Prex Meeting

SAM Geometry Optimization

Cameron Clarke
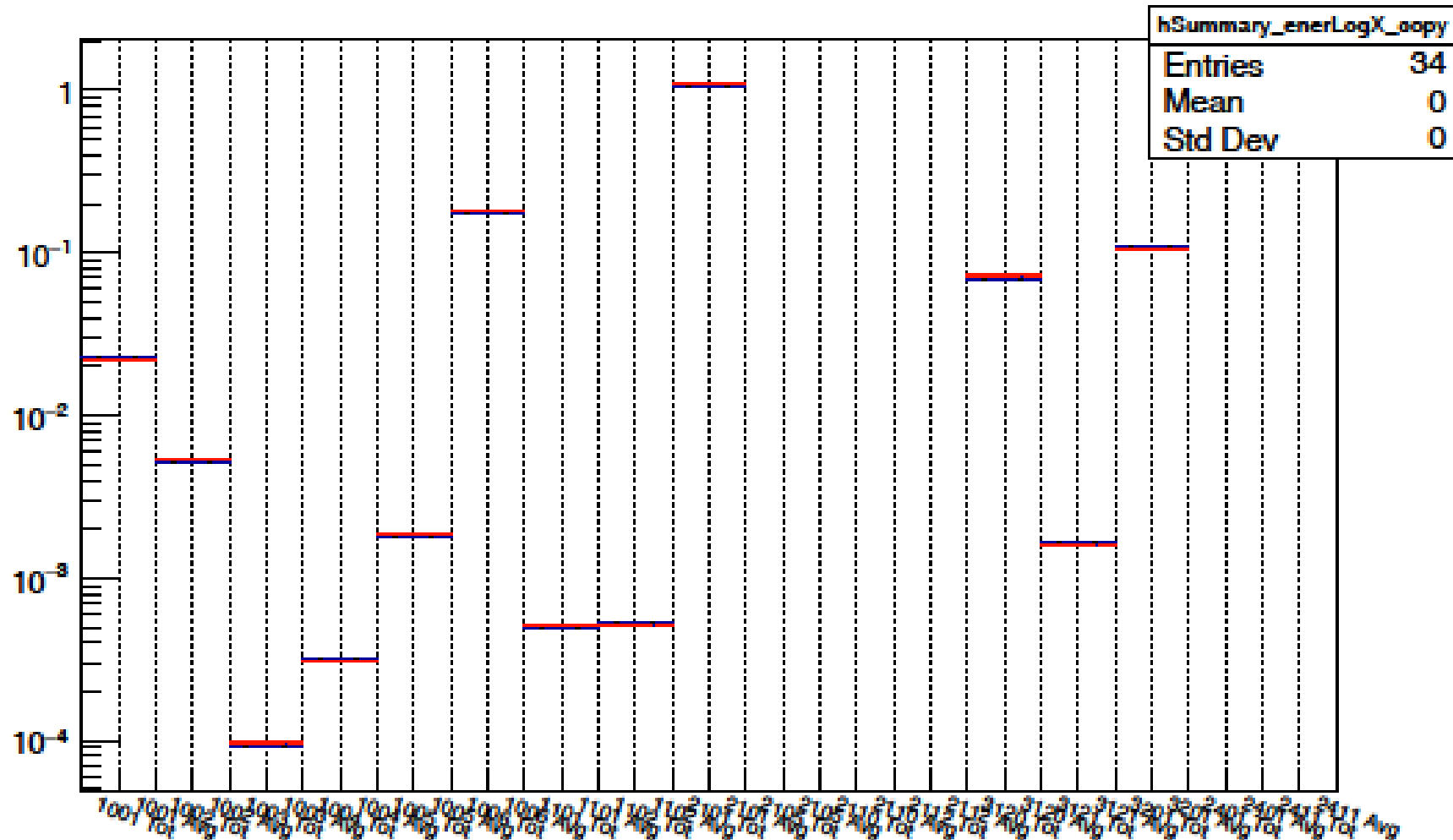
5-30-2018

Scattered flux at all detectors
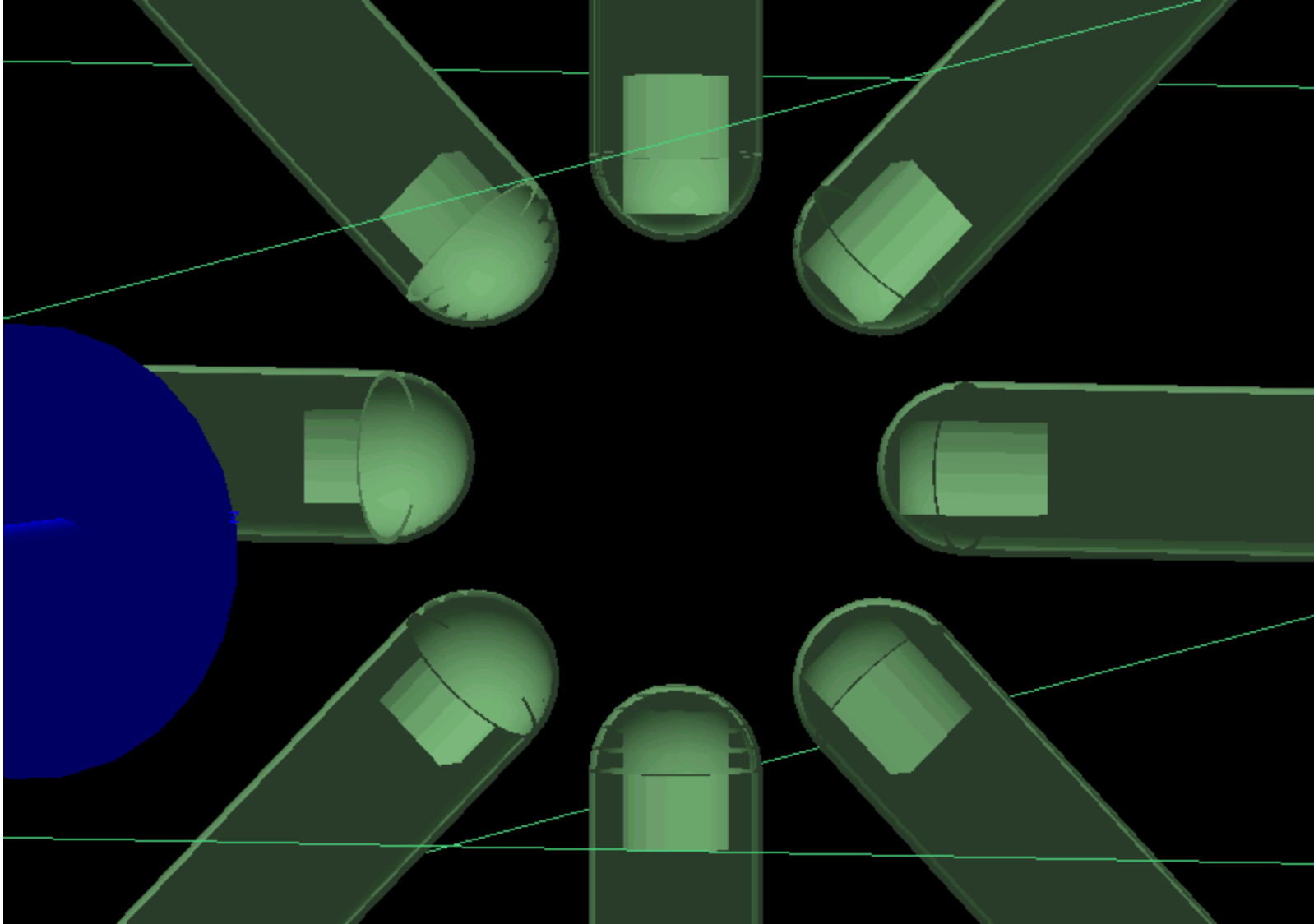## (6.3M events or so)

My results (generator 7, full prex geometry)   Ciprian's results

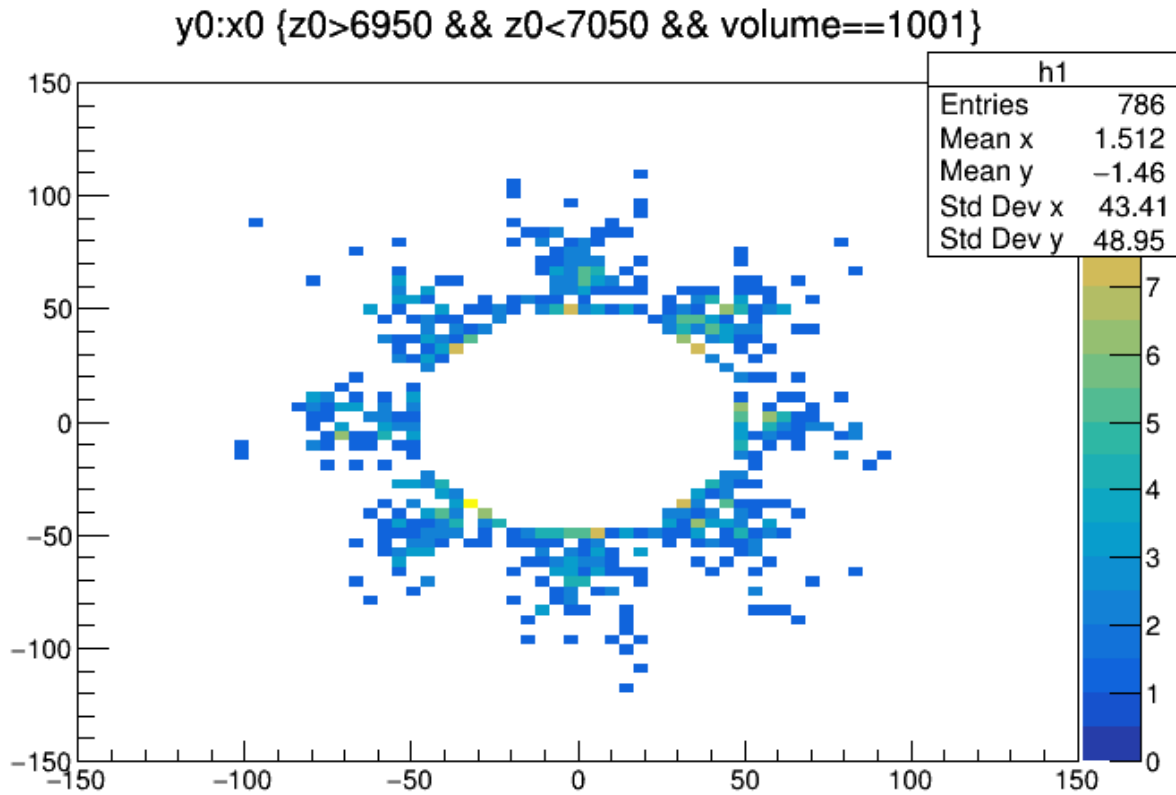summary histogram per electron on target| enerLogX
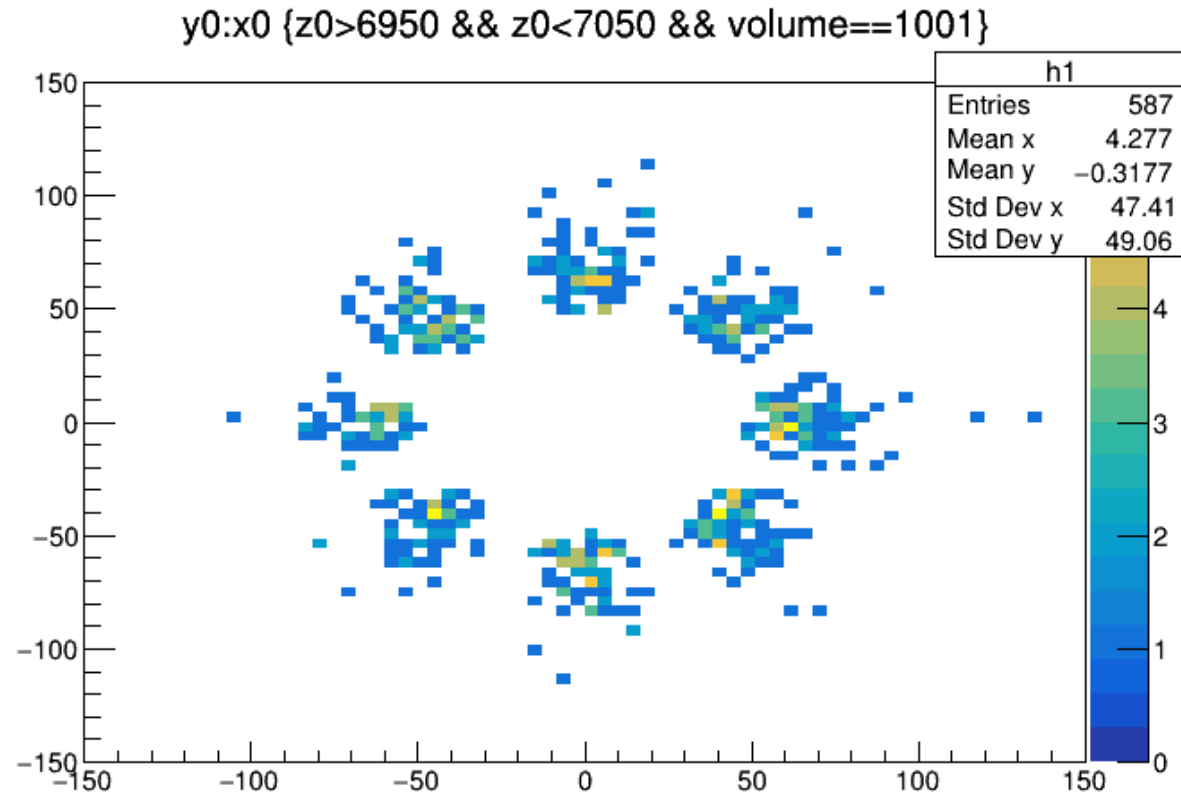
Spherical end cap

Vertices from SAMs hitting HRS

Cylindrical Endcap

Spherical Endcap

Note color scale is rescaled by factor of 2 from left to right

All weighted NEIL hits on Roof, HRS
from everywhere in the hall (4.5 Million Events)

cylindrical is the current physical geometry
modified radial offset, Q and Al thicknesses

baseline: Quartz Thickness=13mm, offset=0mm, Aluminum Can Thickness=150um						
Detector:	Config:	Qthick=5mm	Qthick=0mm	Offset=90mm	Offset=20mm	Canthick=50um	Canthick=10um
det-1001-roof	8.45E-05	0.72	0.66	0.3	0.56	0.69	0.46
det-1006-hrs	6.55E-07	1.08	0.75	0.14	0.23	0.99	0.67
There is a ~10% uncertainty on these baseline numbers, and on each configuration, so this is only a rough estimate						