

# **Status of Sampling Table Generation**

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## Method:

1. Simulate the energy deposited in the fibers of readout cells for “detailed” (full) and “homogeneous” Bcal models with GEANT3
2. Fit “homogeneous” spectra to the correspondent “full” ones:
  - A) Sampling fraction
  - B) Extra-widening
  - C) Poisson-type shape
3. Table:
  - A) Energy
  - B) Polar Angle
  - C) Distance between the center of the cell and the photon hit position
  - D) Depth in the module  
(Should it be the depth relative to the beginning of the shower?)
4. Enough statistics to have reasonable uncertainties on the fit parameters

## Table:

### Energies:

50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600 MeV  
(Do we need 150 and 250 MeV?)

### Polar Angles:

15, 20, 30, 40, 50, 60, 70, 80, 90 deg  
(Plan to do 100 and 105-110? deg)

### Distance:

Photon beam hit in the center of the module (viz., in between of the readout cells) and with 1-cm shift (viz., in the center of the readout cell)

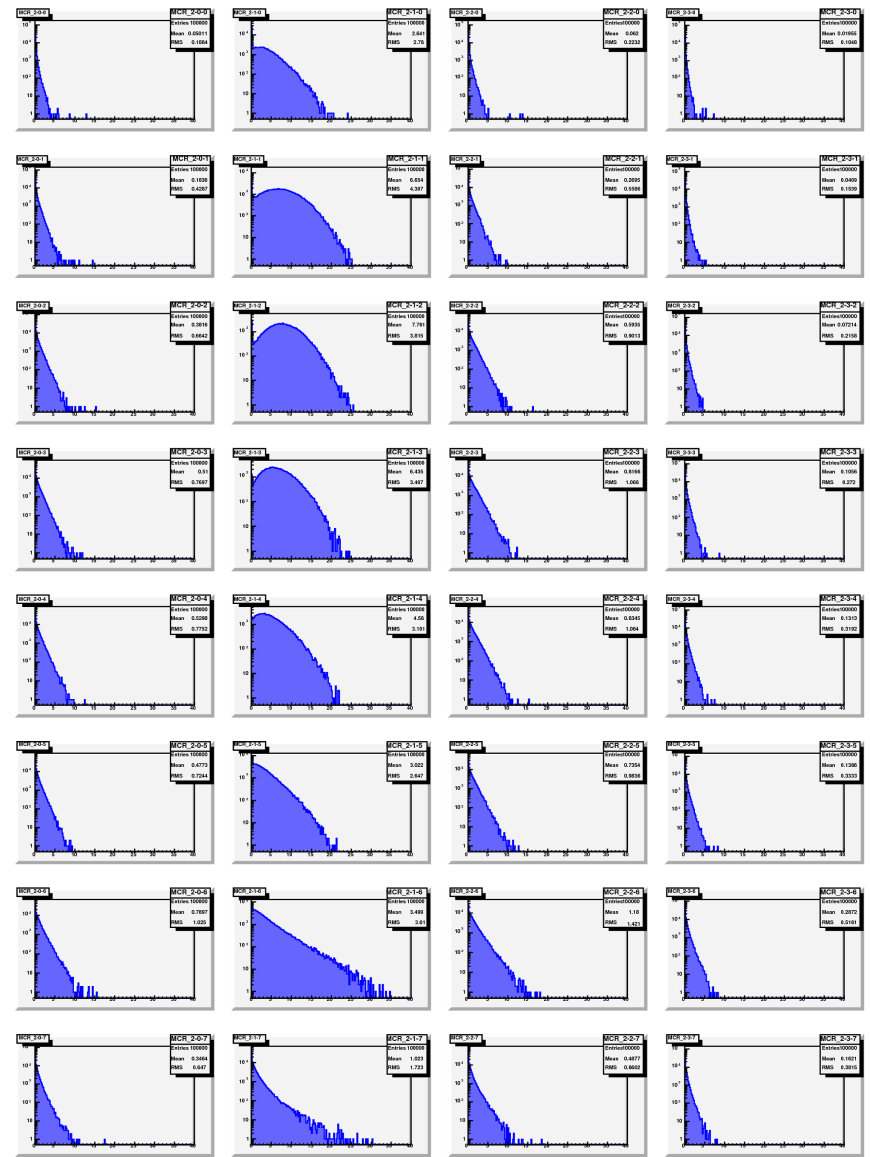
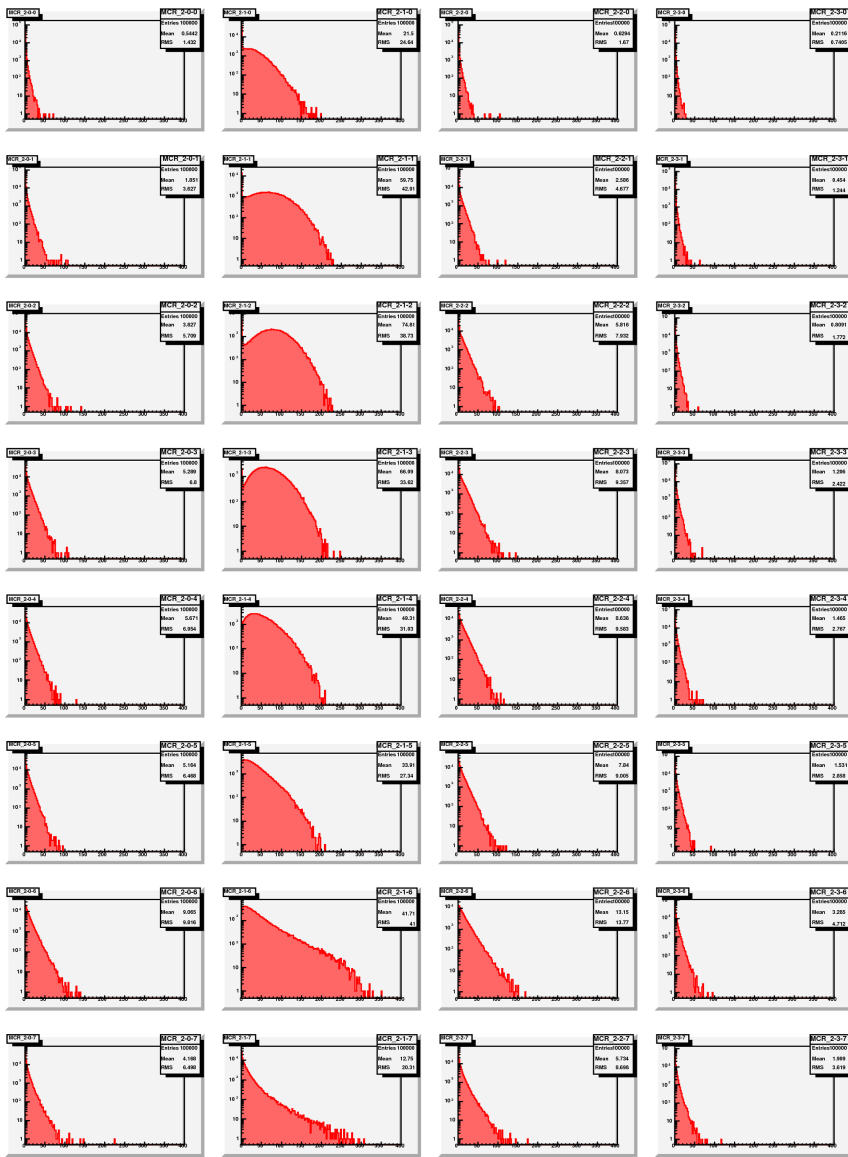
5 modules in the GEANT model

### Total:

252 “full Bcal” and 252 “homogeneous Bcal” data sets (with 100,000 events each) are generated

More sets might be needed

# E = 500 MeV; Angle = 90 deg; "Central Module"; Beam Hit with 1-cm Shift



Homogeneous

Full

(8,1)	(8,2)	(8,3)	(8,4)
(7,1)	(7,2)	(7,3)	(7,4)
(6,1)	(6,2)	(6,3)	(6,4)
(5,1)	(5,2)	(5,3)	(5,4)
(4,1)	(4,2)	(4,3)	(4,4)
(3,1)	(3,2)	(3,3)	(3,4)
(2,1)	(2,2)	(2,3)	(2,4)
(1,1)	(1,2)	(1,3)	(1,4)



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(1,1)	(1,2)	(1,3)	(1,4)

