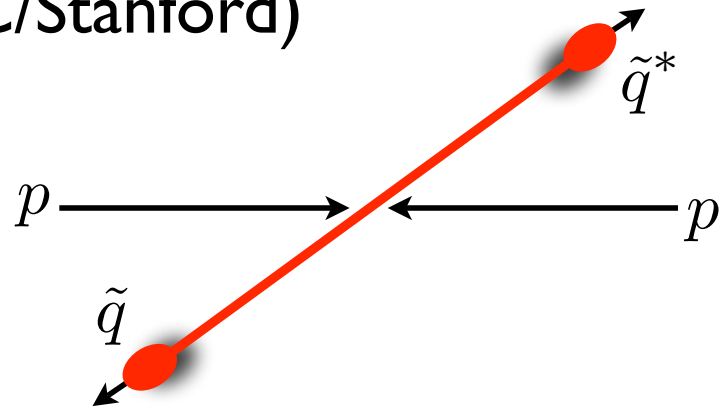
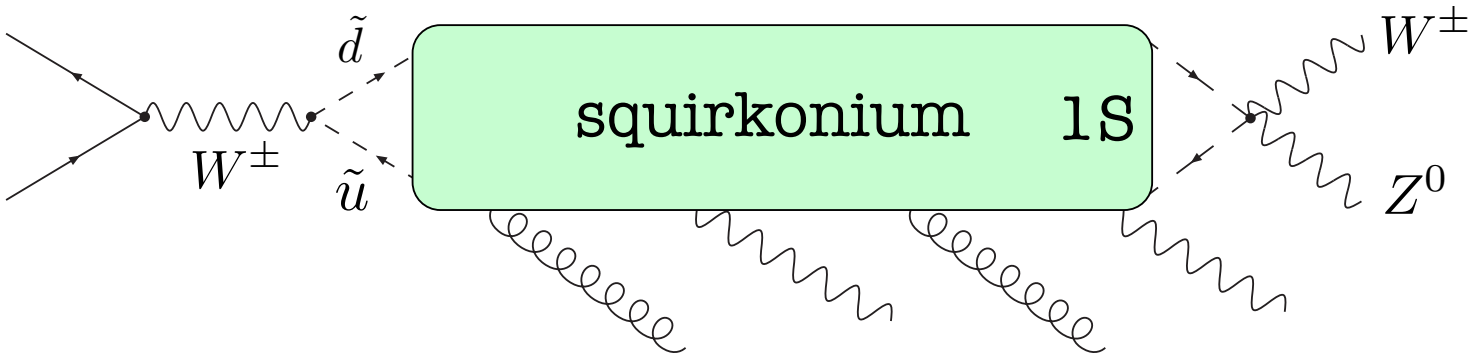
Quirks

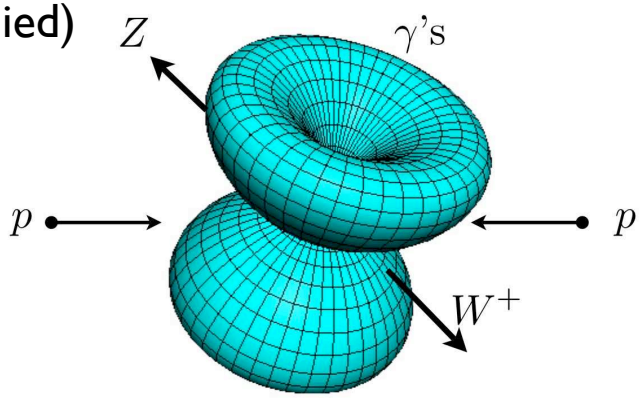
Roni Harnik (SLAC/Stanford)



$\Lambda \sim 5 - 10$ GeV , uncolored Quirks (Folded SUSY - hep-ph/0609152).



- Annihilation occurs near the ground state: Expect a peak in the WZ invariant mass $\sim m_{1S}$.
- Background from SM continuum WZ events. Cuts on angular distributions? (to be studied)
- Additional antenna photons may be useful to reduce backgrounds.



Photon Shower: $\Lambda \sim 5 - 10$ GeV, $\omega \sim 0.1 - 1$ GeV

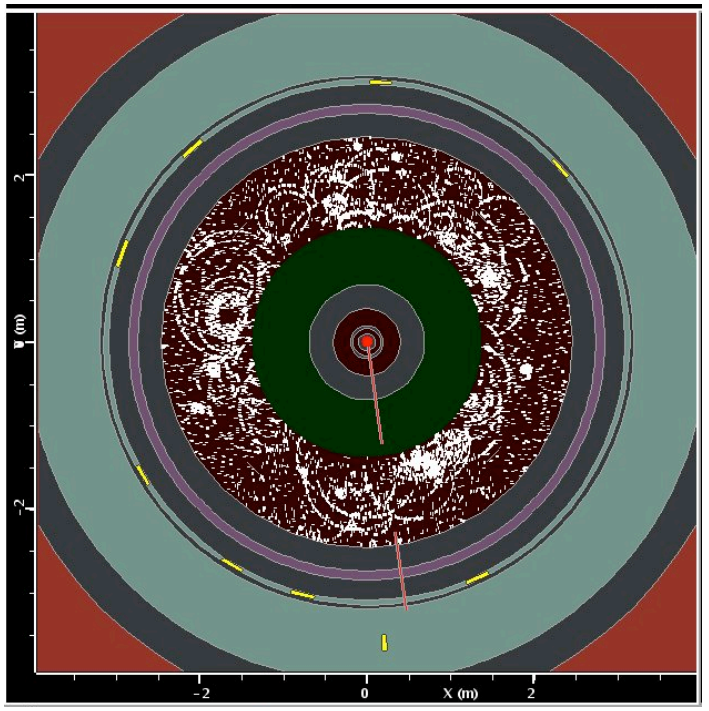
* Soft photons initiate mini-EM showers
* Material budget:

  About 10% of photons convert in the tracking system.

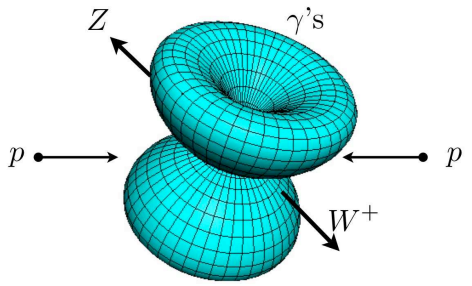
  About 50% of energy reaches Ecal.

* Many soft tracks and hits w/o Ecal towers.
* What's the observable? Perhaps occupancy of hits in the eta-phi plane.
* What information is kept?
* Can we flag this event?

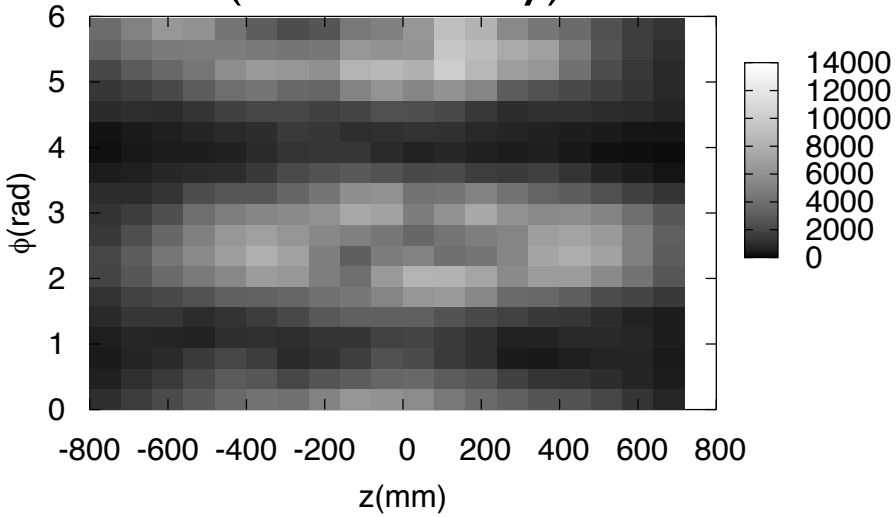
Cheu and Parnell-Lampen

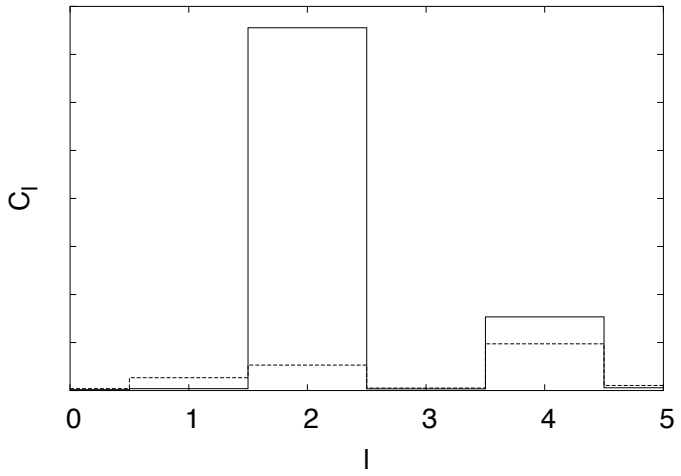


Photon Shower: Ecal



"PBS": GEANT4 based `Toy Detector':
(RH, Wizansky)





ATLAS: soft photons contribute to `Topocluster' energy.

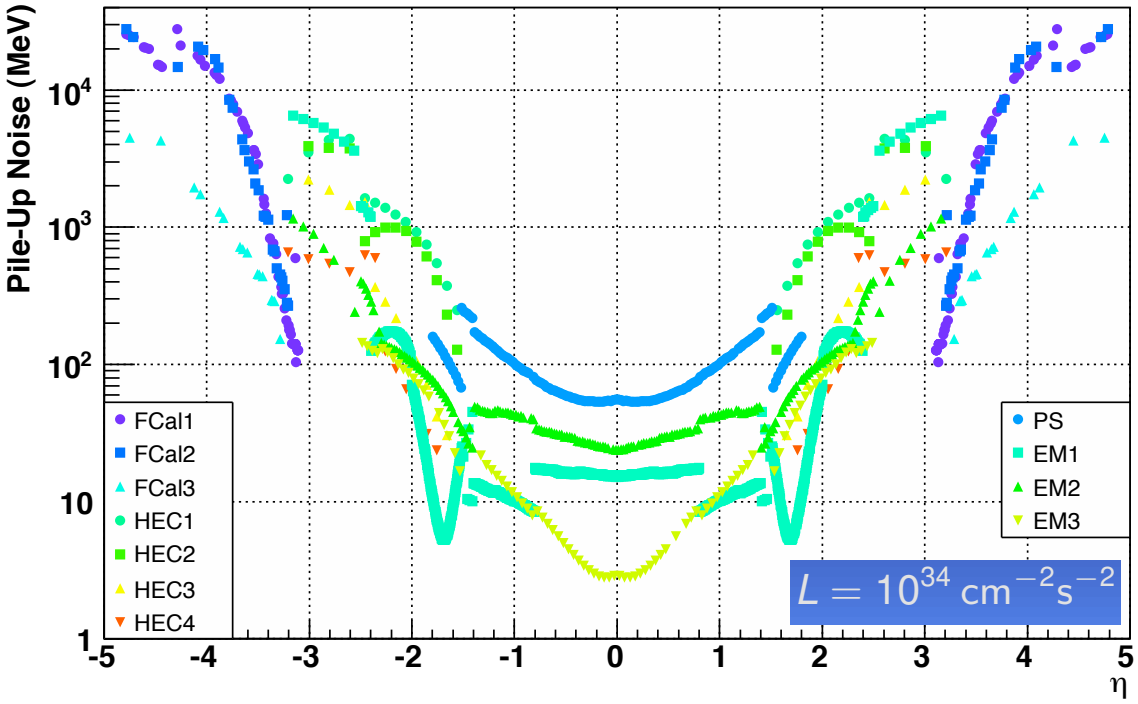
(noise based algorithm)

CMS?

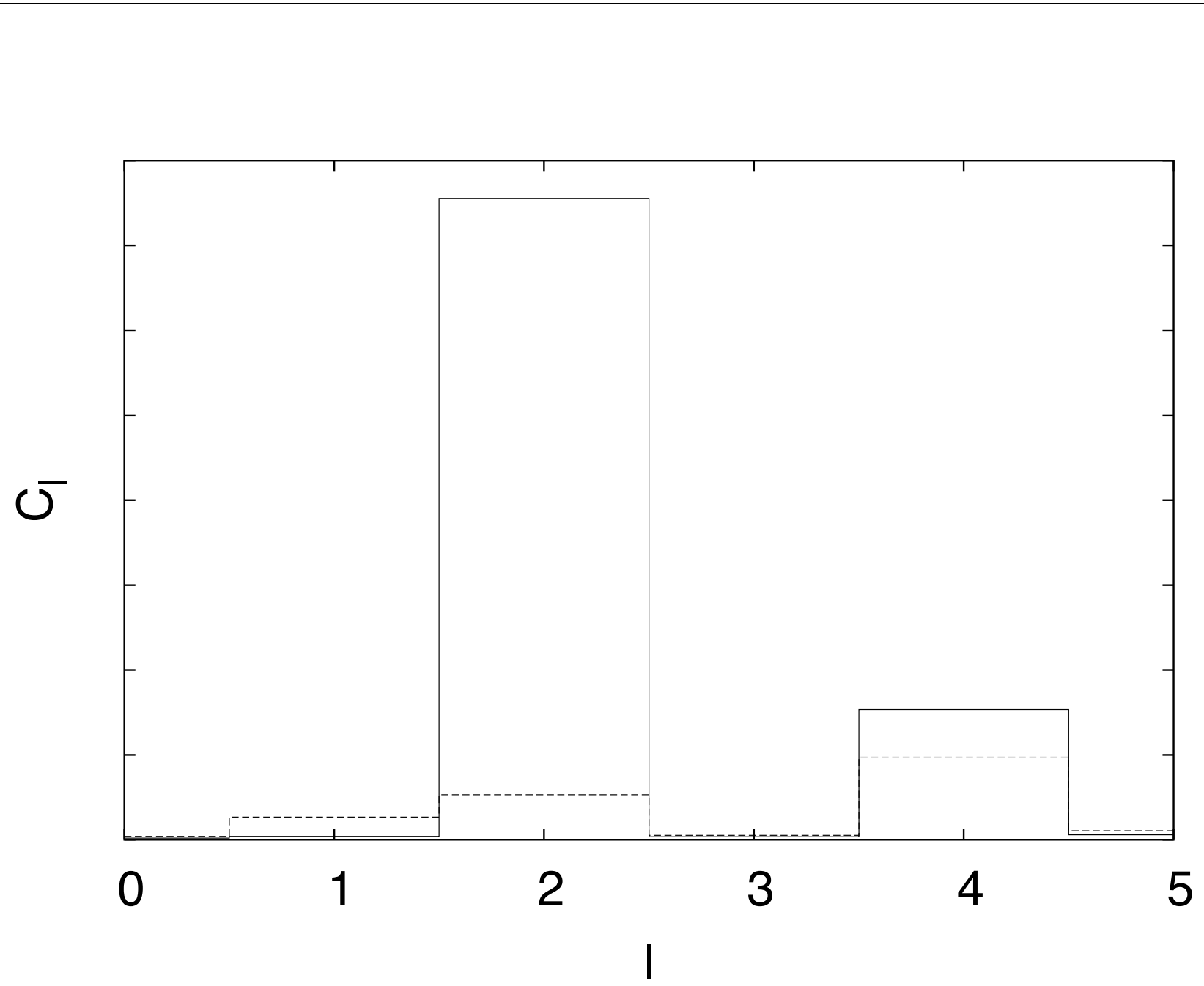
Angular distribution may be different than a min-bias event.

Soft photons from other models?

ATLAS Topocluster



Stolen from Sven Menke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