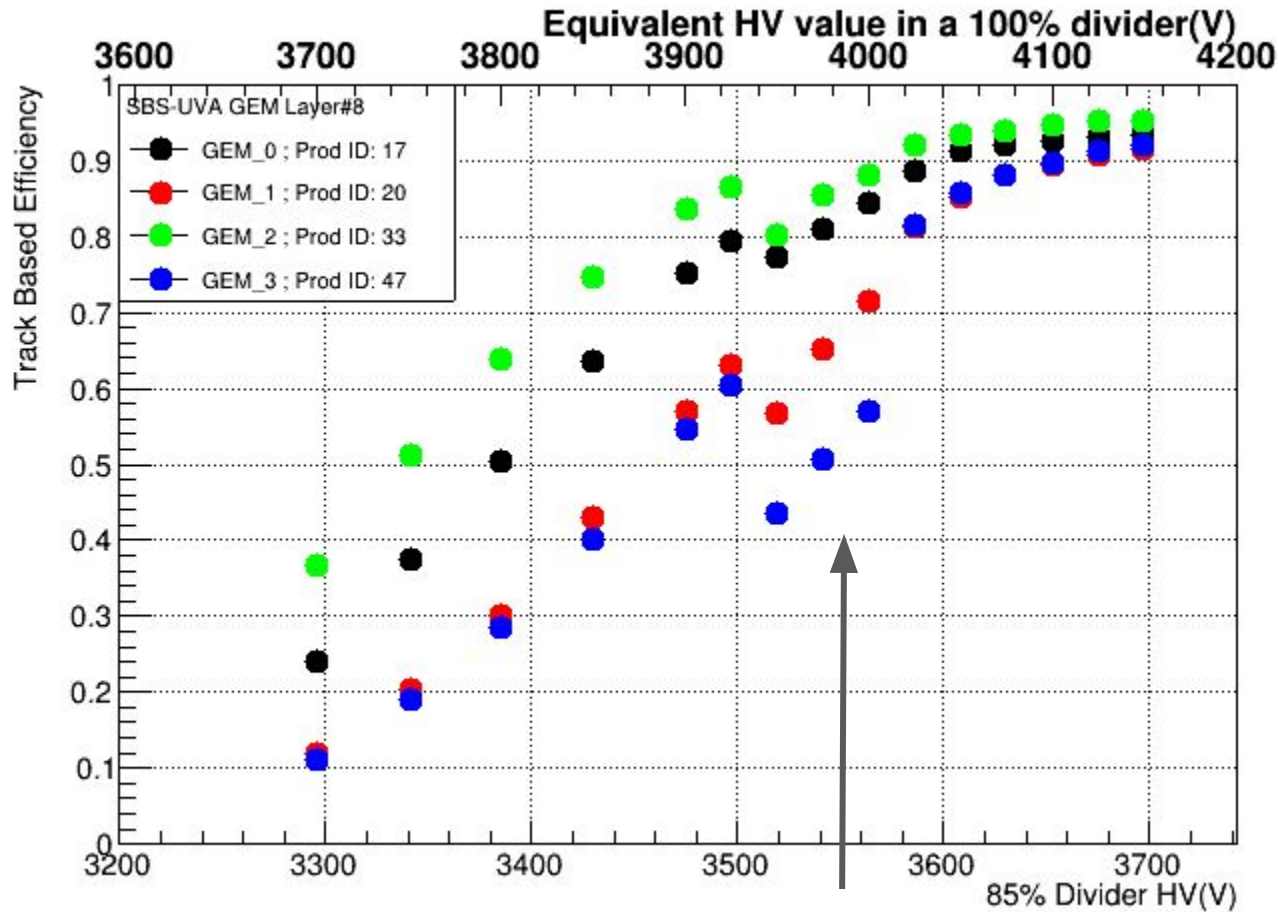


# UVA SBS Layer #8 HV Scan Results

- All four modules have the 85% divider modification
- In the following plots, the bottom x - axis refers to the actual applied voltage on the divider and the top x-axis refers to the equivalent HV which would be the same HV applied on a 100% divider to get the same current through the divider
- Scan was carried out from 3296 V (3700 V equivalent) to 3697 V (4150 V equivalent)
- GEM\_0 and GEM\_2 have reached the efficiency plateau and are above 90% efficient by 3653 V (4100 V equivalent)
- GEM\_1 and GEM\_3 are also about 90% efficient by 3653 V, even though they have not plateaued nicely by then

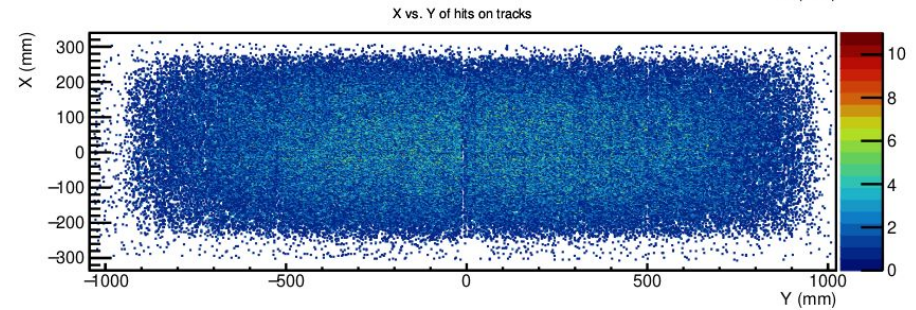
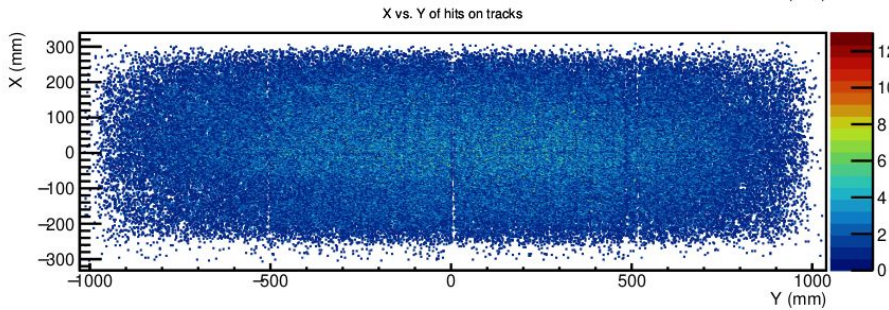
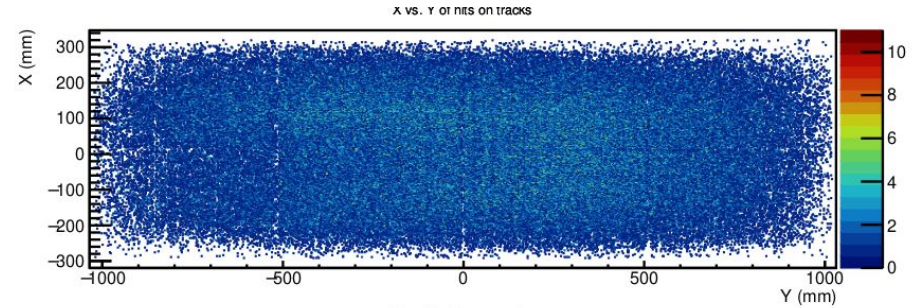
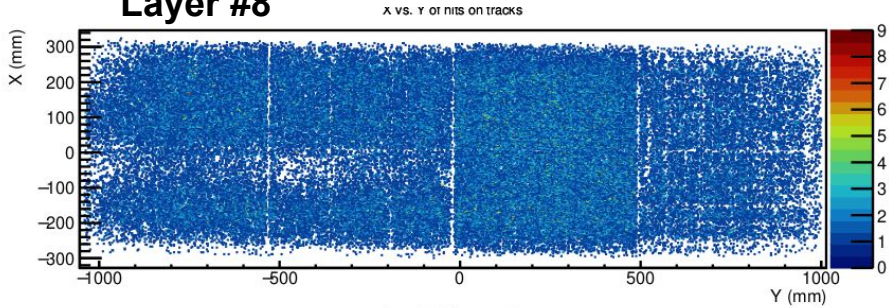
# First set of data we took



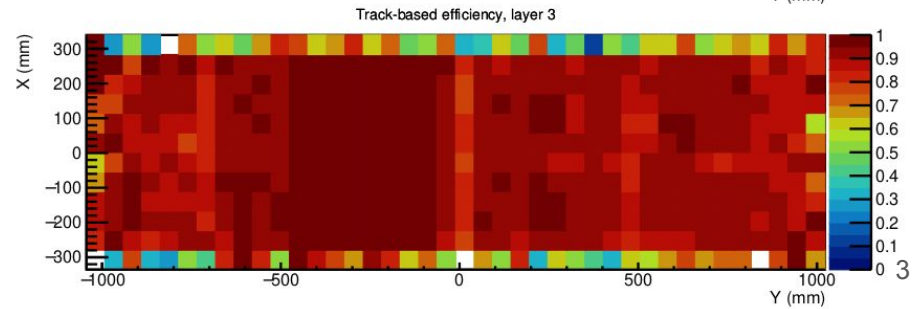
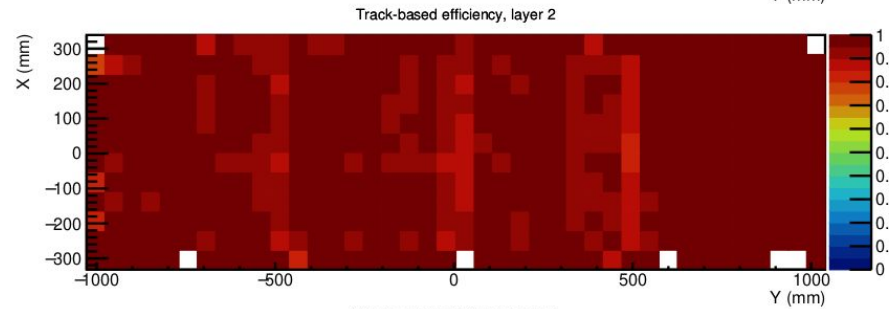
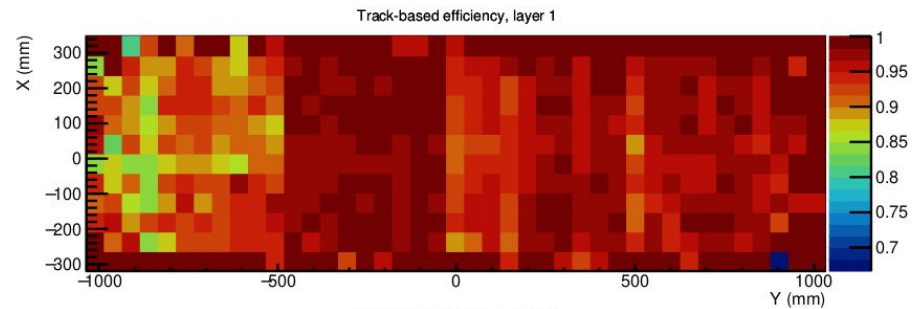
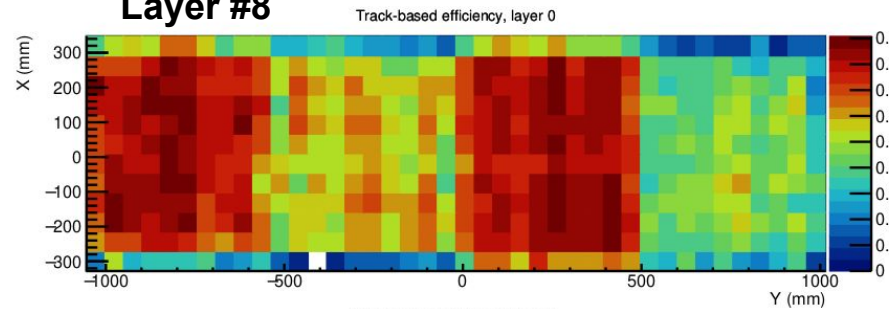
- 3 points showing low efficiency; prominent in GEM\_1 and GEM\_3
- 3 points were taken between two “successive” low voltage and crate power cycle events
- Can’t be an issue with the GEMs or other hardware as the other data is fine
- Didn’t see any big issues with 2-D cluster maps
- But we see a lot of single strip events in GEM\_1 and GEM\_3

# Layer#8 at 3519 V /3950 V equivalent, other at 3653 V

## Layer #8

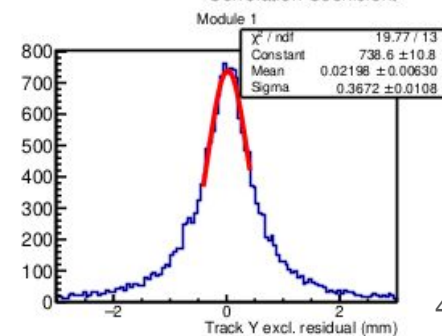
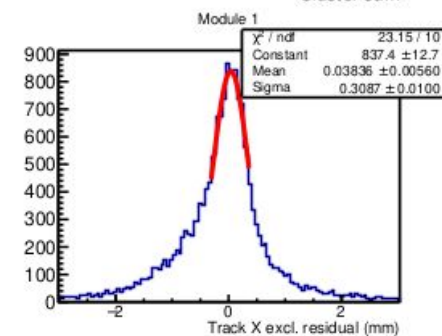
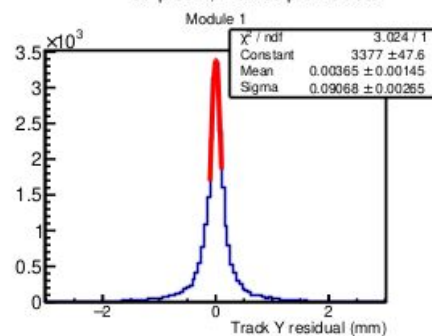
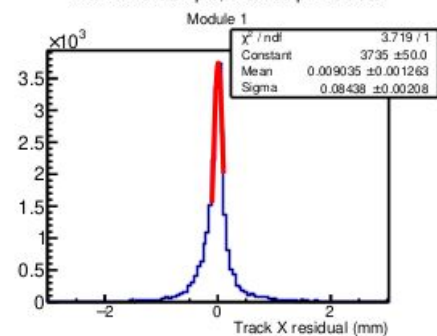
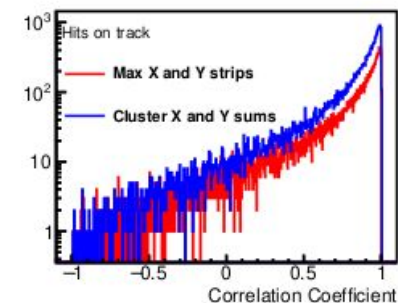
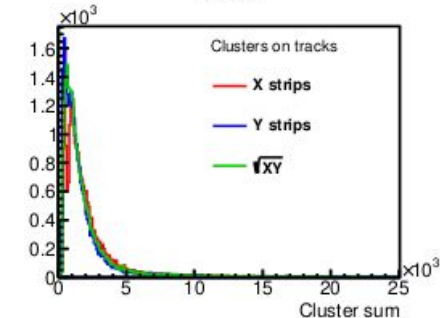
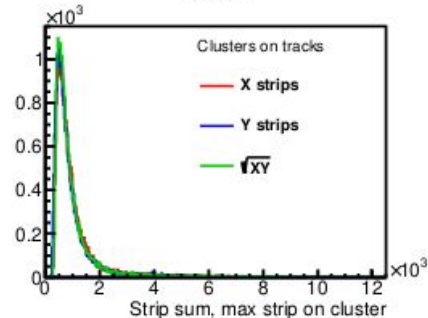
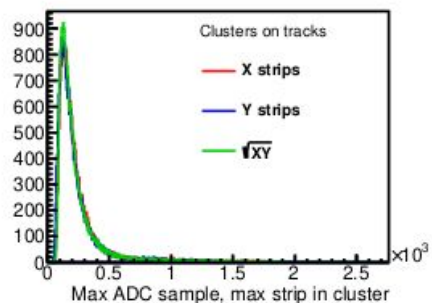
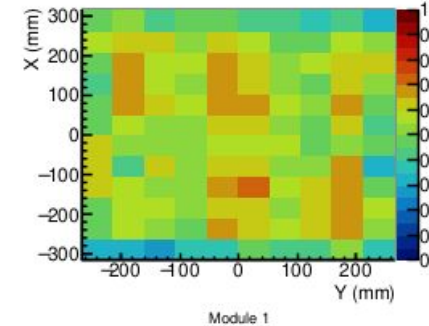
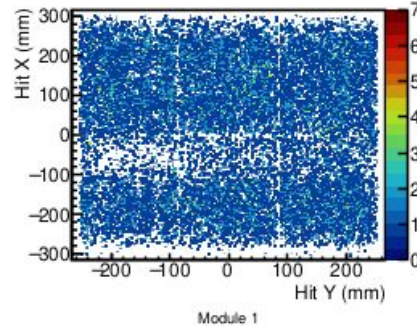
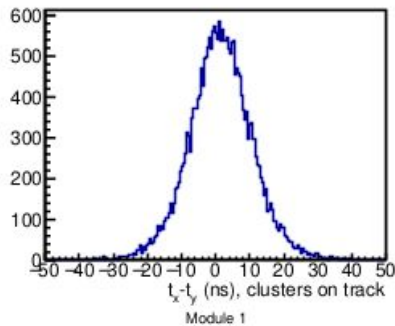
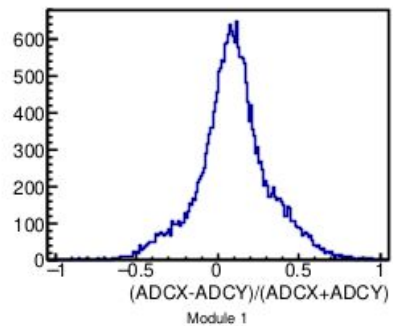
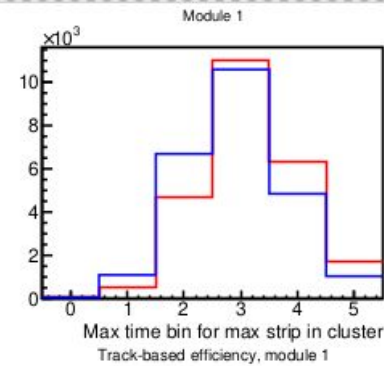
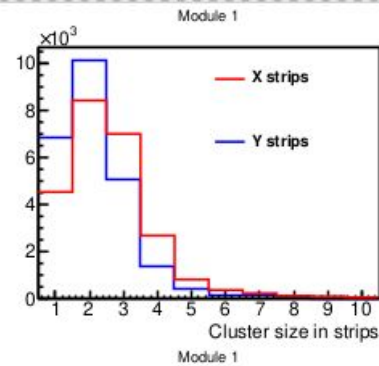
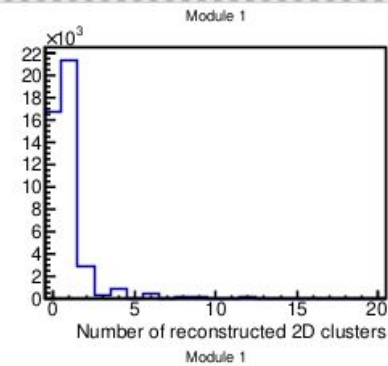
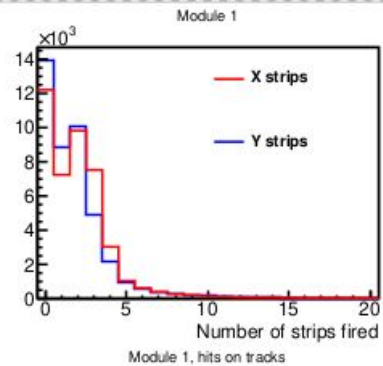


## Layer #8



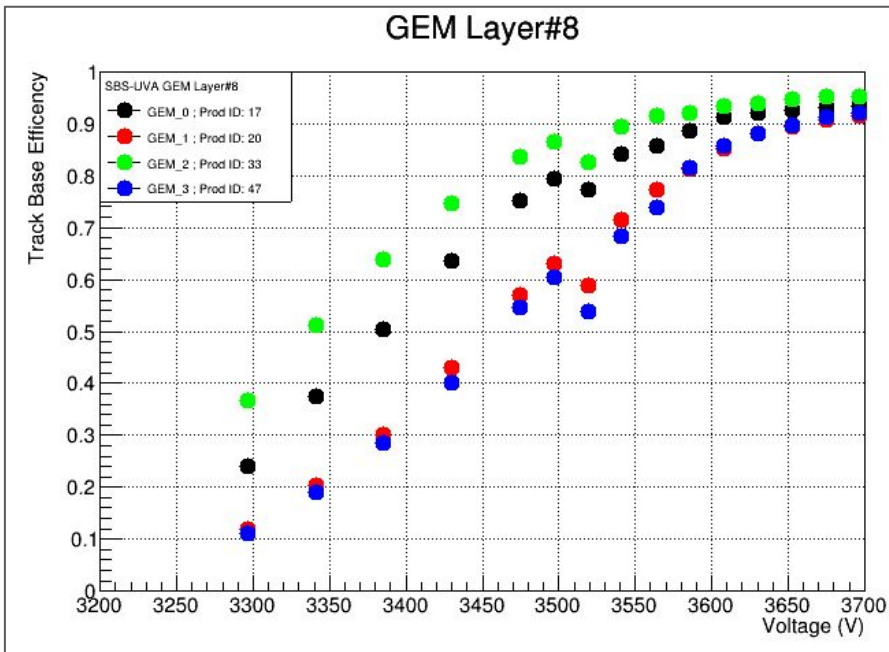
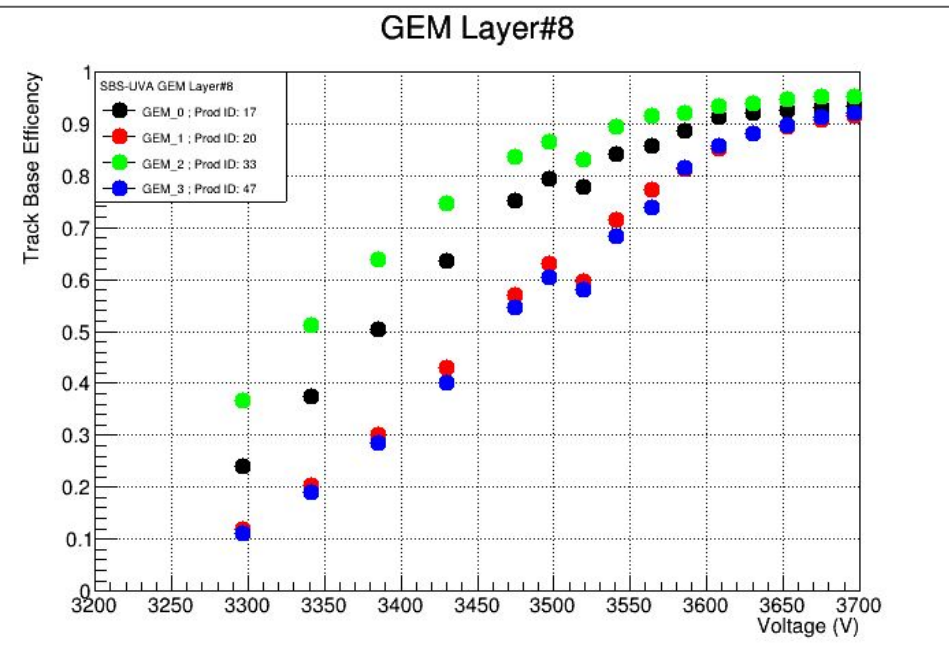
Track-based efficiency, layer 4





Retook those 3 points; improvement in 2/3

Retook the bad point again



- Improvement in  $\frac{2}{3}$  points
- Didn't see any errors in the MPDs connected to this layer
- In the second re-take, the GEMs were on HV for over 24 hours before taking this point; so can ignore time dependent efficiency
- Still see a lot of single hit events
- Will analyze the split by split to see if there is any kind of progression of an issue