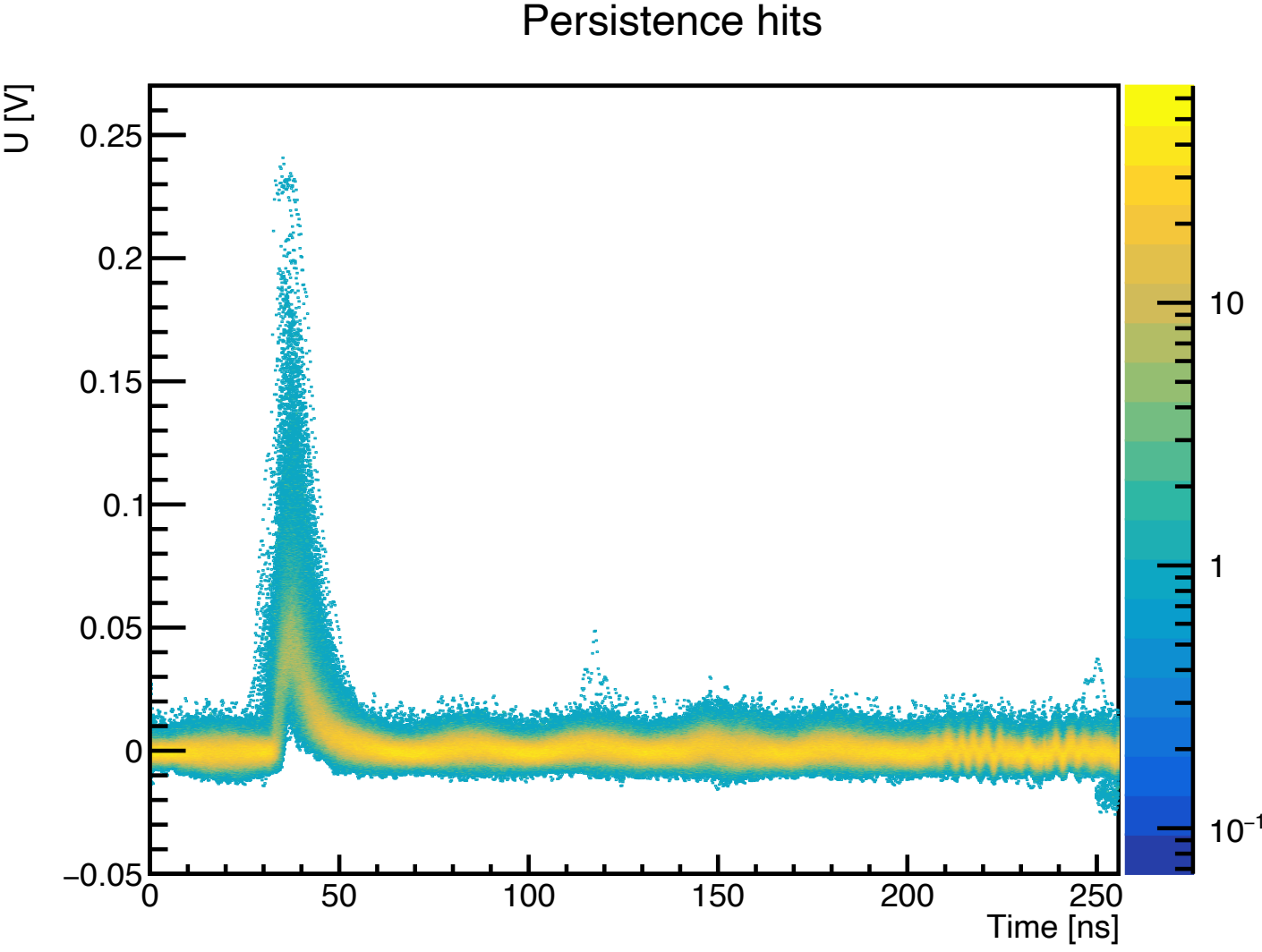
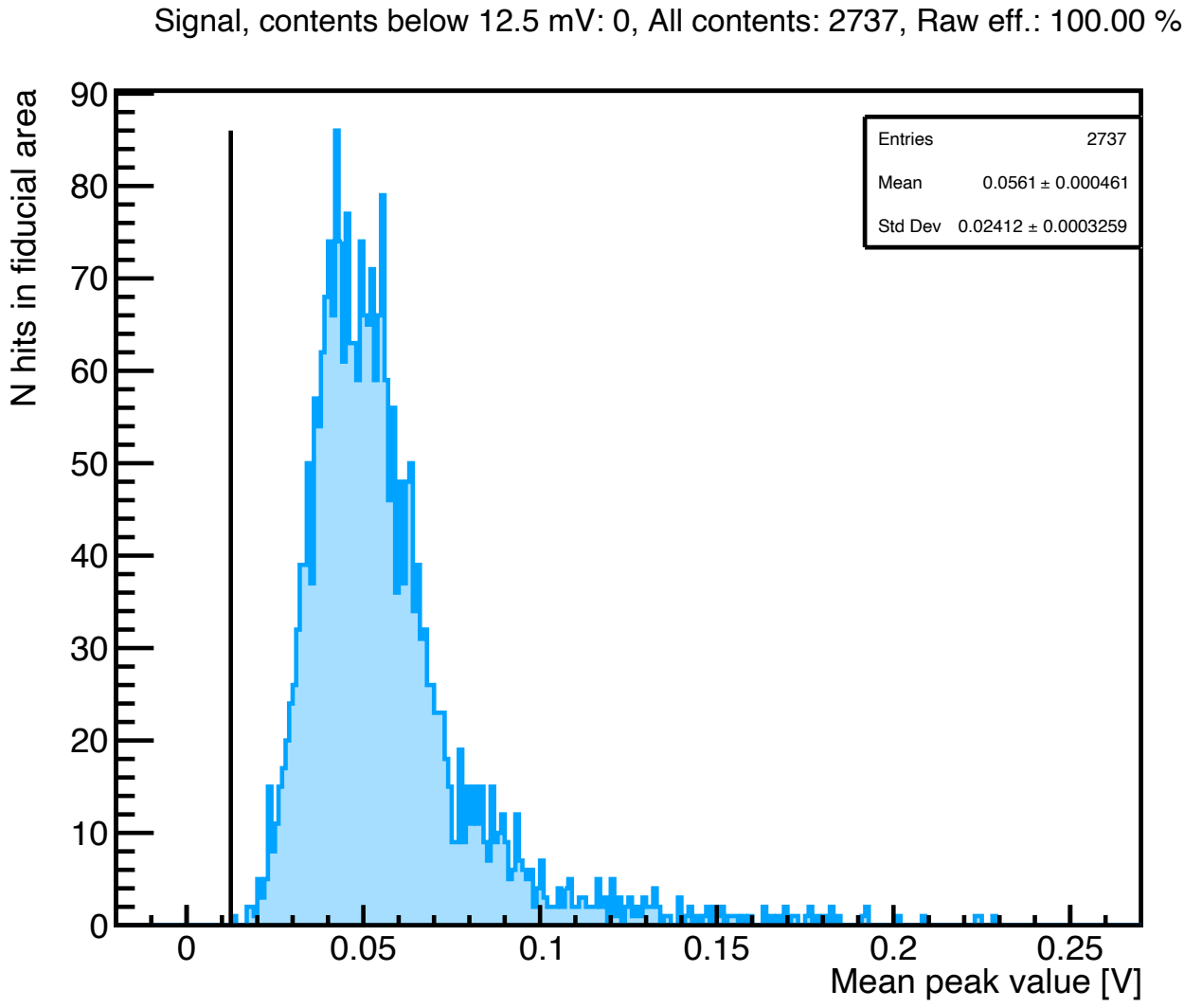
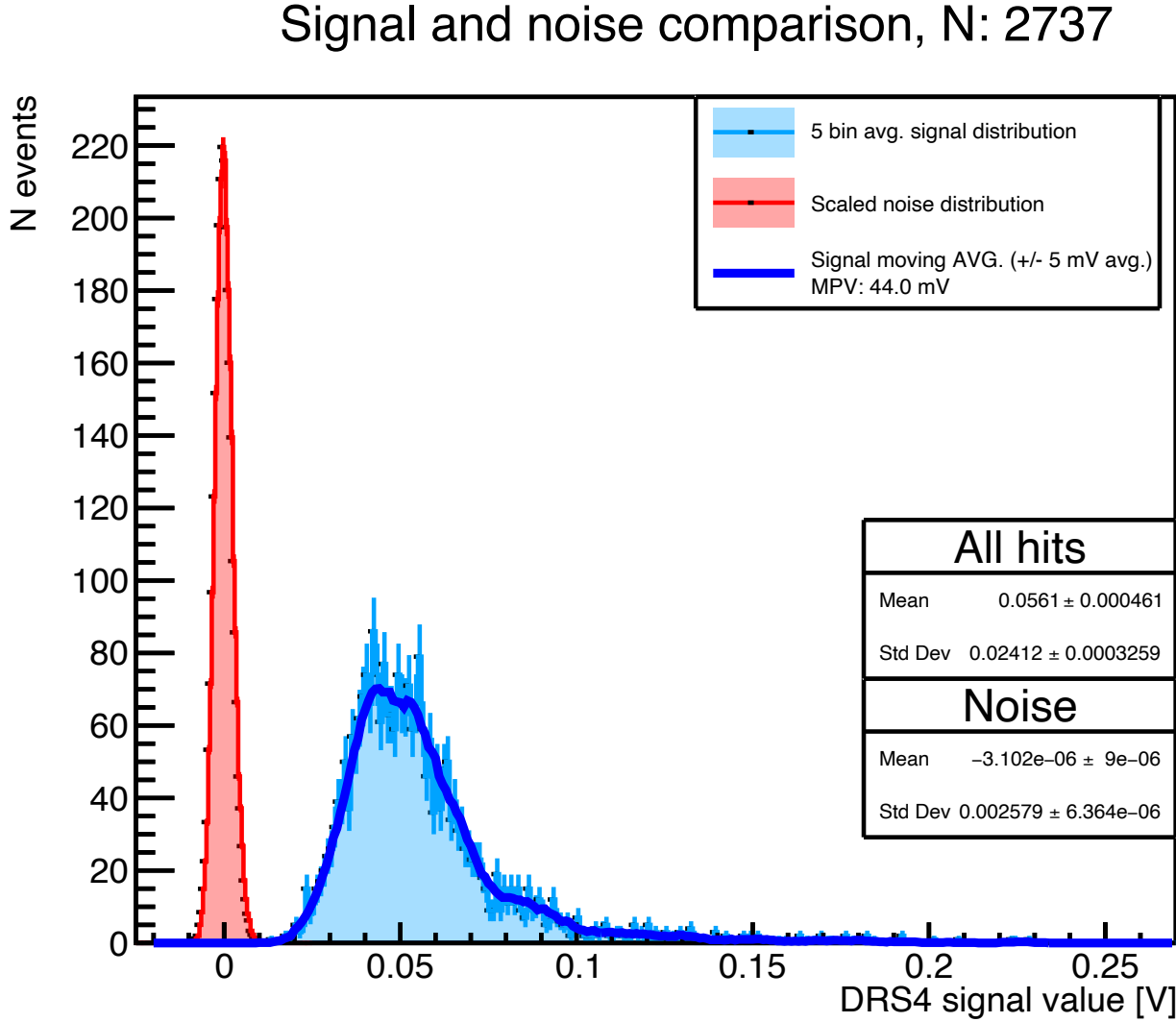
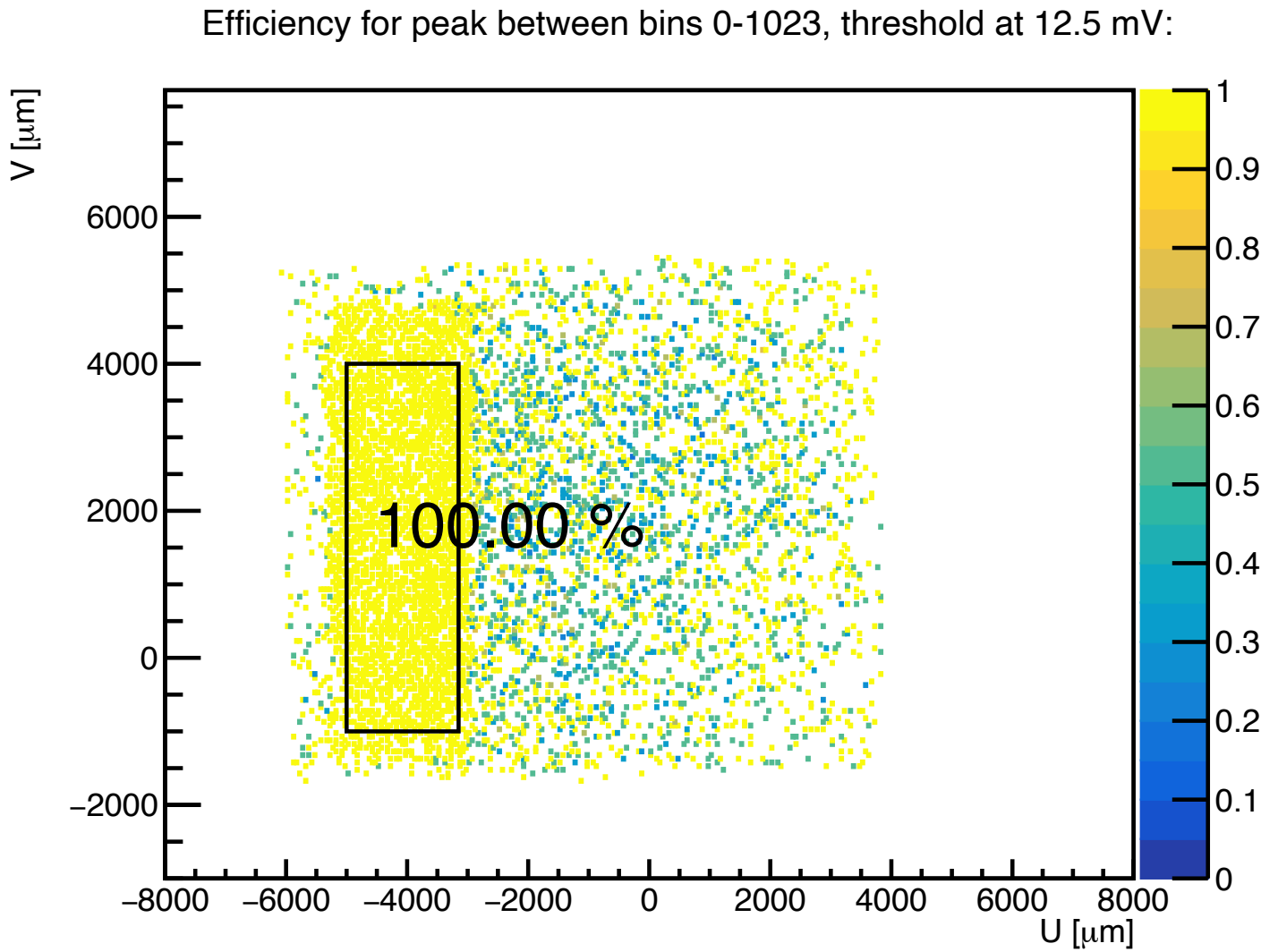
II6-S0 10 mm x 10 mm diamond, pad size ratios: 1, 2, 4, 8

50k events, +1000V,
medium-small pad (2):



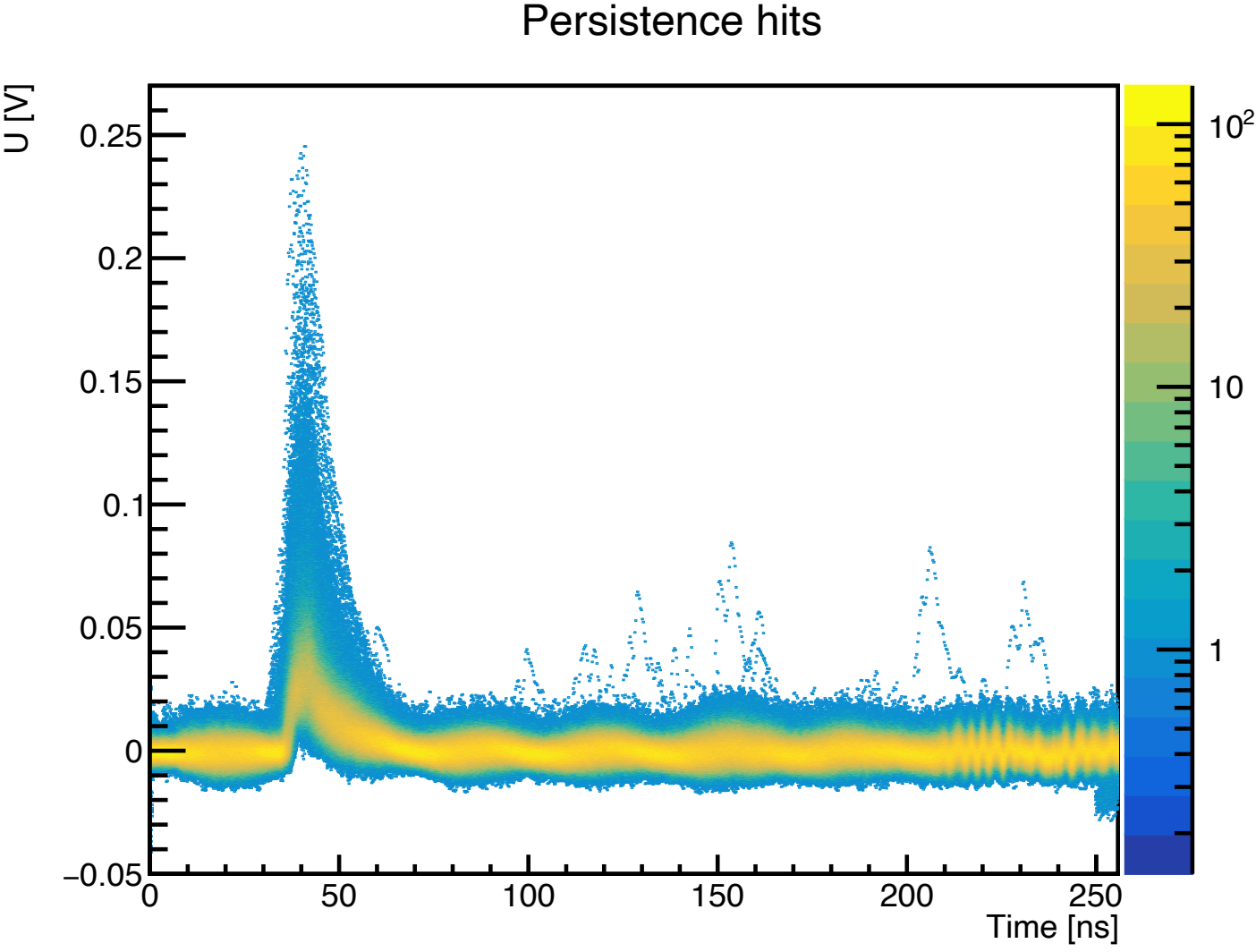
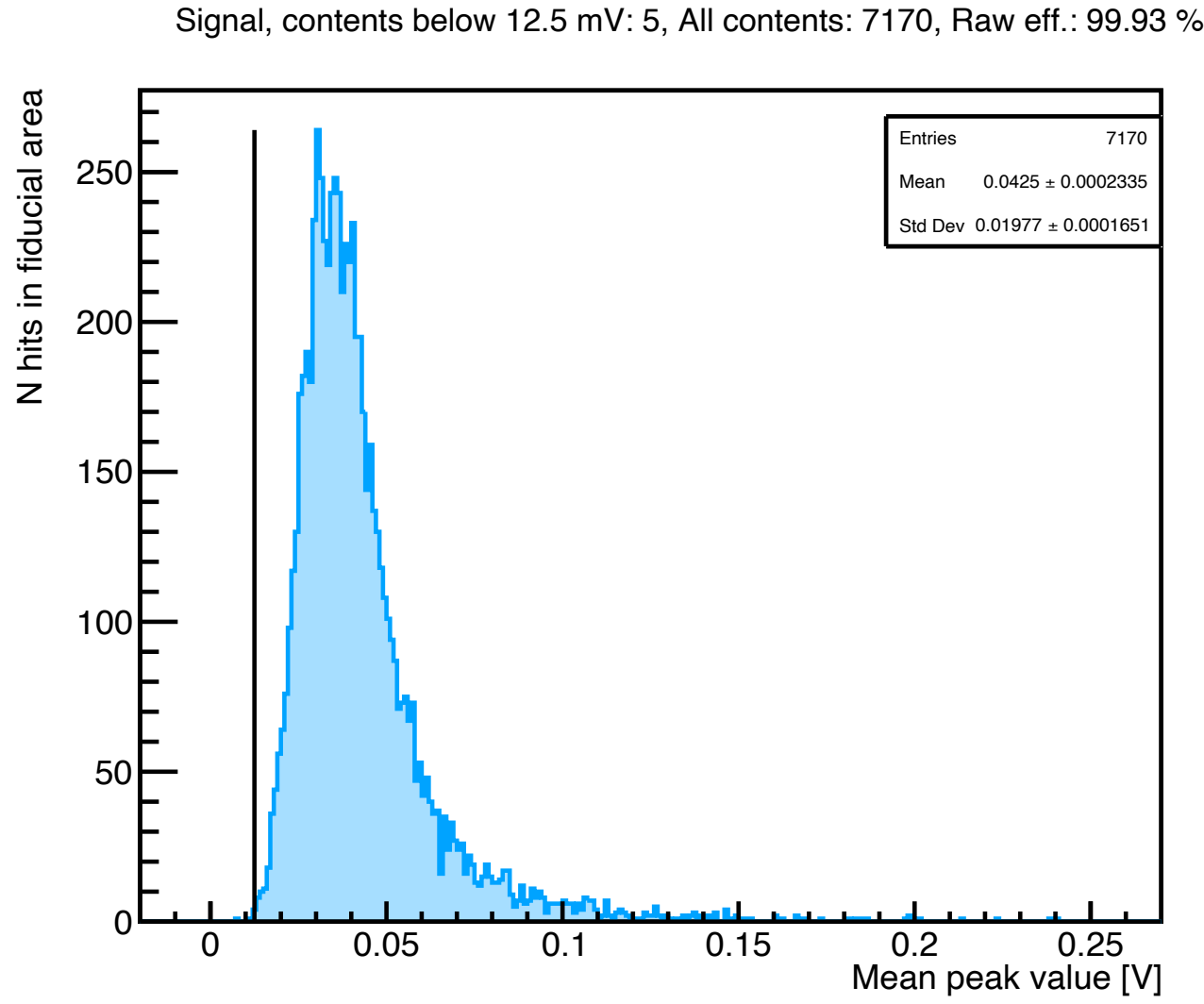
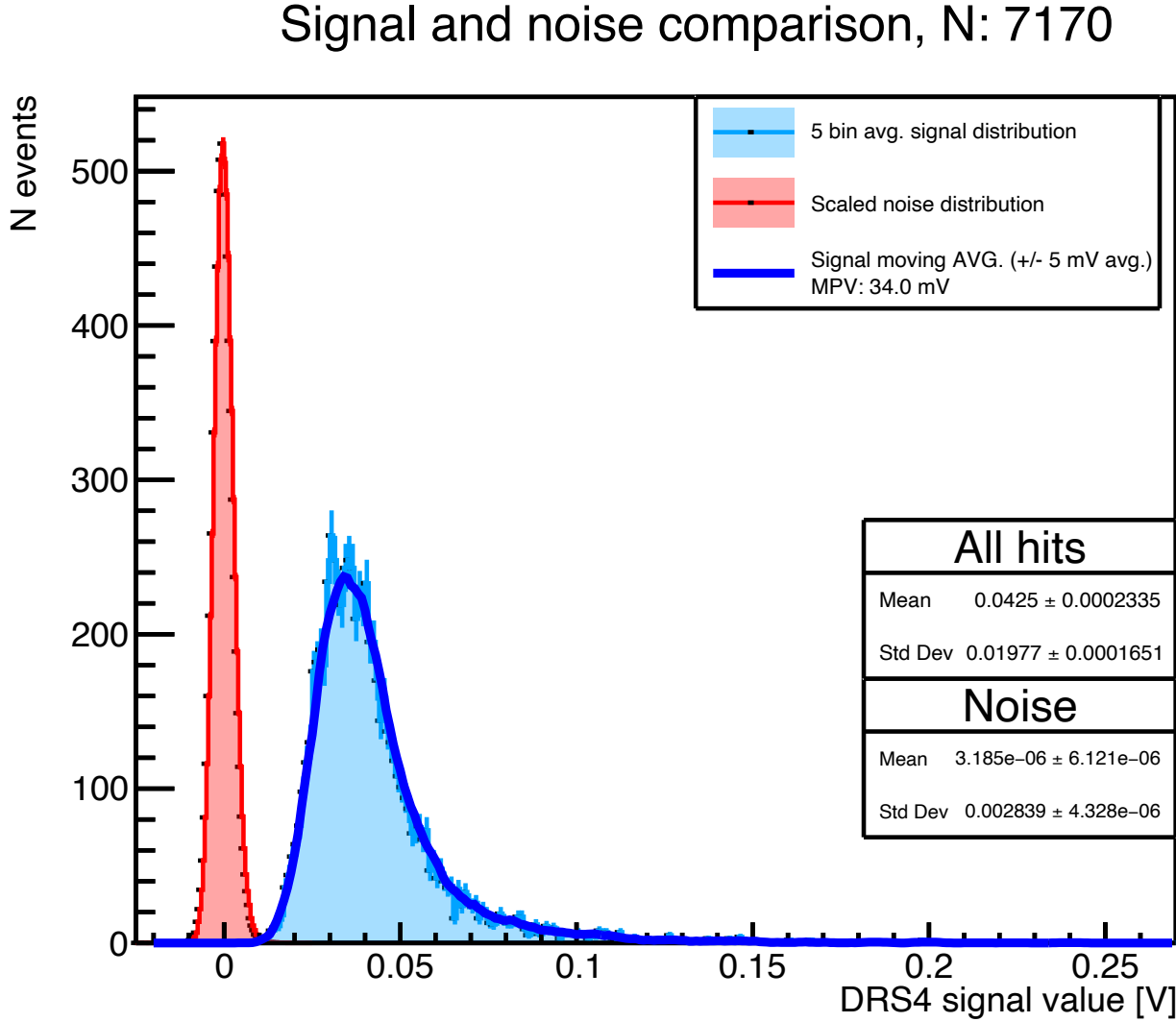
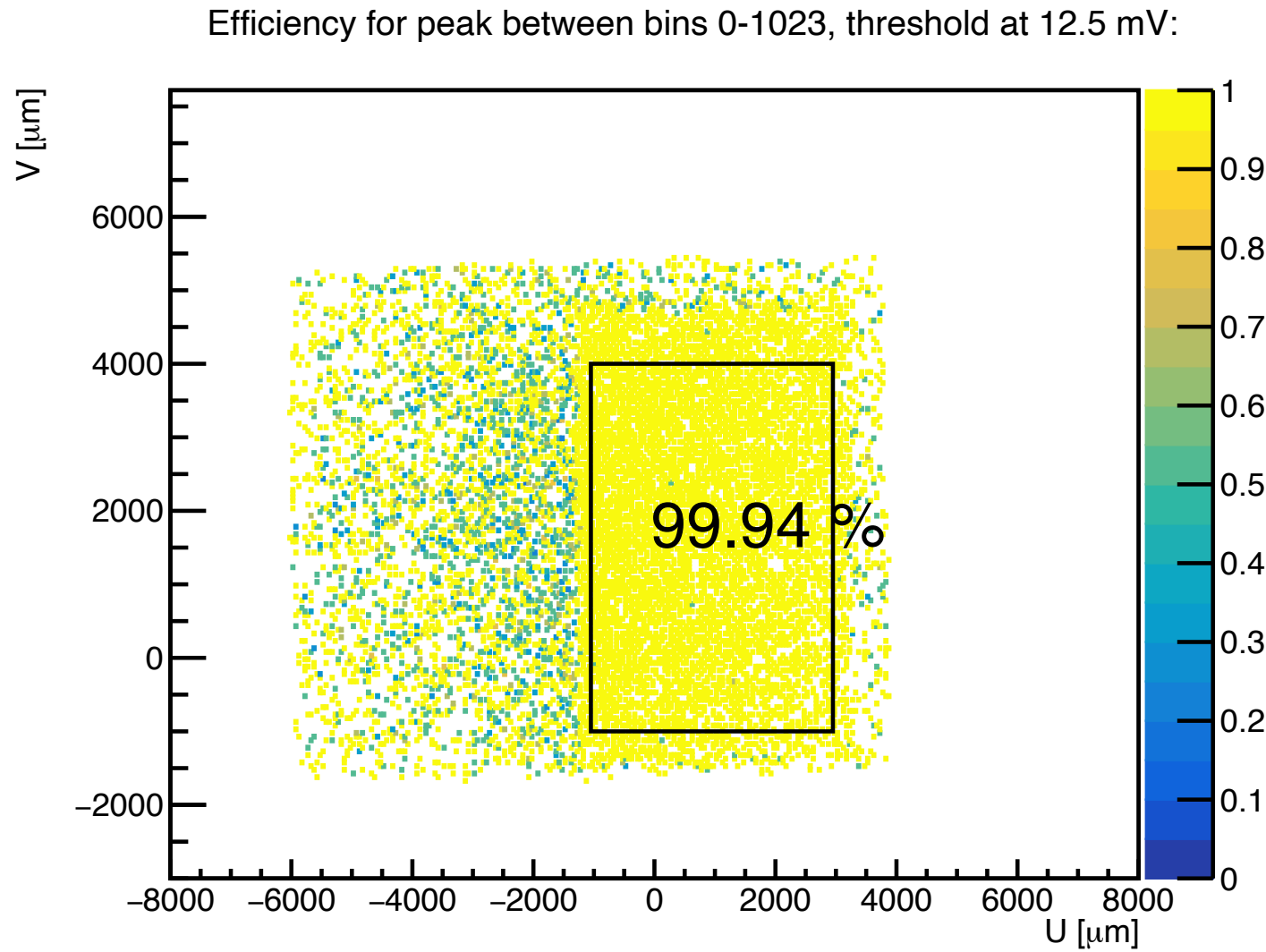
II6-S0 10 mm x 10 mm diamond, pad size ratios: 1, 2, 4, 8

50k events, +1000V,
medium-large pad (4):



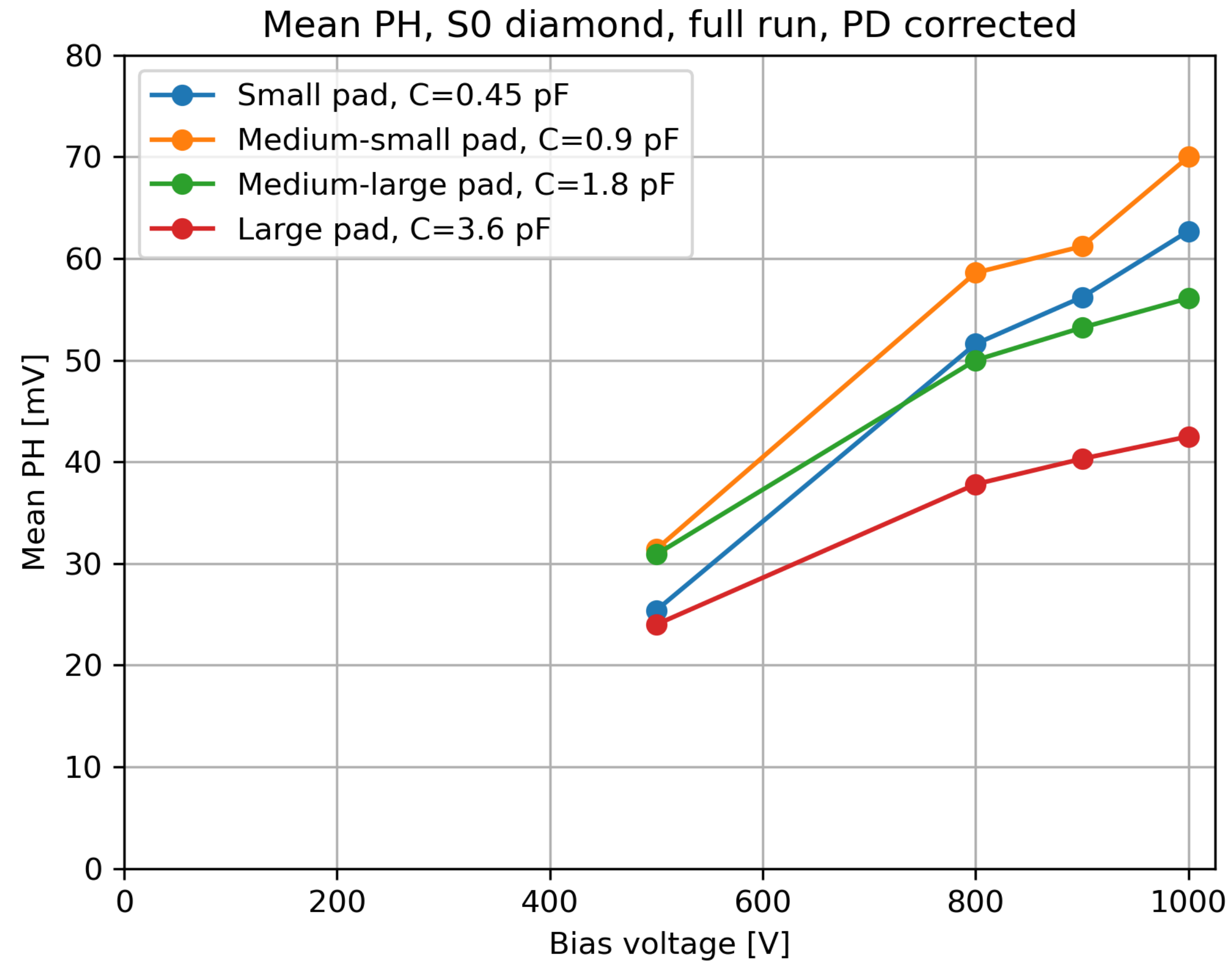
II6-S0 10 mm x 10 mm diamond, pad size ratios: 1, 2, 4, 8

50k events, +1000V,
large pad (8):



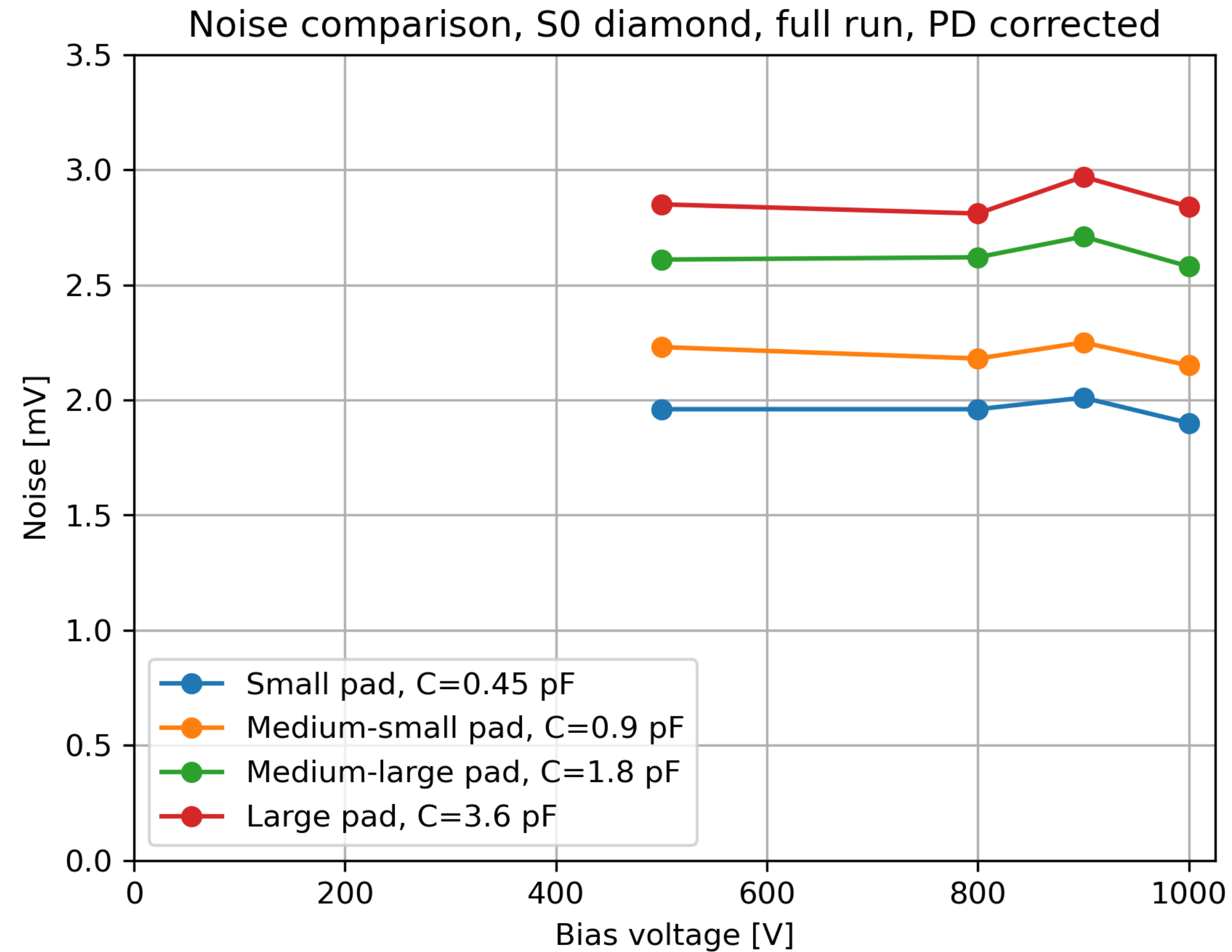
II6-S0 10 mm x 10 mm diamond, signal comparison

Runs with 50k events used.



II6-S0 10 mm x 10 mm diamond, noise comparison

Runs with 50k events used.



II6-S0 10 mm x 10 mm diamond, S/N comparison

Runs with 50k events used.

