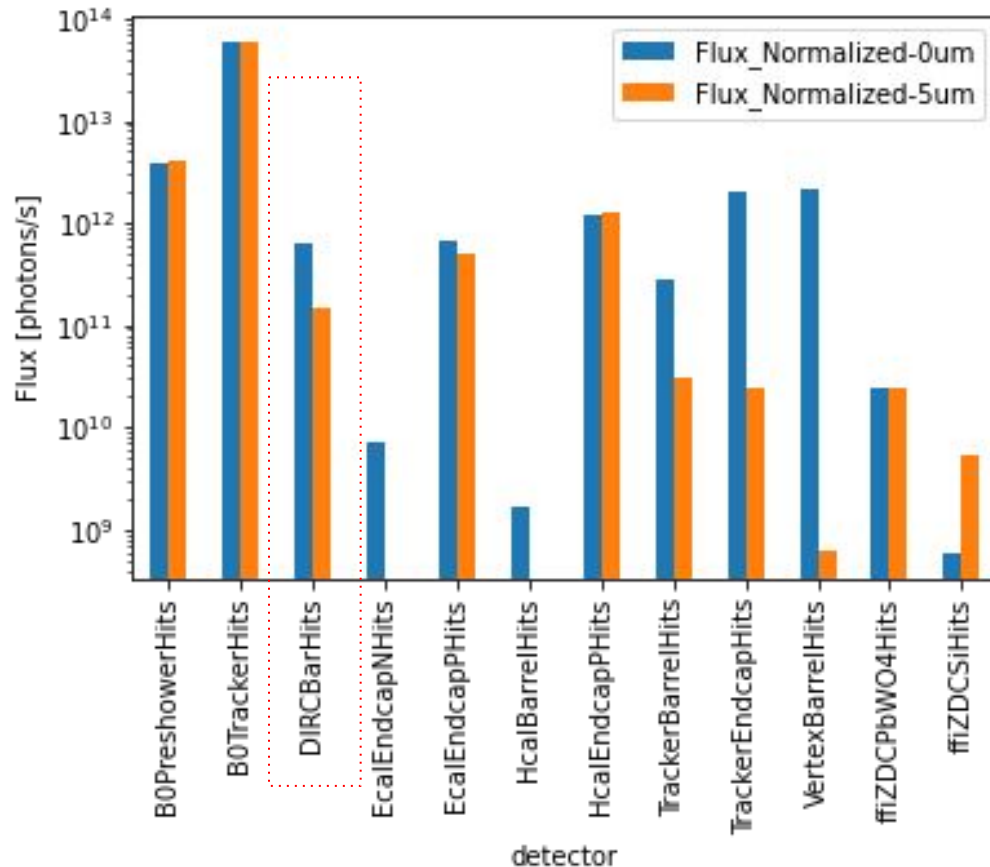# Background rates from synchrotron radiation

Deepak Samuel
deepaksamuel@cuk.ac.in

17 Nov 2021

Results from previous analysis:
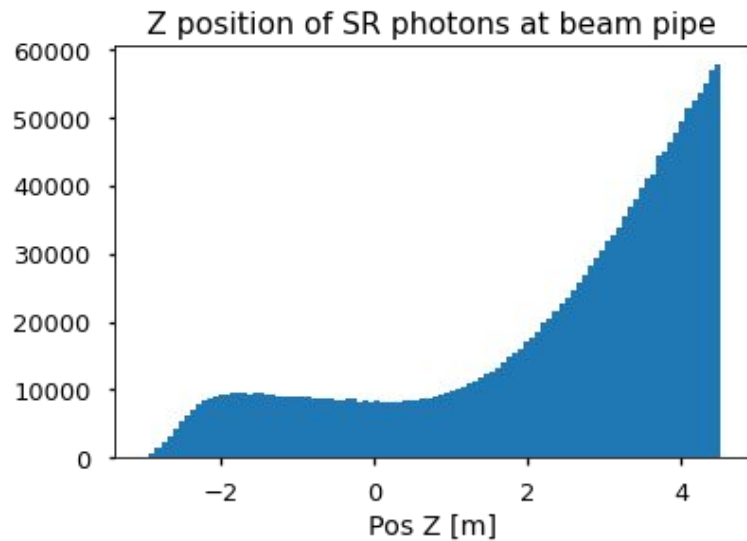Unexpected rates in some detectors

Inputs from Slack channel:
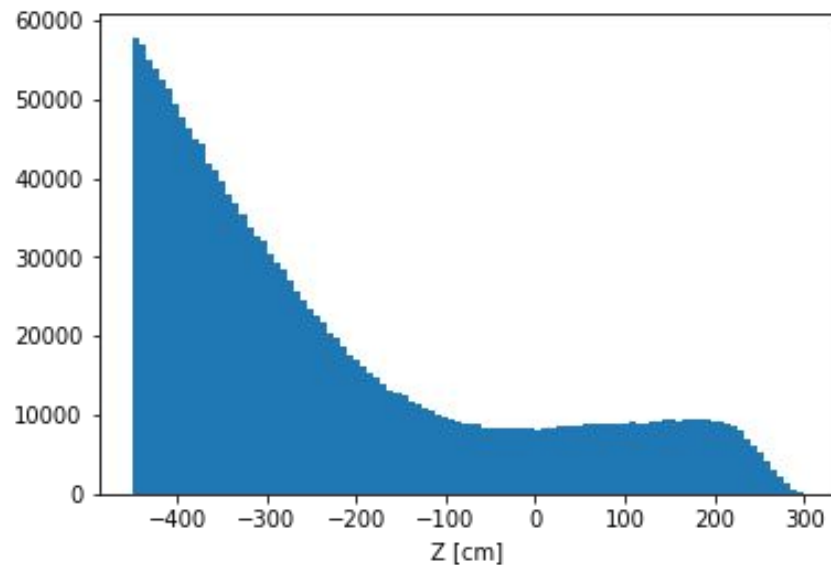Coordinate system of hepmc events should be similar to that of npsim:
- Z → -Z
- X → -X

The results presented in the next slides are with the hepmc files in which the coordinates are corrected.
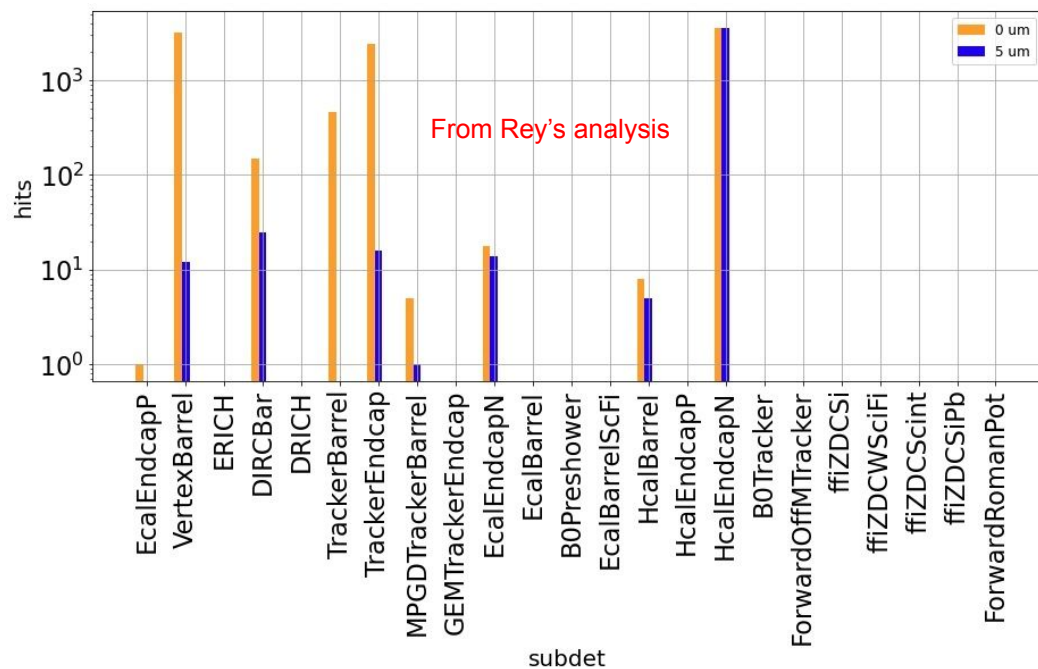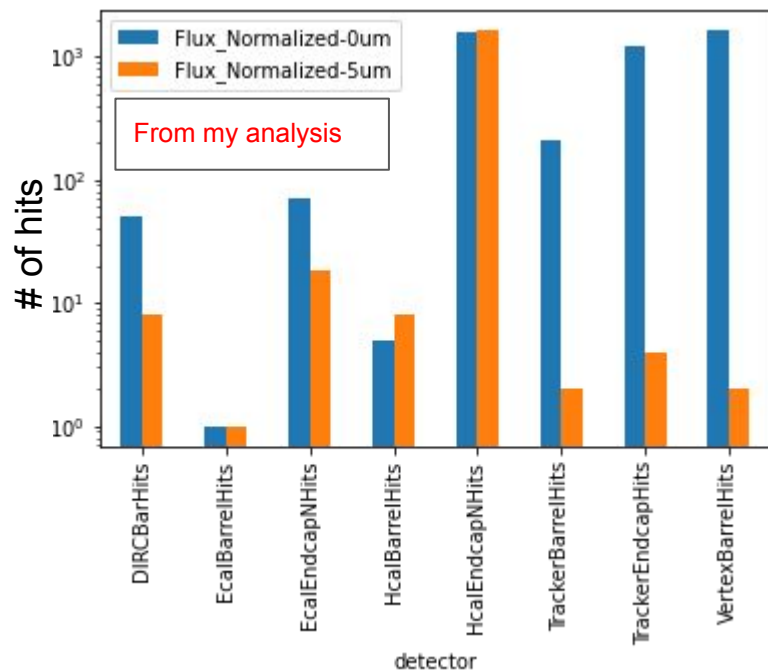
The files were provided by Rey.

Before rotation of coordinates
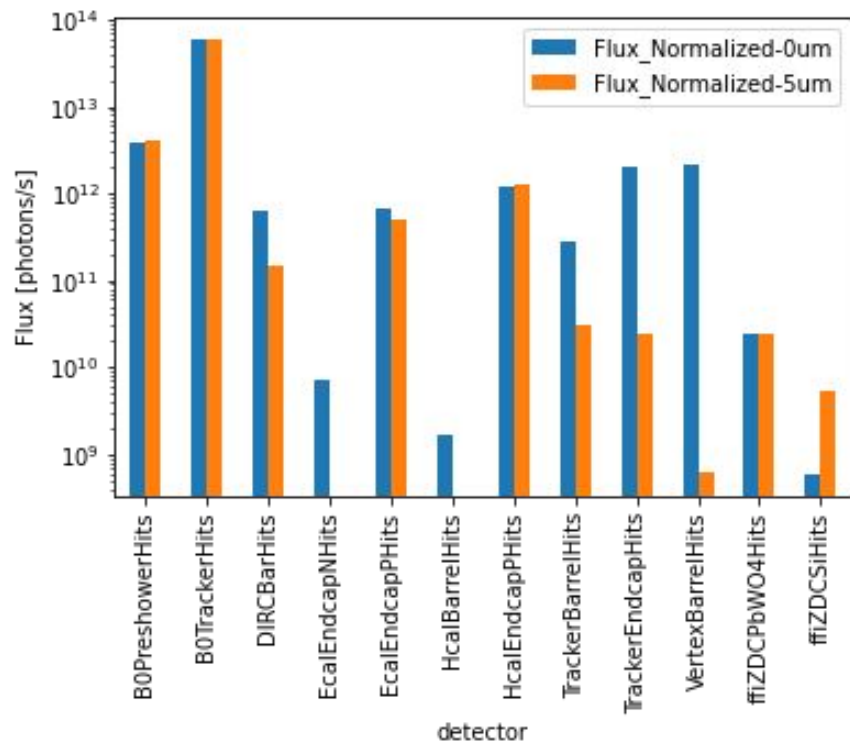
After rotation of coordinates (corrected)

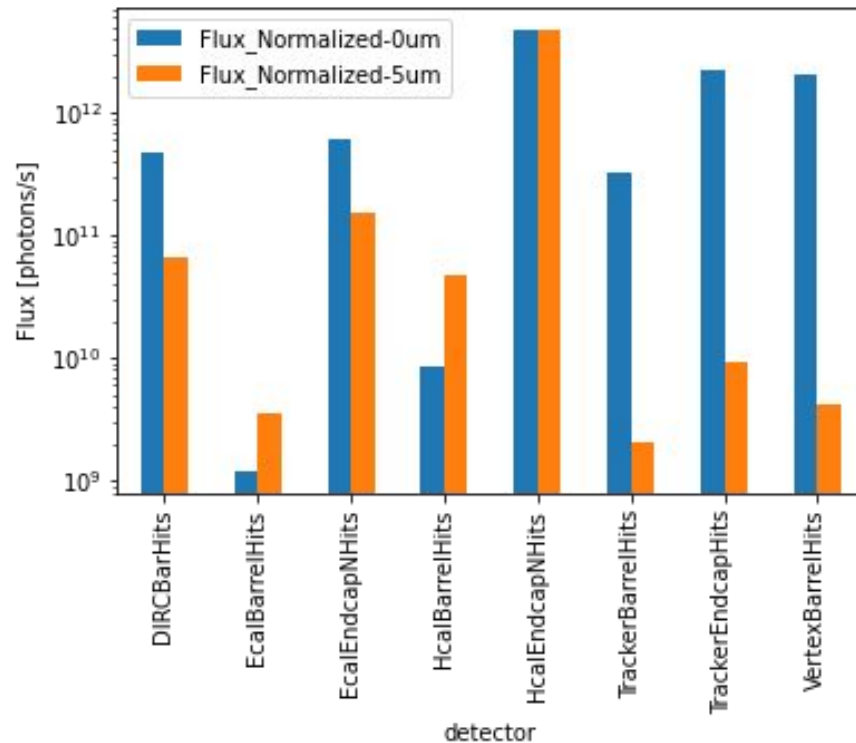Z position of SR photons at beam pipe

Hits in detectors

The results from independent analyses compare well.

Rates

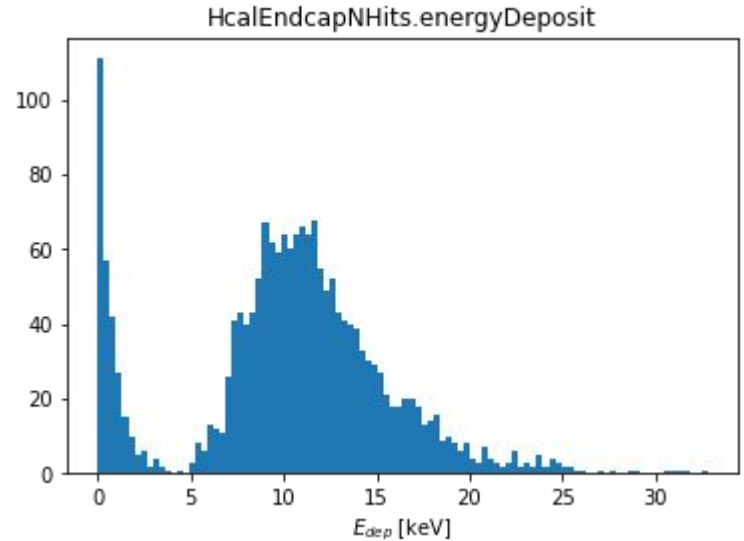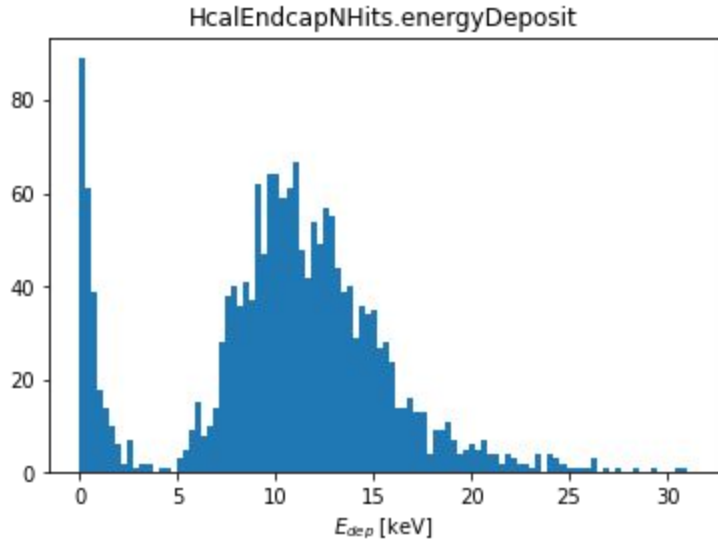Analysis with old hepmc (without rotation)

Analysis with new hepmc (after rotation)

In the new analyses, hits in B0Preshower, B0Tracker, ffiZDCPbWO4, ffiZDCSi, HCALEndcapP are not present. Further, hits show up in HCALEndcapP in the new analysis. The effect of gold layer can be seen in almost all detectors except HcalEndcapN.

Energy deposited in HcalEndCapN

The energy deposited in HCalEndCapN for 0um gold and 5 um gold show almost no difference.