Weekly Update

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ZDC Simulation: 3D Hitmaps

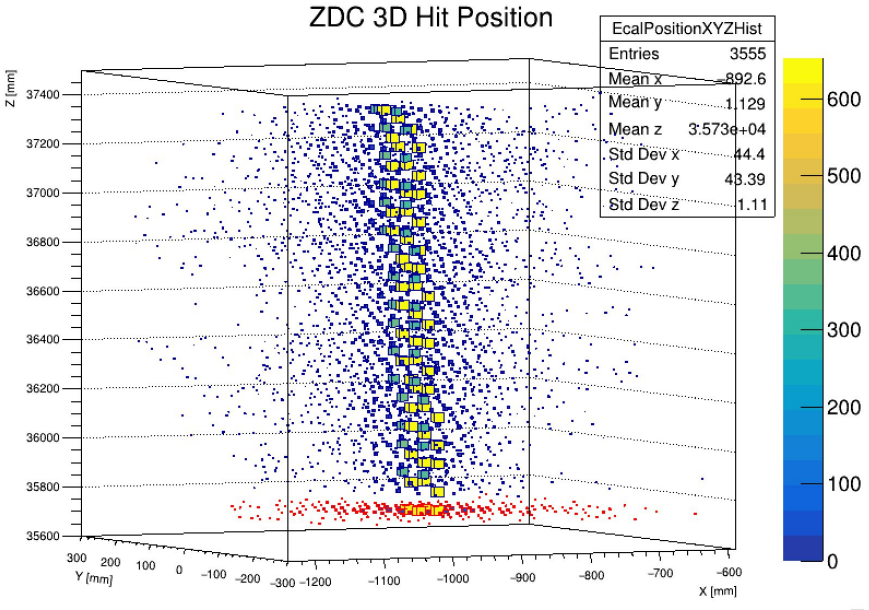

Fig. 1: 1000 Muon Events at 100 GeV

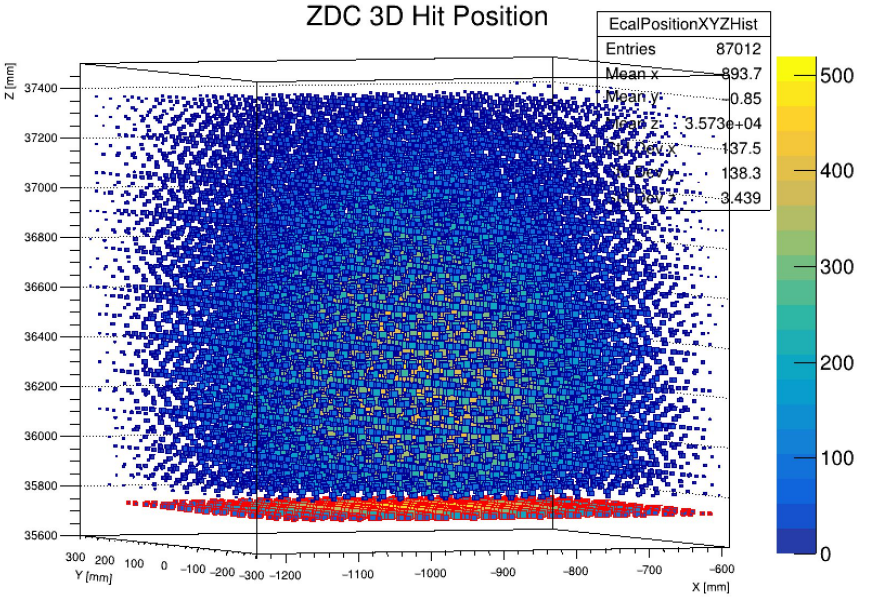

Fig. 2: 1000 Neutron Events at 100 GeV

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ZDC Simulation: 3D Hitmaps

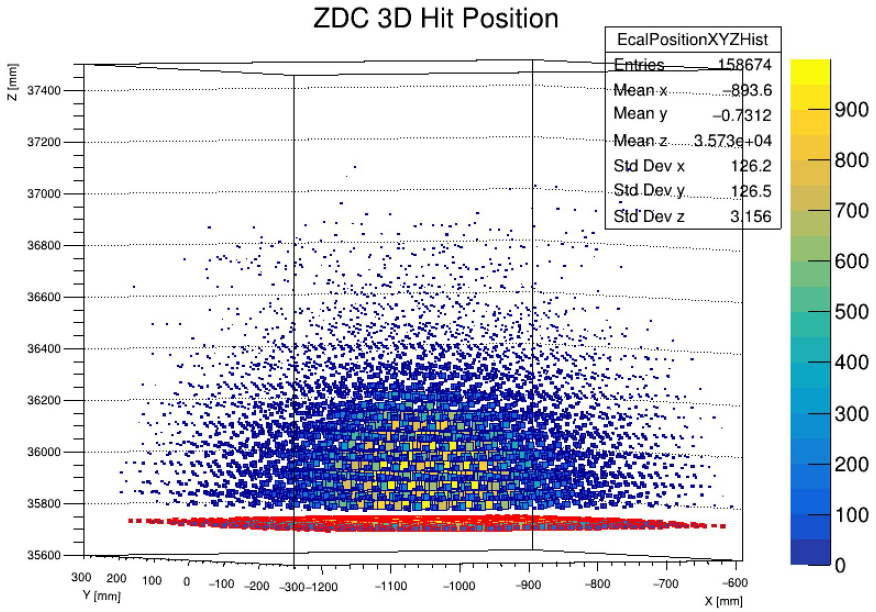

Fig. 3: 1000 Pi0 Events at 100 GeV

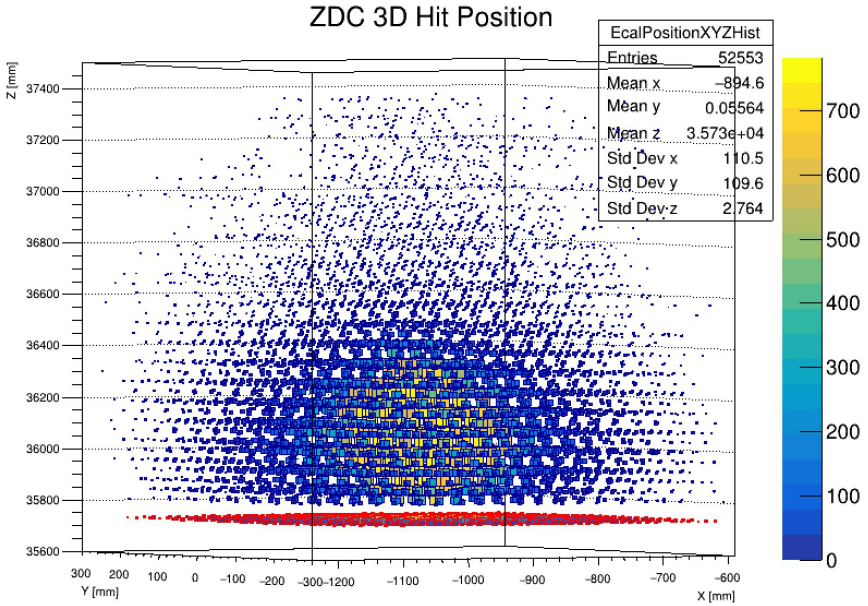

Fig. 4: 1000 Double Photon Events at 100 GeV

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ZDC Simulation: Pi0 study in the ZDC

- Current goal: Study how decay position and initial momentum of pi0 affect reconstruction in ZDC
- At what momentums do we stop seeing both photons in the Ecal?
- How does the creation position for the pi0 affect distance of photons in Ecal?

ZDC Simulation: Old ZDC and new ZDC

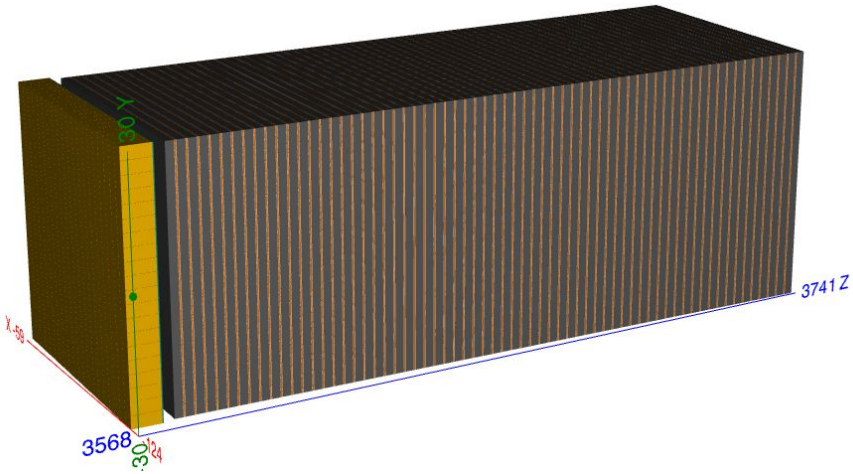

Fig. : New ZDC with Ecal and SiPMon tile Hcal

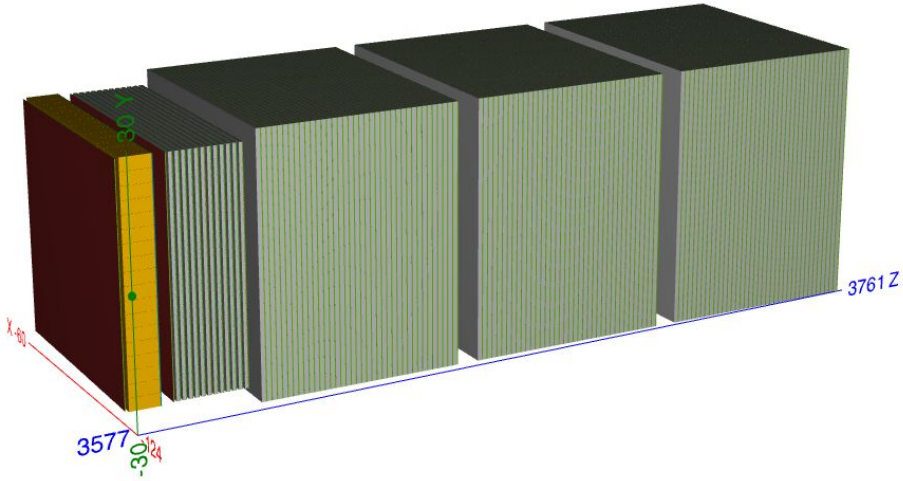

Fig. : Old ZDC with Ecal, WSi layers and PdSci Hcal

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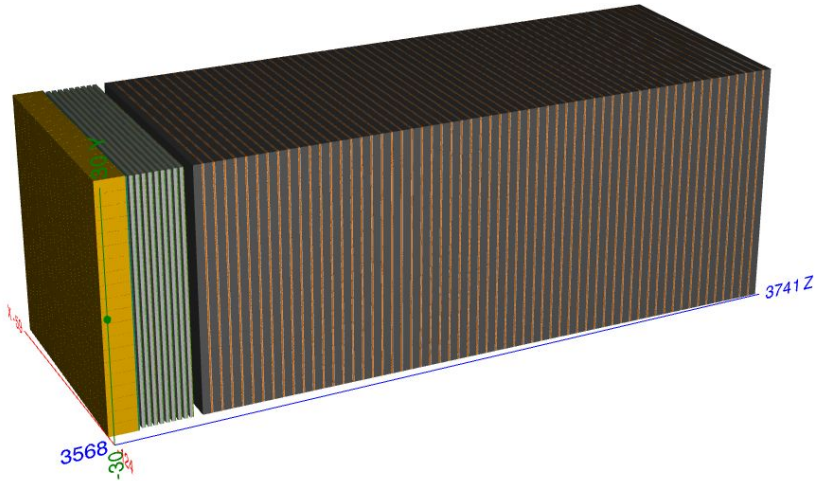
ZDC Simulation: Old ZDC and new ZDC continued

- We tested putting the WSi layers into the new ZDC, with a little bit of modification, it works
- Finer details (air gap, pcb thickness, glue width, etc) need to be modified if they have changed
- Total number of layers should be modified



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TPC Hardware Build

- Took data and determined references voltage for the discriminators
- Finished Counts vs. Reference voltage study for PMTs, was found the PMTs were noisy (one PMT was removed from the study due to being extremely noisy)
- Opted instead to base the reference voltages off of a “false” coincidence study by separating two PMTs as much as possible and increasing the voltage until it started registering coincidence hits
- Once set, we started with the coincidence study
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Plans for Upcoming Week

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