EM Backgrounds in bggen

Kei Moriya
Indiana University
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Data Challenge2 Meeting

Basic Settings

- ccdb 0.09
- jana 0.7.1
- hdds (trunk Feb 5 2014)
- sim-recon rev. 12531 (trunk Feb 5 2014)

bggen settings:

- EPHLIM 7.5 9.
- RNDMSEQ = [run #]
- EELEC 12.
- EPEAK 9.
- ZCOLLIM 7600.
- EPHYMIN 3.
- RUNNO = [run #]

hdgeant Settings

- INFILE
- TRIG 10000
- RNDM 121
- OUTFILE
- BEAM 12. 9.

All input hddm files are copied
so we are running over same input

200 runs x 10k events = 2M

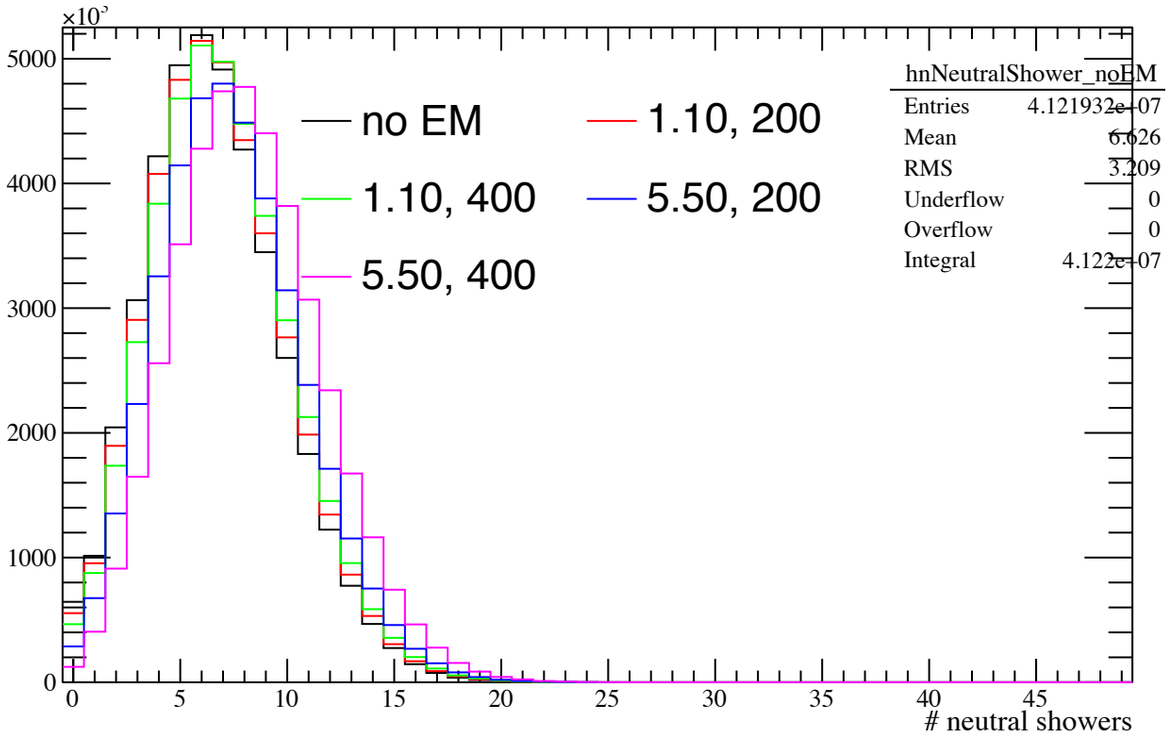
"standard" corresponds to 10^7 γ/s
according to control.in

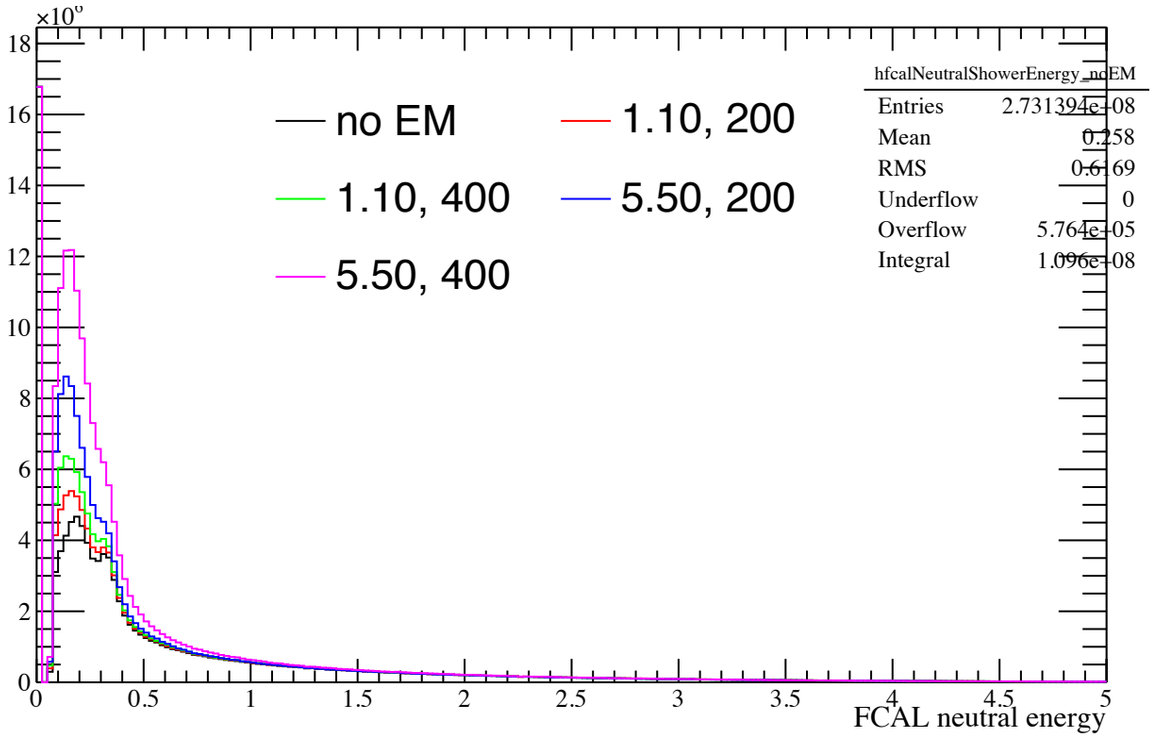
type	BGRATE	BGGATE
no EM	none	none
standard	1.10	-200. 200
high rate	5.50	-400. 400
long gate	1.10	-200. 200
high rate, long gate	5.50	-400. 400

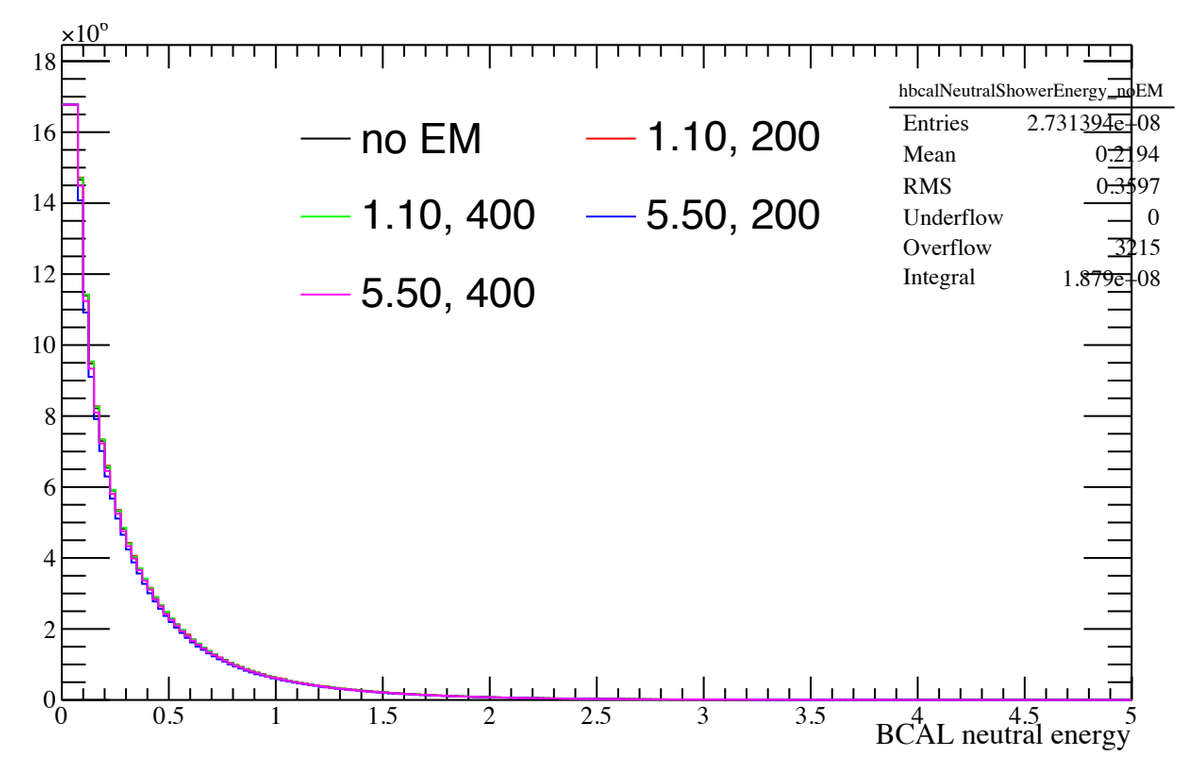
Results

type	REST file size (MB)	time (hrs)	small files
no EM	21 - 22	~1.5	2
standard	22 - 23	~3	1
high rate	**26**	**~10**	**8**
long gate	23	~4	1
high rate, long gate	**27**	**~14**	**1**

- Time is total for hdgeant, mcsmear, REST
- Adding EM bg slows processes quite a bit
- File sizes are not too different
- Running hdgeant with high rate (10k events) takes ~7 hrs


×10³
hnNeutralShower_noEM
Entries 4.121932e-07
Mean 6.626
RMS 3.209
Underflow 0
Overflow 0
Integral 4.122e-07
no EM
1.10, 200
1.10, 400
5.50, 200
5.50, 400
neutral showers


×10³
hfcalNeutralShowerEnergy_noEM
Entries 2.731394e-08
Mean 0.258
RMS 0.6169
Underflow 0
Overflow 5.764e-05
Integral 1.096e-08
no EM
1.10, 200
1.10, 400
5.50, 200
5.50, 400
FCAL neutral energy


×10³
hbcalNeutralShowerEnergy_noEM
Entries 2.731394e-08
Mean 0.2194
RMS 0.3597
Underflow 0
Overflow 3215
Integral 1.879e-08
no EM
1.10, 200
1.10, 400
5.50, 200
5.50, 400
BCAL neutral energy