# HPS Run Coordinator Report for Hall B

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# HPS Run Coordinator Report 5/13/12

- *Monday, May 7*
  - New SVT thresholds loaded.
  - New trigger algorithm implemented and FADC thresholds adjusted.
- *Tuesday, May 8*
  - Ecal FADC thresholds adjusted.
  - Many hybrid high temperature alarms – 25° C set point
- *Wednesday, May 9*

  Controlled Access
  - SVT cooling line improvements

    New filter, ½" hoses, and a bypass line are installed. – no more flow interruptions.
  - Recover Ecal channels that were disconnected.
- *Thursday, May 10*
  - Top or Bottom Ecal trigger is implemented.

    Trigger rate is ~550 Hz @28 nA
- *Friday, May 11*
  - New SVT reflection filters and thresholds are loaded.

HPS system configuration is completed.

# HPS Run Coordinator Report 5/13/12

- Saturday, May 12
  - Radiator switched to amorphous target. Trigger GUI shows Ecal cluster rate going up to ~800 Hz, but the trigger rate increases only to ~600 Hz, indicating the current trigger mode is limited to ~600 Hz.

- *Sunday, May 13*
  - Trigger rate vs. radiator thickness

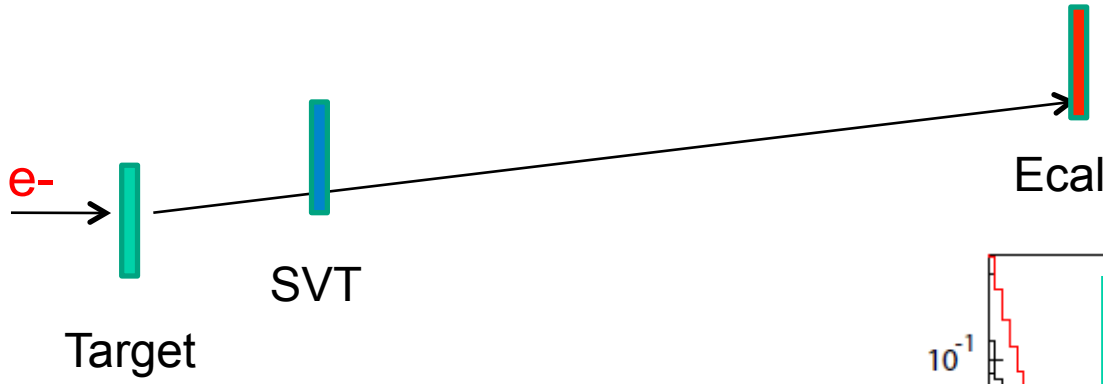
| Radiator | Bottom Cluster | Top Cluster |
|---|---|---|
| Empty | 360 Hz | 400 Hz |
| 0.18% | 380 | 450 |
| 0.45% | 400 | 460 |
| 1.6% | 490 | 550 |

Events are dominated by junk coming from the collimator.
We need clean photon beam.

# HPS Goals for Week of May 14

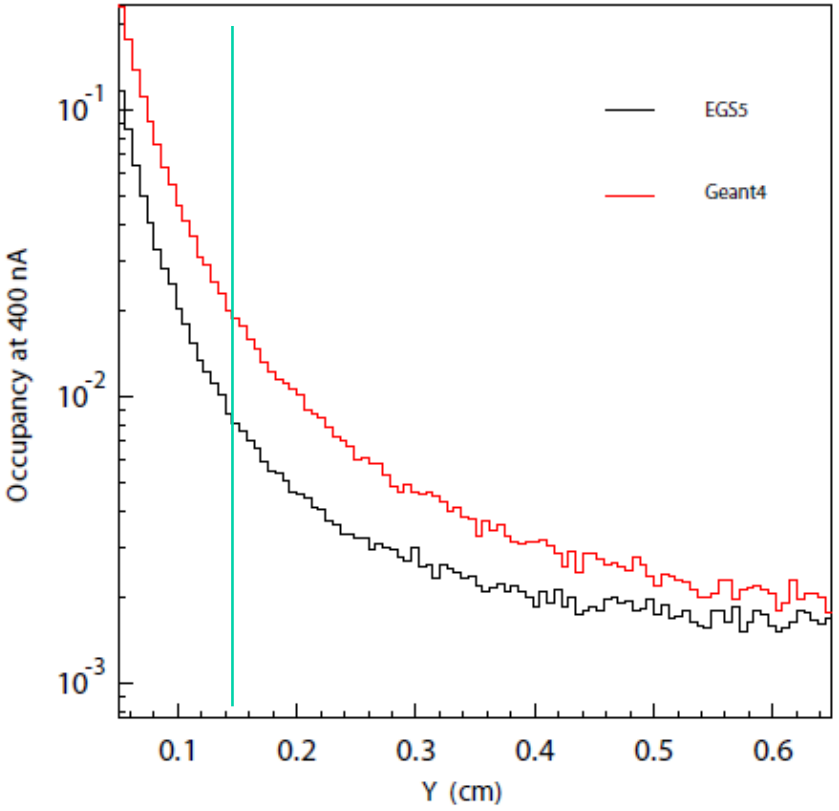
- SVT parameter studies
  - Shaping time from 50 ns to 35 ns
  - Bias voltage from 180 V to 300 V
  - Lower hybrid temperature
- Trigger rate study
  - Current ROC-LOC mode seems to limit the rate to ~600 Hz.
  - Find a solution to increase the rate.
- Multiple scattering study.

# SVT occupancies and Ecal trigger rate are dominated by multiple scattered beam

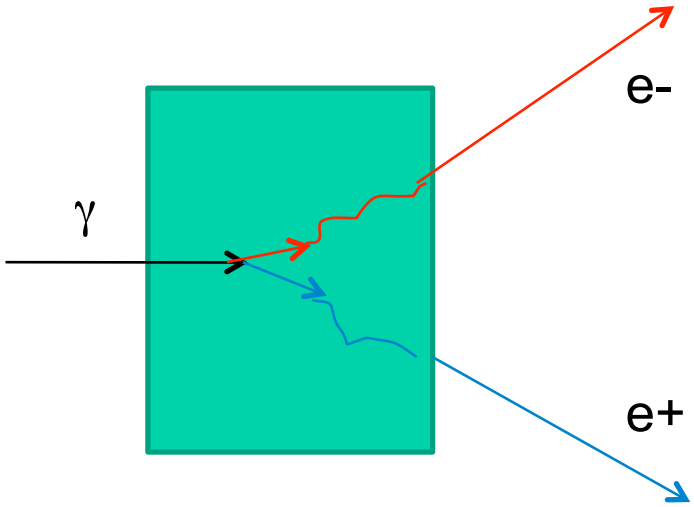



Simulations are not reliable at these large angles.

If we had electron beam, we could have completed this study in 30 min.



# Multiple scattering study with photon beam




e+e- are not produced at 0 deg.
θ~me/Eγ, but has a long tail.

Measure rates using
- 1.6% r.l. converter
- 0.45%
- 0.18%
- No converter