Beam halo hitting L1 edge

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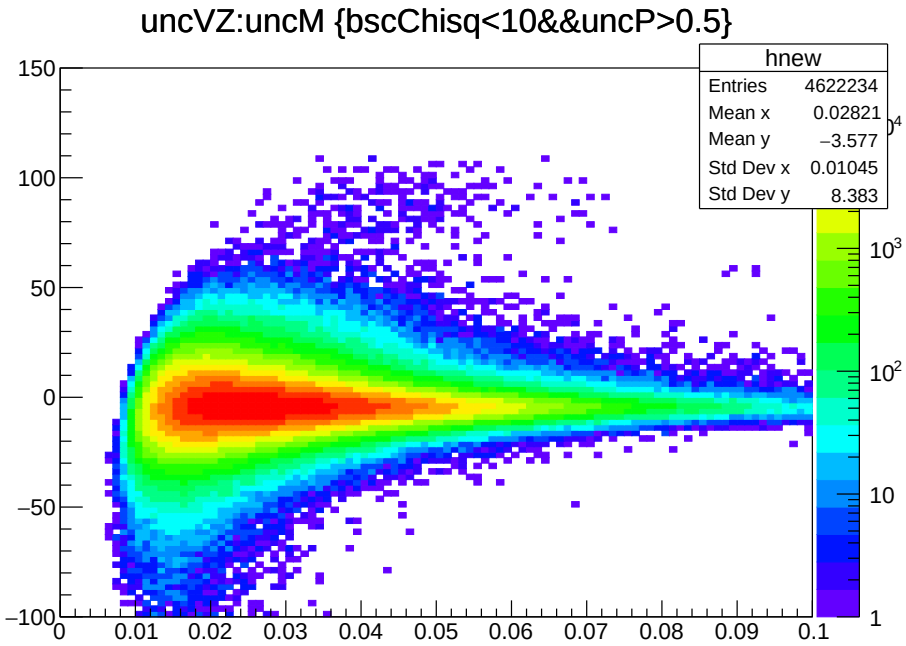
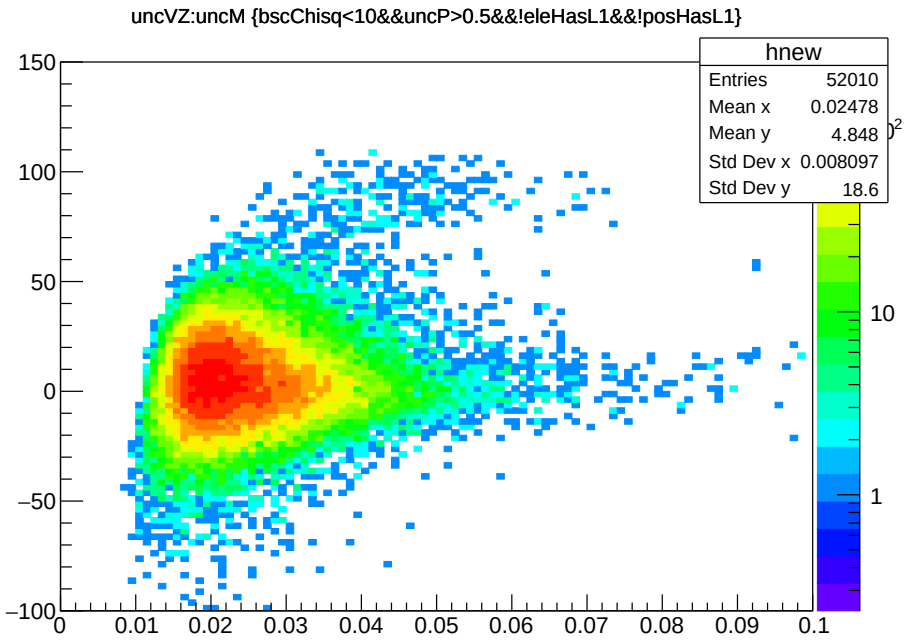
SLAC

Tridents at +Z

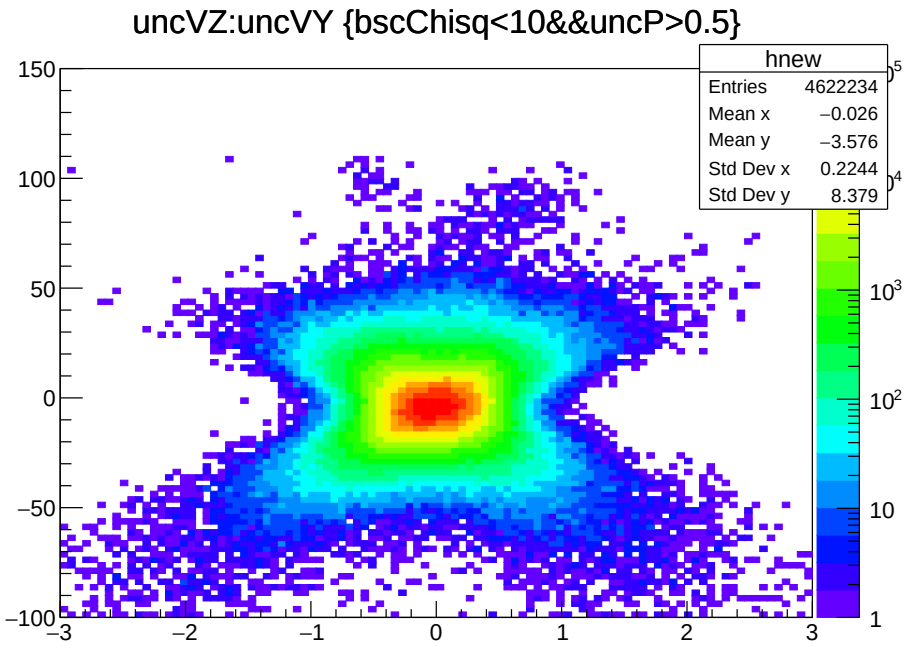
- Remove L1 requirement (necessary to get displaced A' acceptance), get crud at +Z that doesn't show up in MC
- These plots are with minimal cuts, but the crud does not go away with cuts
- Clearer if you require no L1 hits

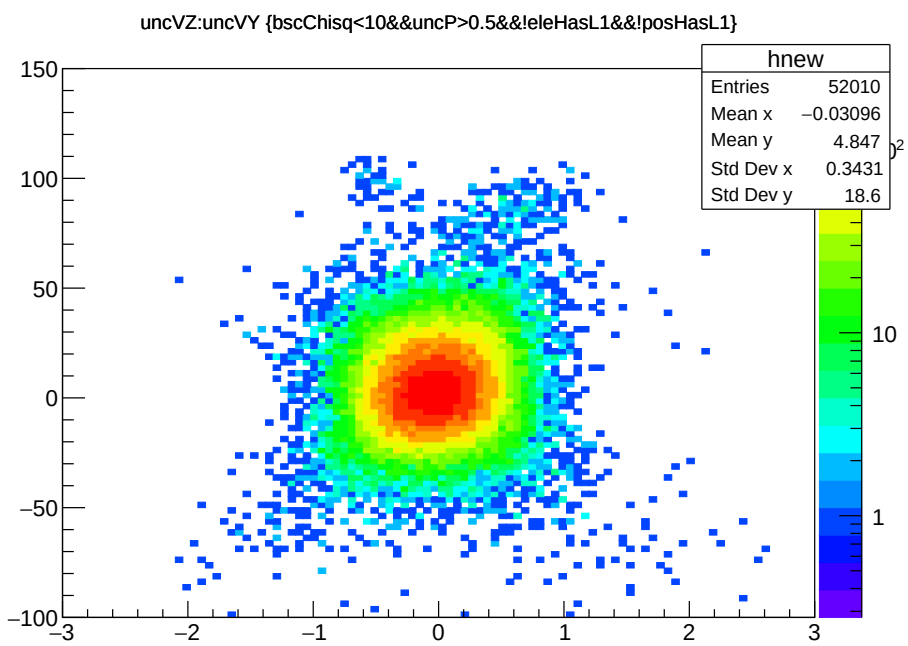




Z vs. Y

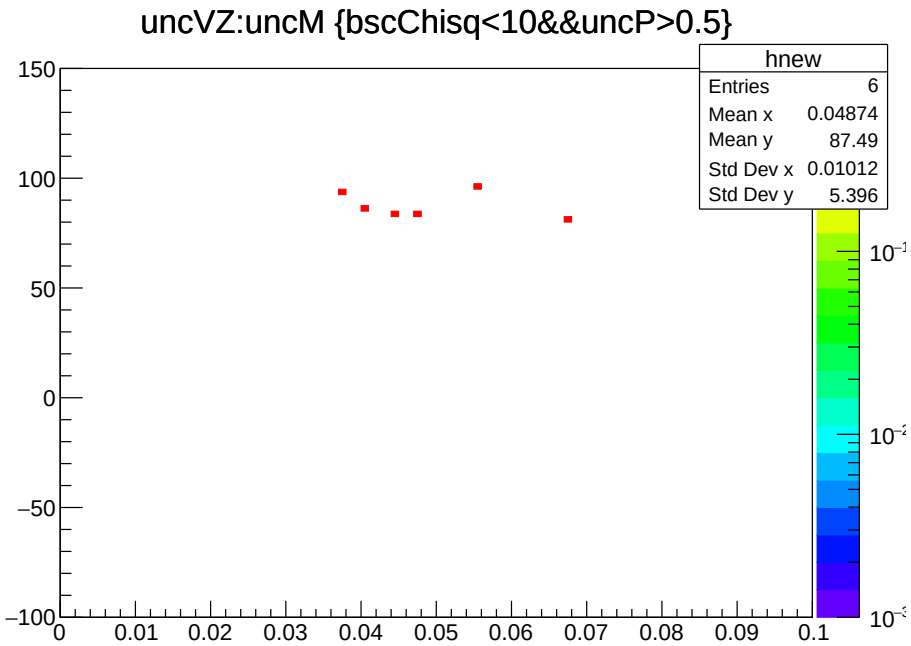
- Looks like L1
- Top and bottom are visible: 50-60 events in bottom, 150-200 in top

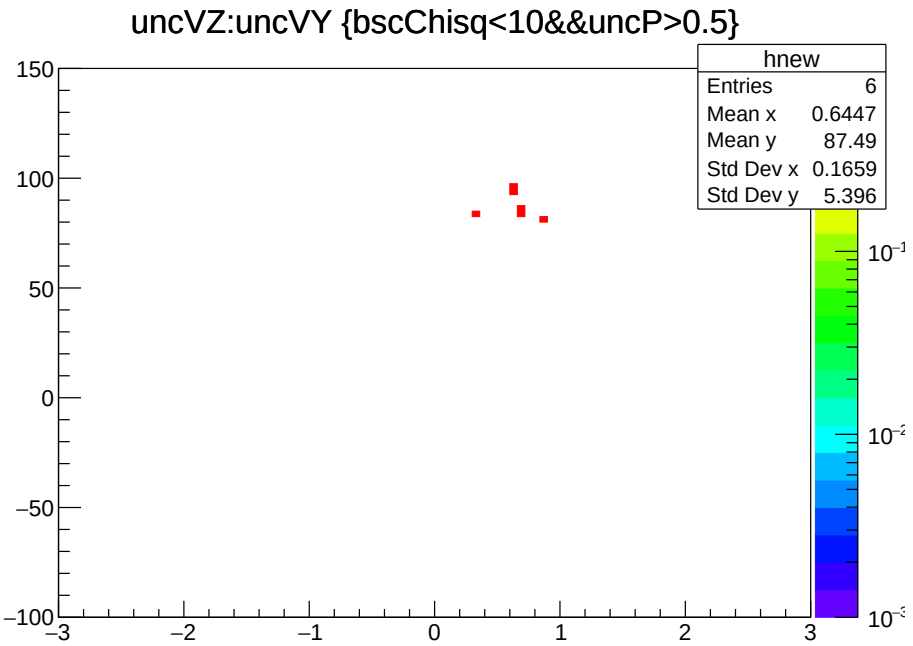




Empty target run

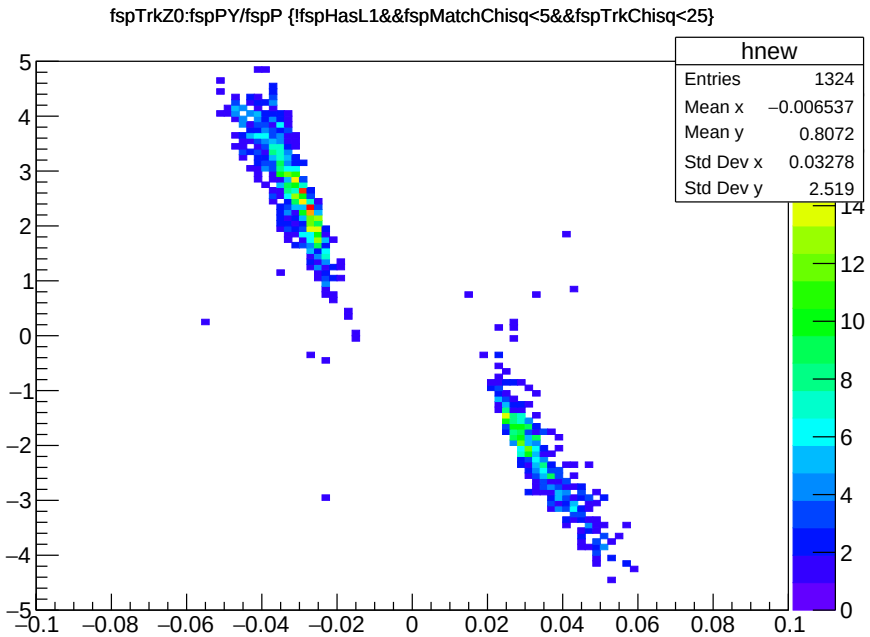
- Run 5790: 0.5 hour (compared to 4.5 hours of unblind golden runs)
- L1 top is clearly visible, nothing else is (but statistics are low)
- So we see stuff, but the normalization doesn't really work out: do FEEs scattered in the target add significantly to the halo?

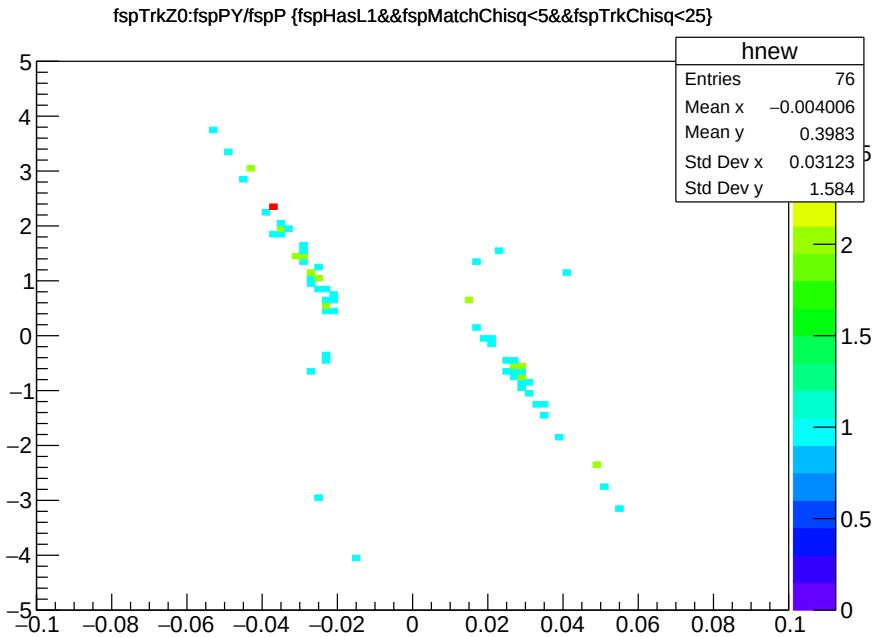




Empty target: FEEs

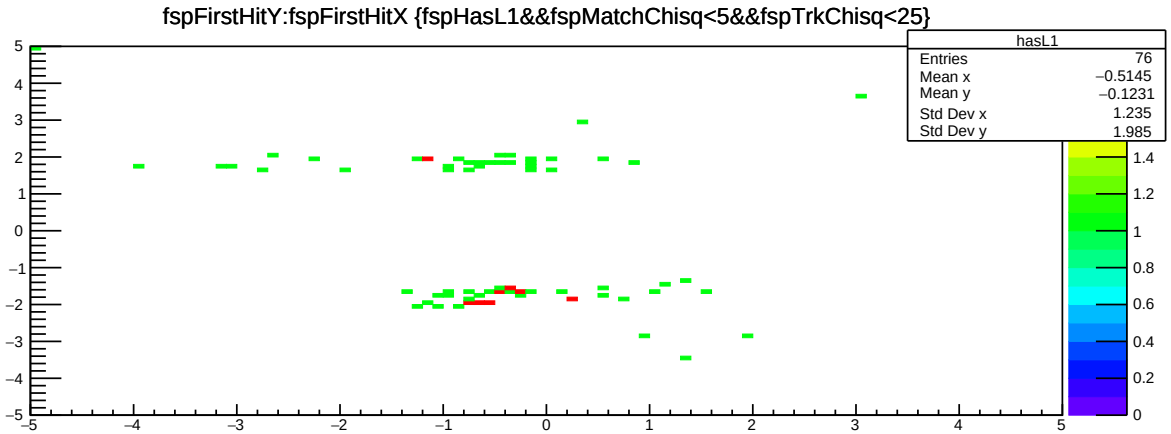
- Can see FEEs hitting inactive and active material on L1

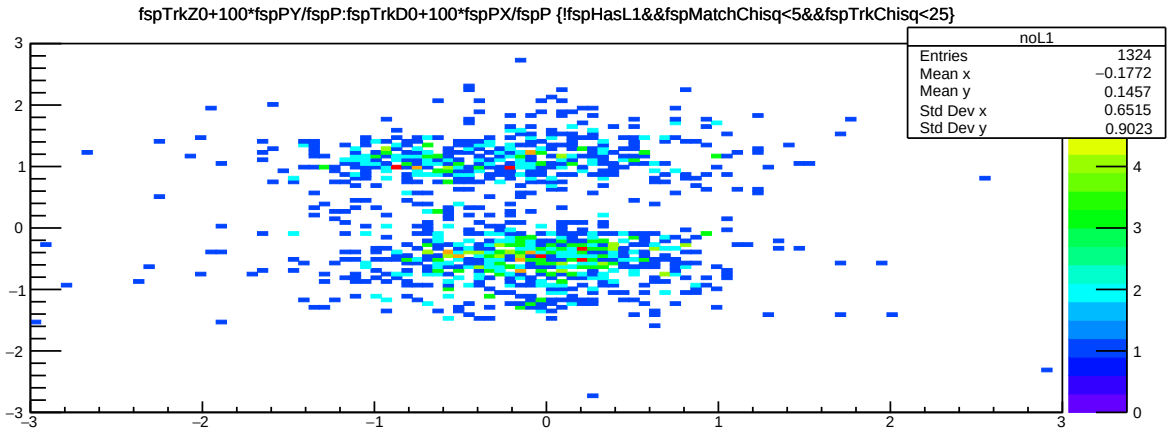




Empty target: FEEs

- Lower plot: extrapolated L1 position is shifted up because both halves of L1 are shifted by 3/16” (top is at Z=95, bottom is at Z=105)





Dealing with this

- May need to cut some regions out of the Z vs. Y distribution
  - Would help if we can more cleanly identify these events
- Some impact on reach; not sure how much