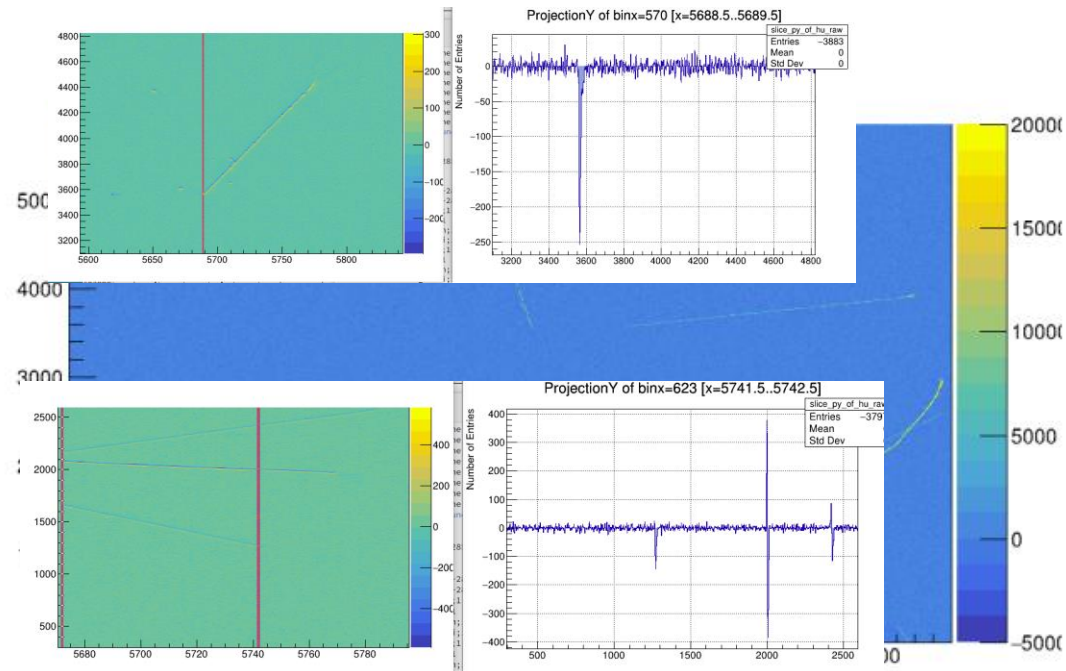
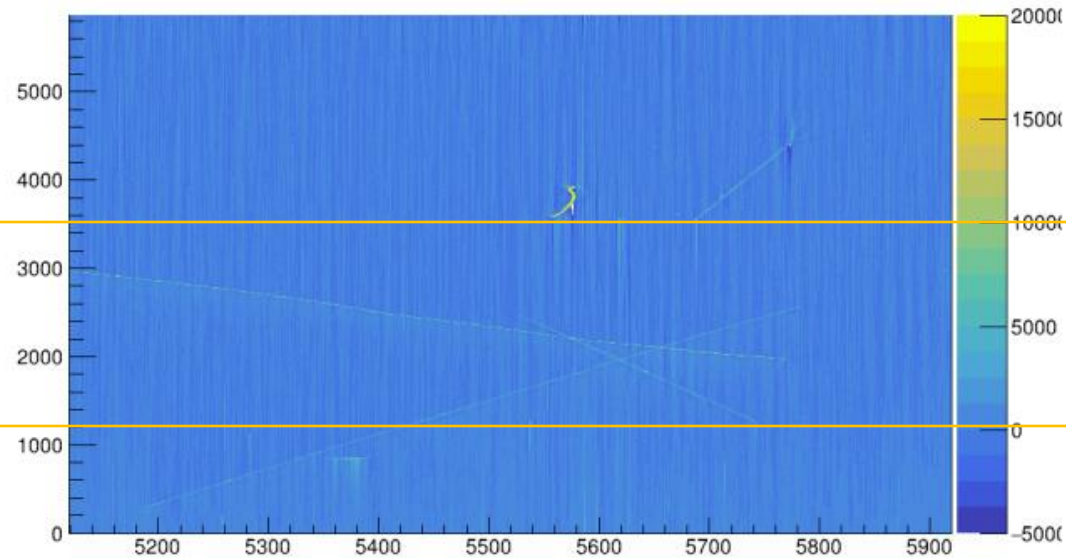


Signal processing and Imaging validation

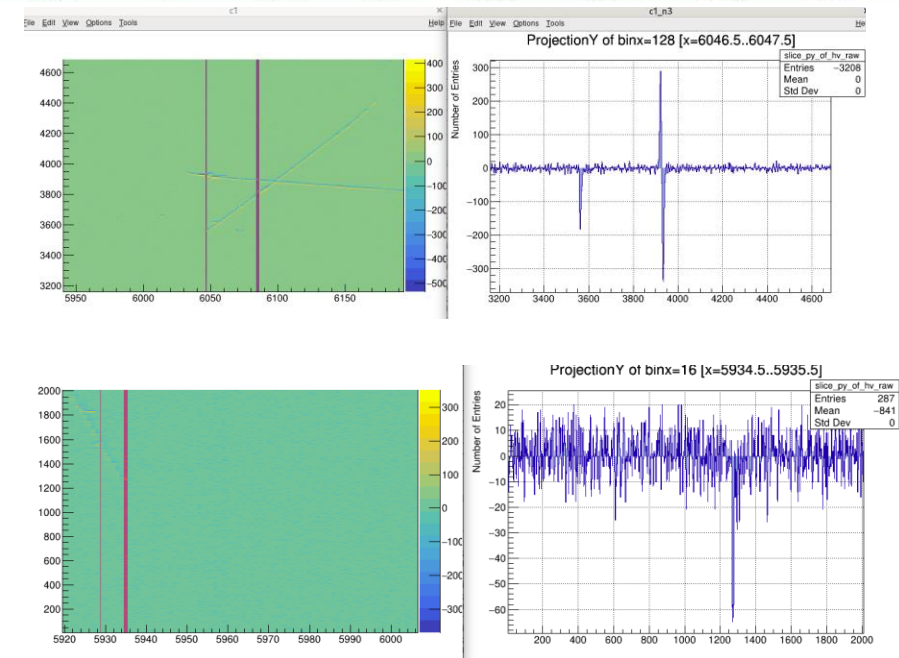
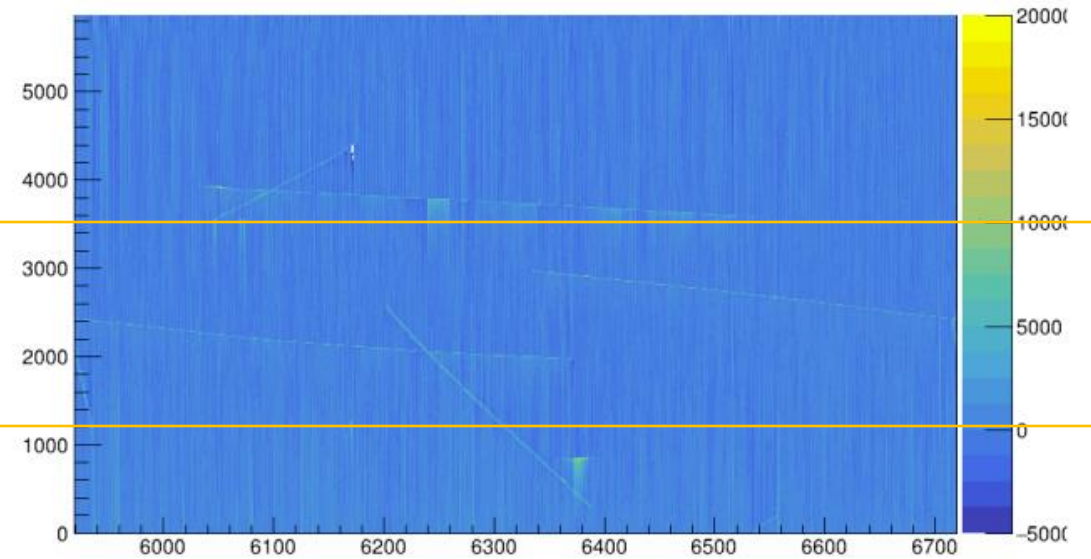
Xuyang Ning

02/26/2025

hu_decon_ori2



hv_decon_ori2



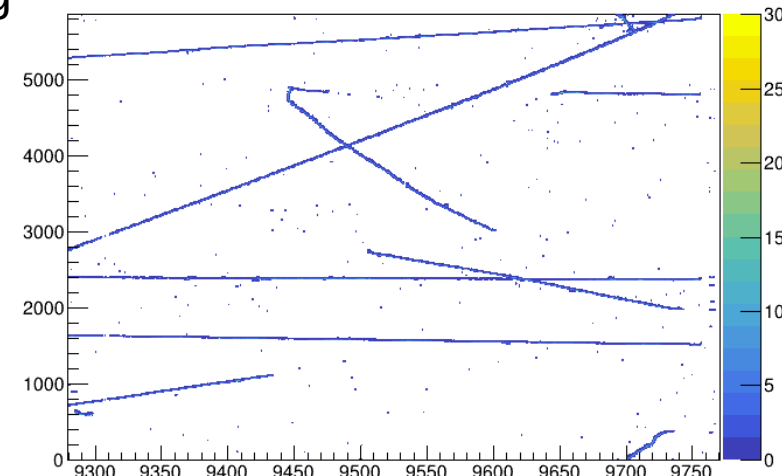
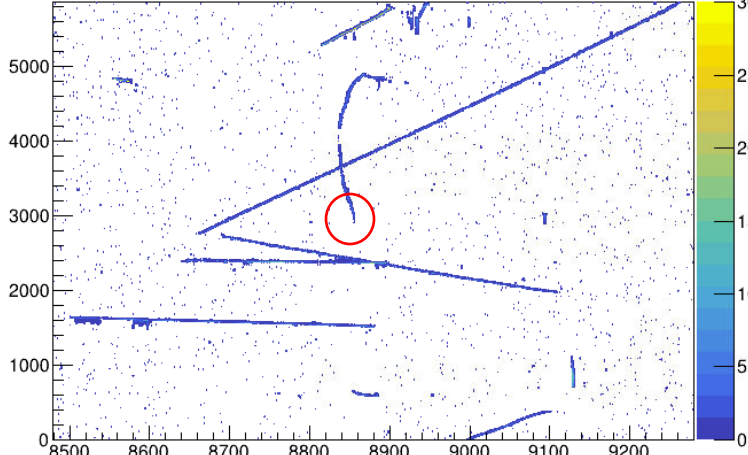
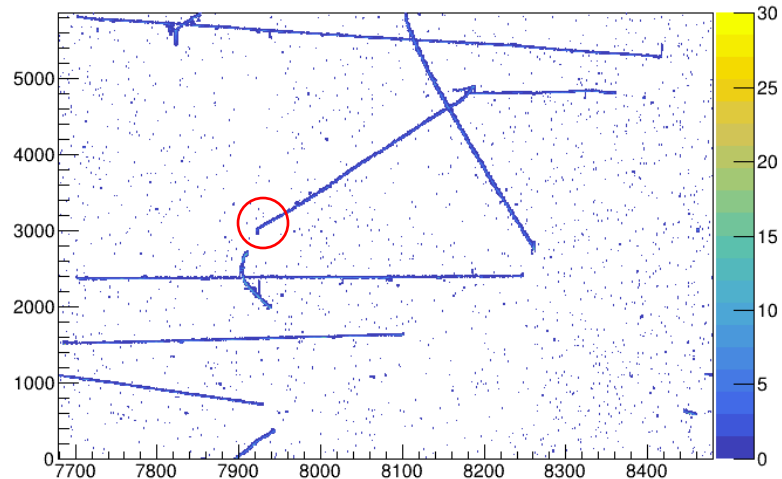
Tiling

- Output of the wire-cell-imaging: [0-apa*.json](#)
- Blobs in (x,y,z,q)
- Geometry of protodunehd: [protodunehd-wires-larsoft-v6.txt](#)
- Drift velocity: $v_d = -1.6 \text{ mm/us}$
- x_0 : anode place.
- $t_{tick} = (\frac{x-x_0}{v} - t_0)/t_{sample}$
- Wires: According to the [y,z](#) of each blob, the charge [q](#) will be assigned to the nearest wire in each plane.

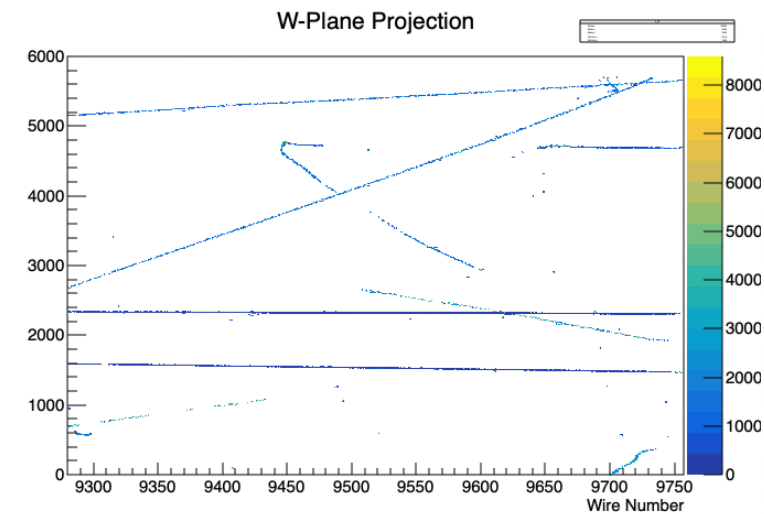
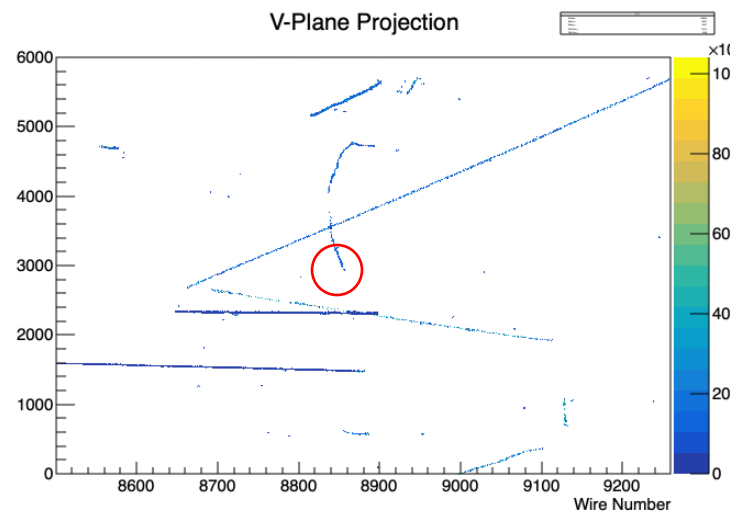
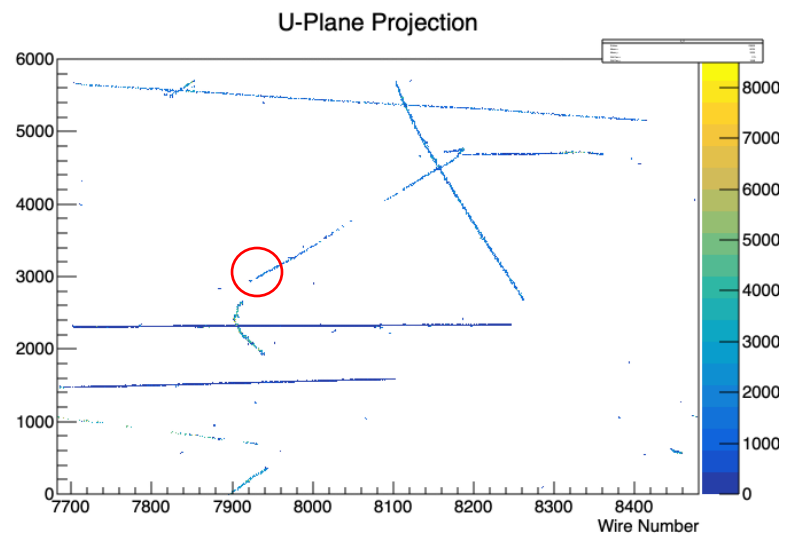
An example

$t_0 = 489.0; // \mu s$

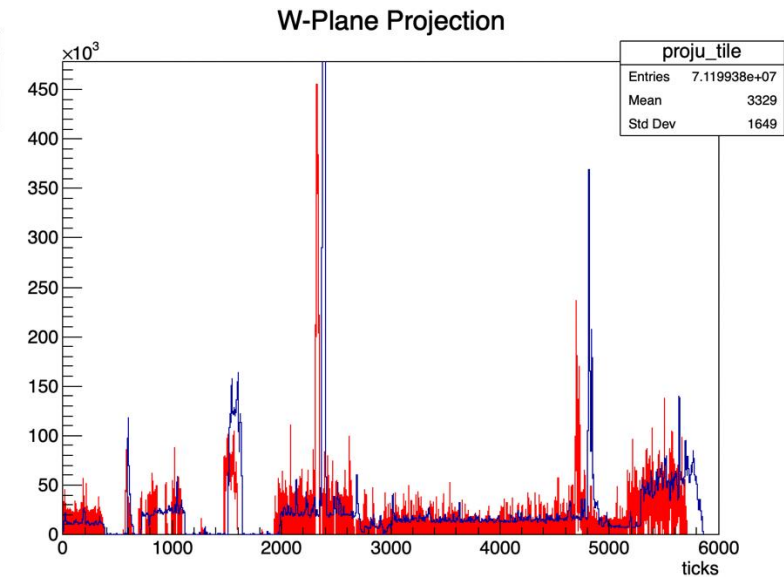
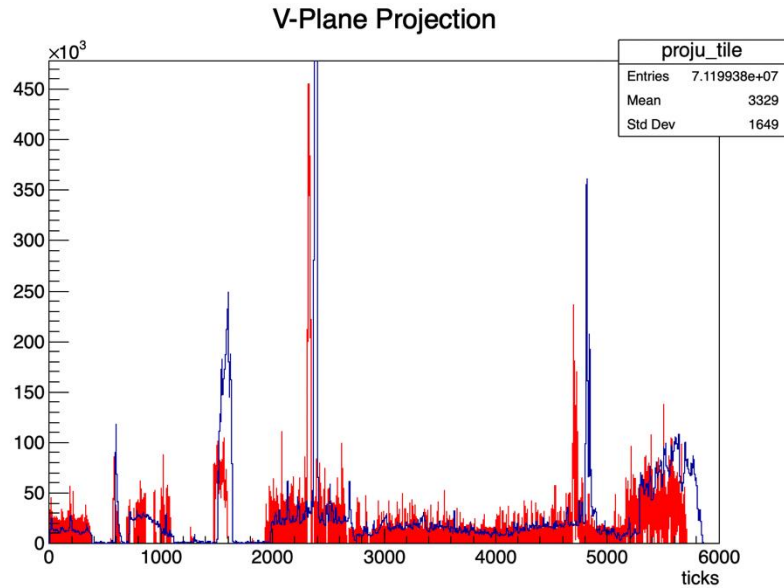
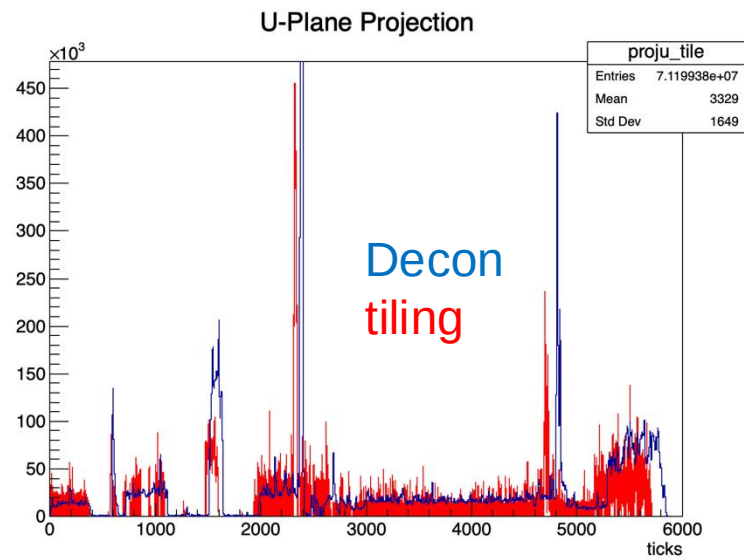
Decon result from signal processing



Project back after wire-cell-imaging



Project to Y



The time ticks are not fully aligned... Still need to check