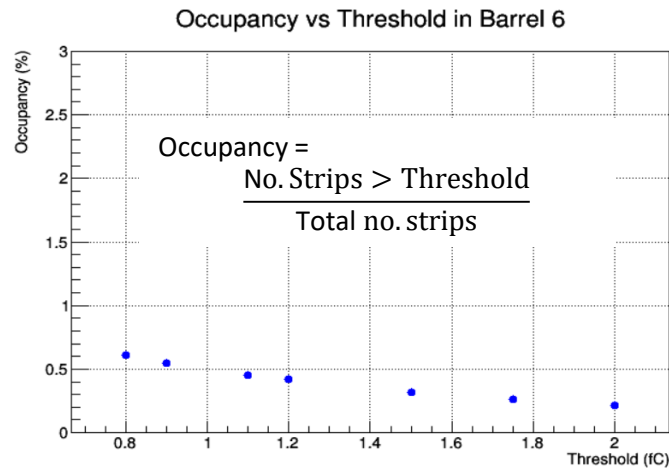
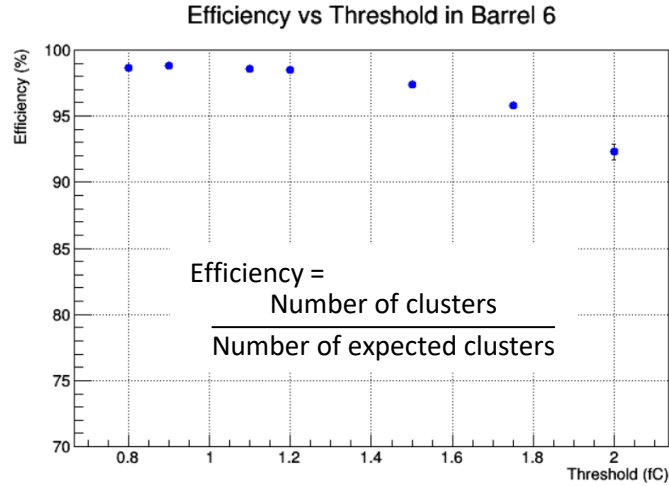




Improving the data quality efficiency at the ATLAS Semiconductor Tracker (SCT)



Built in Liverpool and continues to be a core part of the Inner Detector (ID).

- Study aging due to radiation damage.
 - Requires optimisation of settings for Run 3.
- Investigate trade off between Hit Efficiency and Occupancy.
 - By varying charge threshold.

Searching for Long Lived Axion-like Particles

ALPs are hypothetical light particles that may be a component of the dark sector.

- May be found in Higgs decays.
- ATLAS can probe $(g-2)_\mu$ anomaly sensitivity region.
- ALPs can decay to photons either **promptly** (current analysis in Liverpool) or **displaced** (my analysis).

