BCAL Inner Readout Geometry Comparison

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Photoelectron Threshold

SiPM array readout (6x4 inner geometry)

- threshold determined from dark rate (4.6 pe/MeV (at module centre), 15% MIP sampling fraction, 40 MHz, 5% occupancy in the BCAL, and 3% crosstalk/pe (Richard))
- theshold = 6 MeV

Fine Mesh PMT readout (3x3 inner geometry)

- threshold determined from PMT and electronics noise (estimated from BCAL beam test)
- pedestal width of 3 pe = 1.8 MeV threshold

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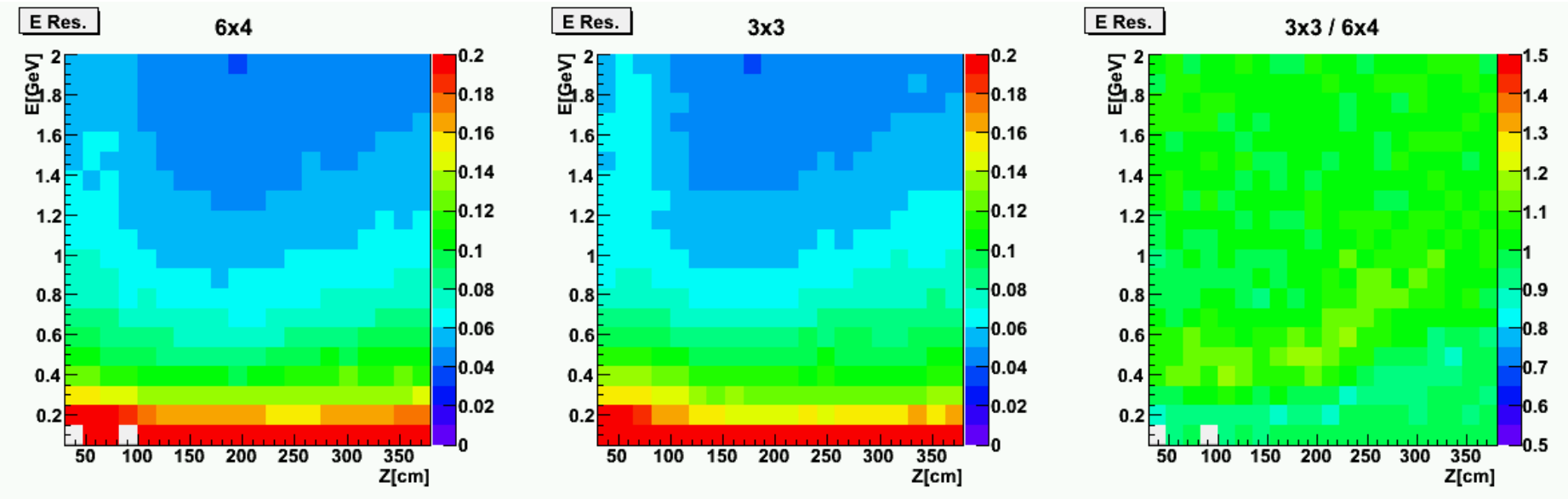
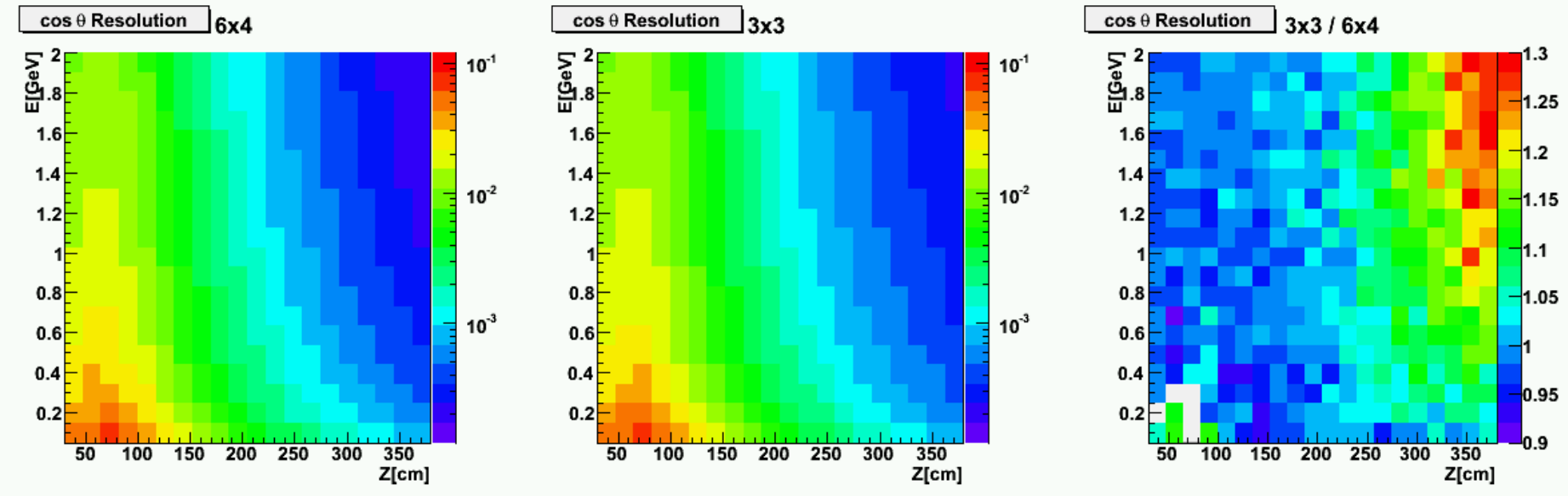
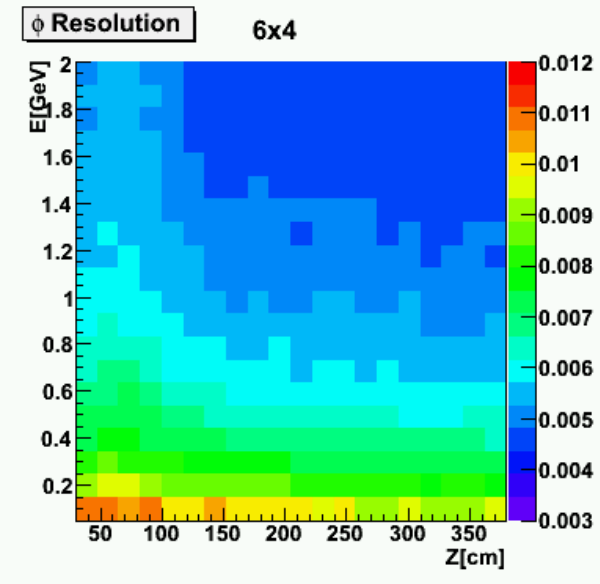
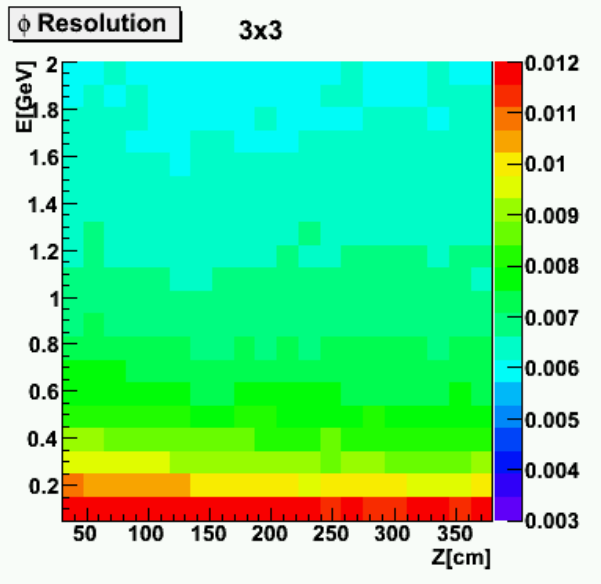
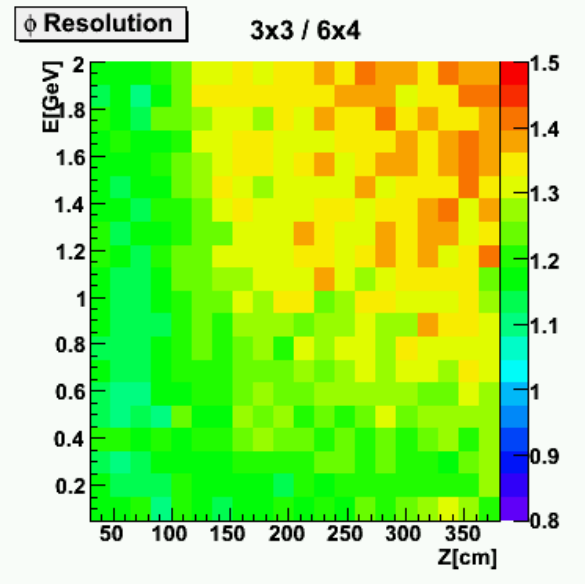
Energy Resolution



$Cos(\theta)$ Resolution



ϕ Resolution