EMCAL Geant 3-4 Comparison

pp, Perugia-0, 0.5T, 7 TeV, LHC10d anchors, ID #273
AliRoot::v4-20-Rev-39",

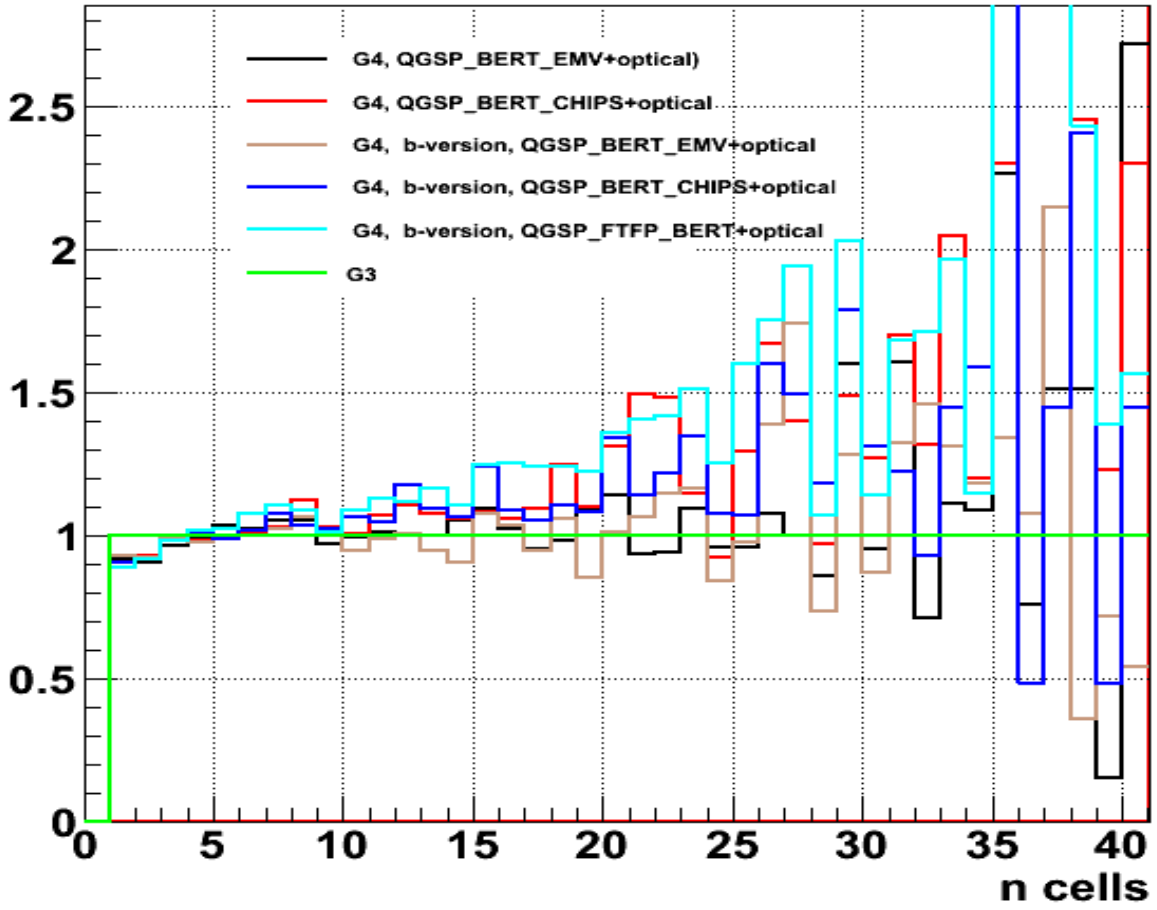
LHC11d6a (Geant4, QGSP_BERT_EMV+optical)
LHC11d6b (Geant4, QGSP_BERT_CHIPS+optical)

LHC11d6c (Geant4 beta-version, QGSP_BERT_EMV+optical)
LHC11d6d (Geant4 beta-version, QGSP_BERT_CHIPS+optical)
LHC11d6e (Geant4 beta-version, QGSP_FTFP_BERT+optical)

LHC11d6f (Geant3)

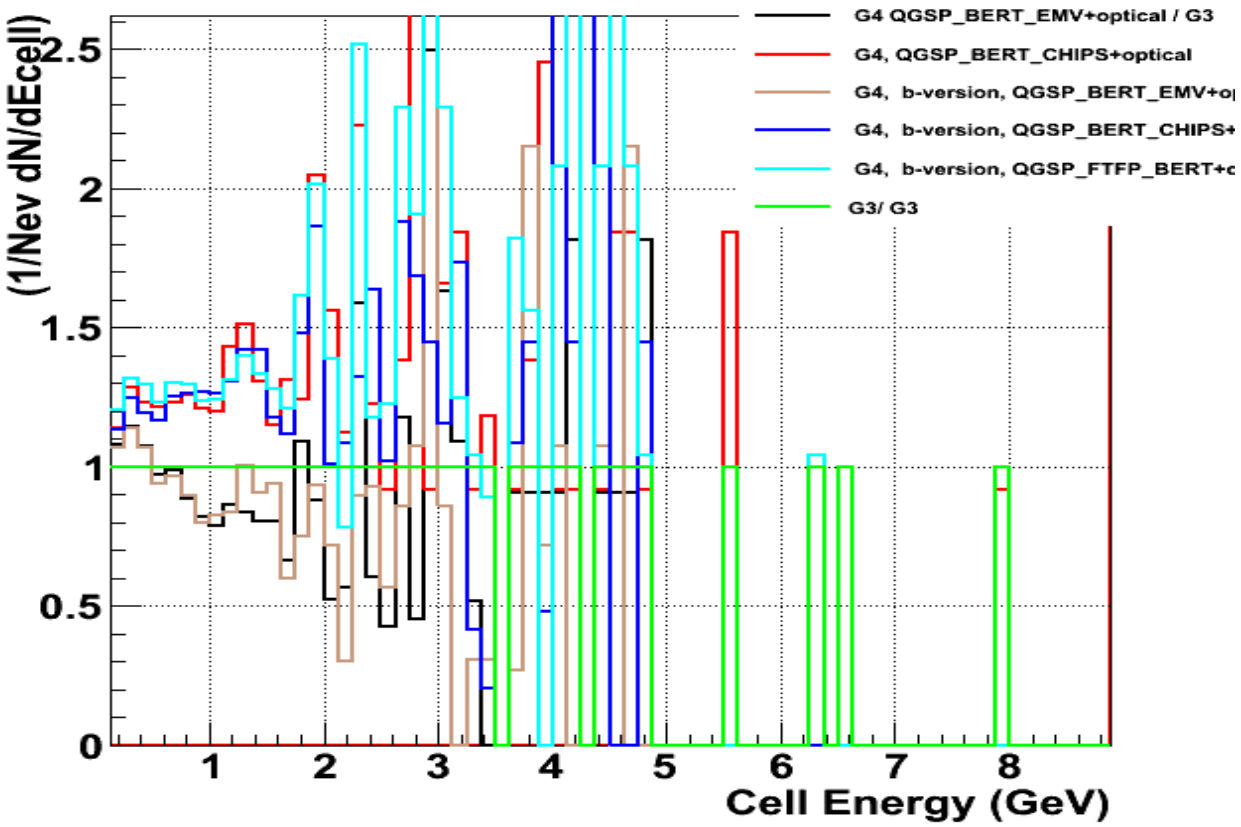
EMCAL Ncells Geant4/Geant3

$(1/N_{ev}dN/dncell)/(1/N_{ev}\ dN/dncells)_{Geant3}$



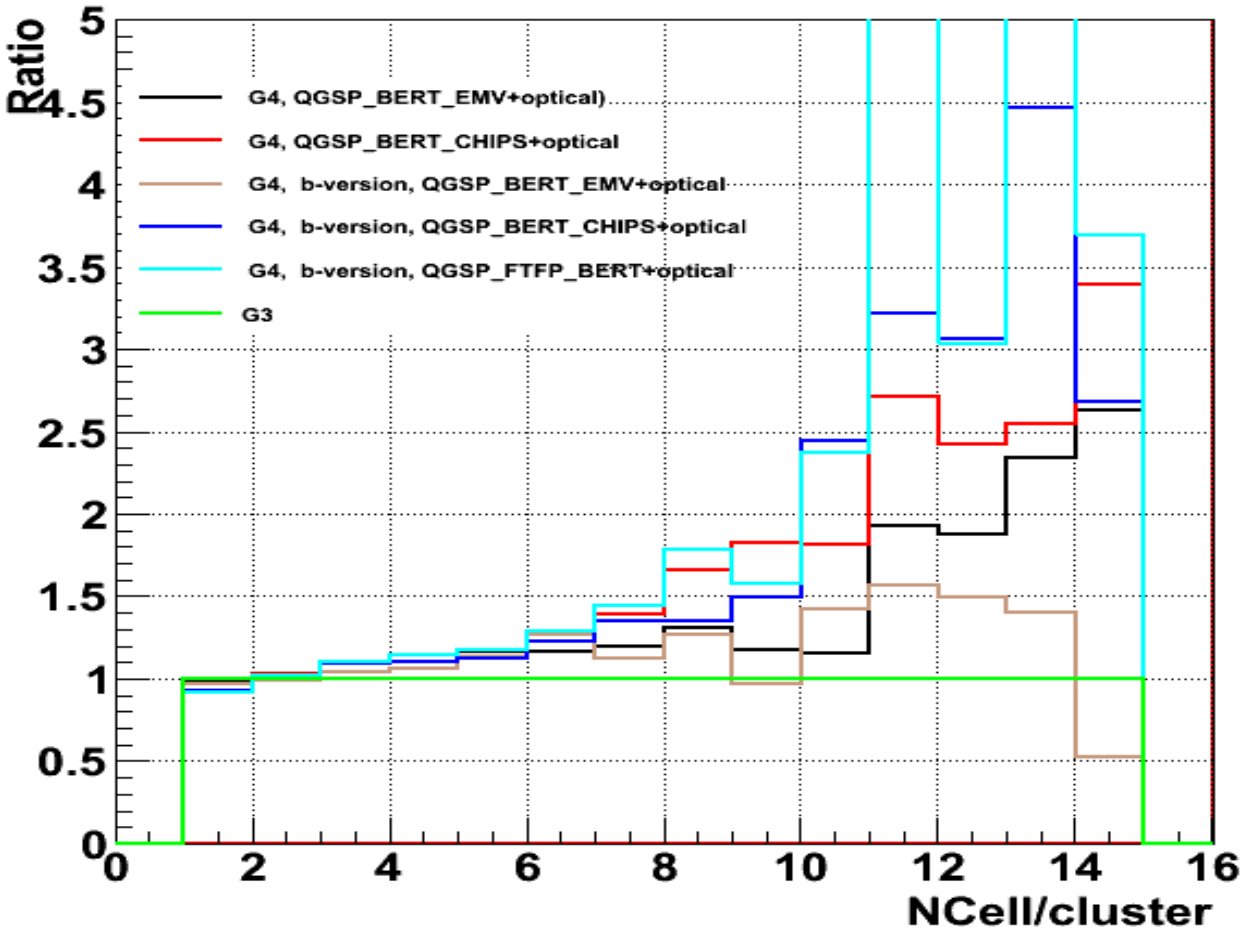
EMCAL cellsEnergy Geant4/Geant3

$(1/N_{ev}dN/dEcell)/(1/N_{ev}\ dN/dEcells)_{Geant3}$



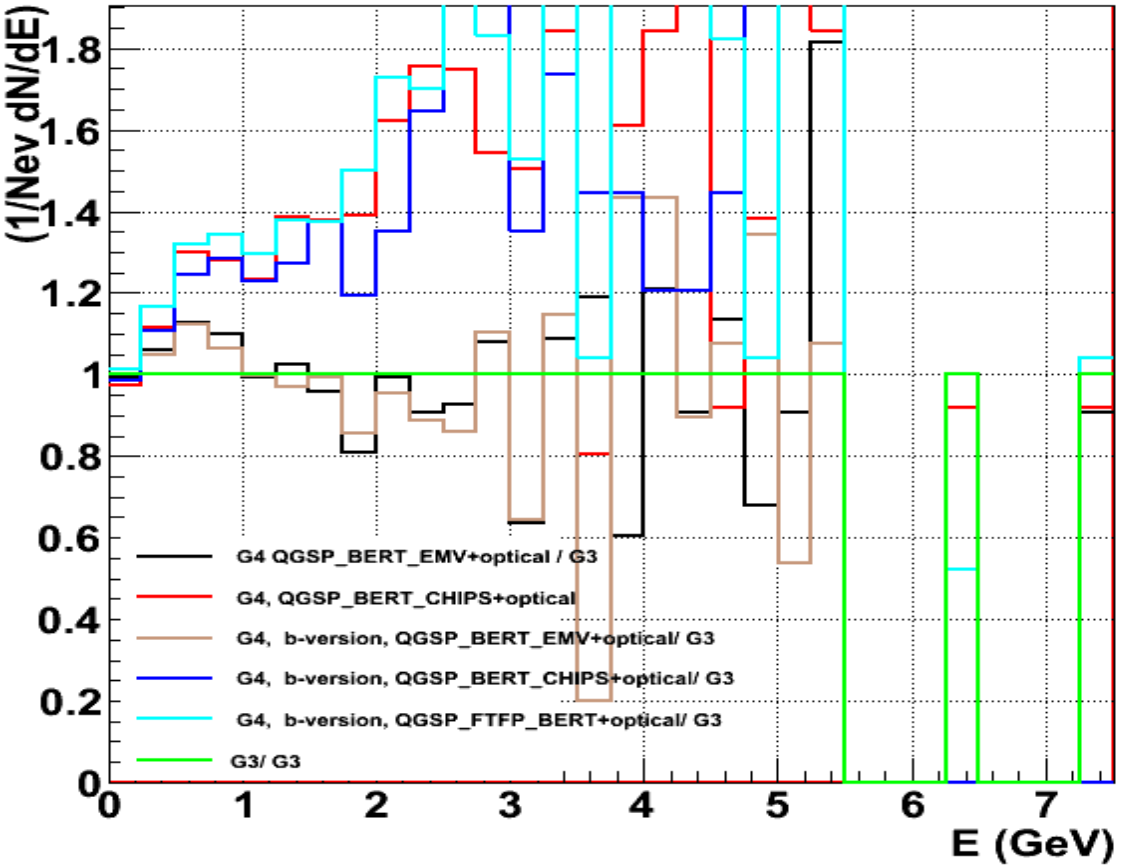
EMCAL Ncells/cluster Geant4/Geant3

$(1/N_{cluster} dN/dn_{cell})/(1/N_{cluster}\ dN/dn_{cells})_{Geant3}$



EMCAL cluster Energy Geant4/Geant3

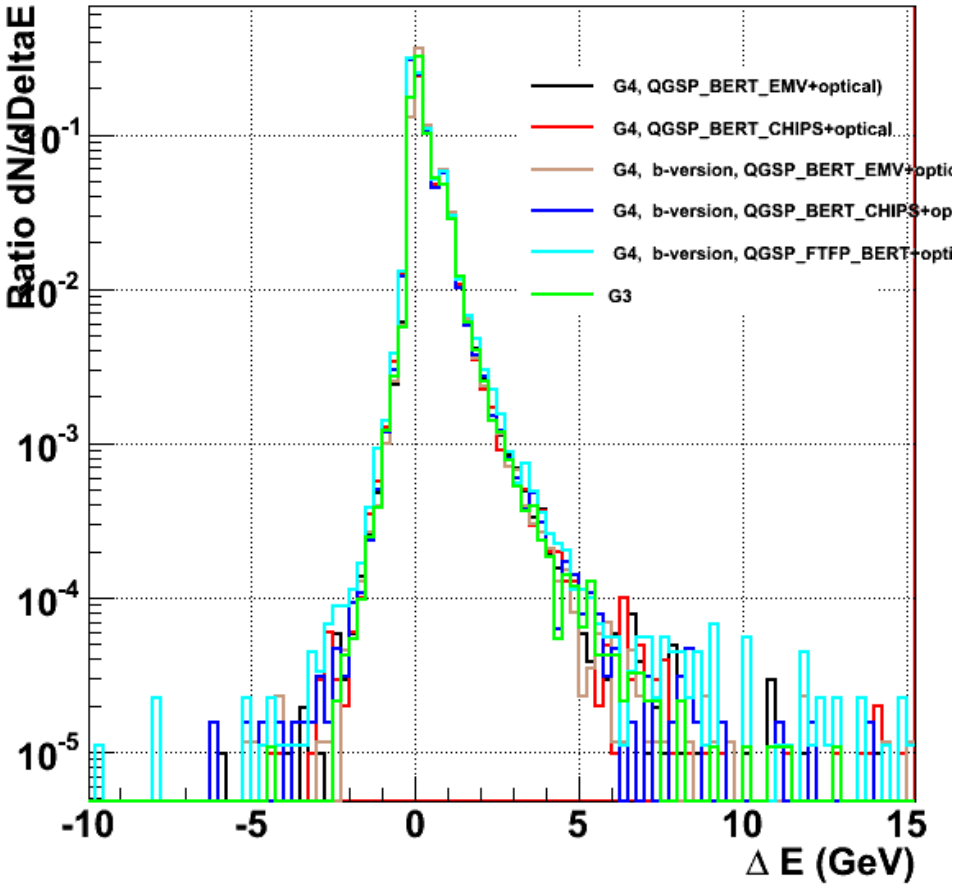
$(1/N_{ev}dN/dE)/(1/N_{ev}\ dN/dE)_{Geant3}$



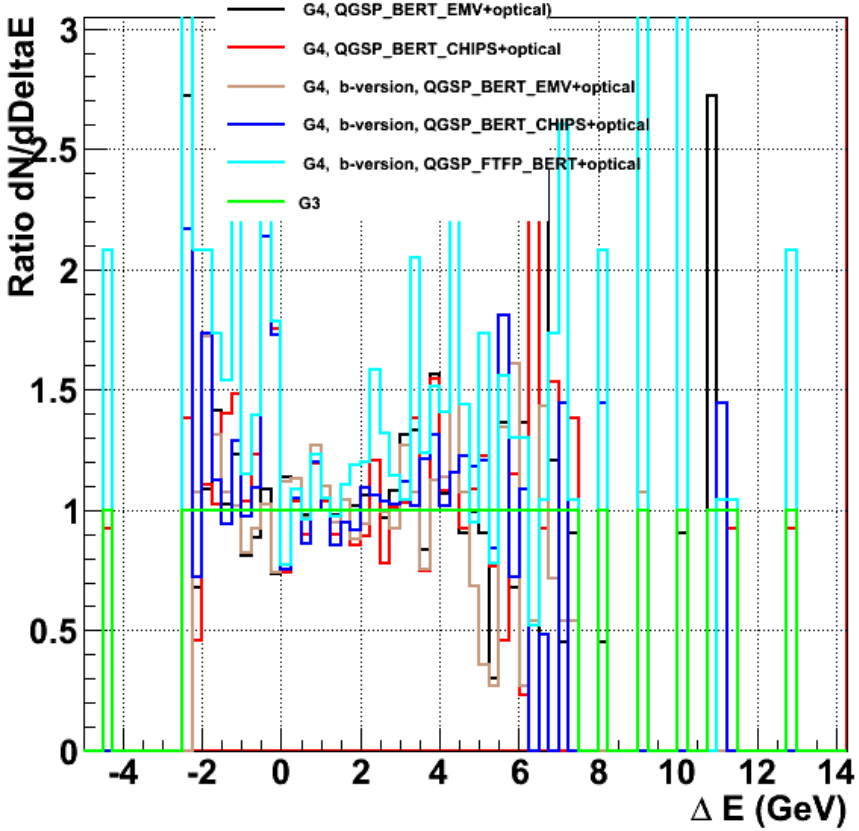
3ADC cut ie 50 MeV in reconstruction

EMCAL cluster

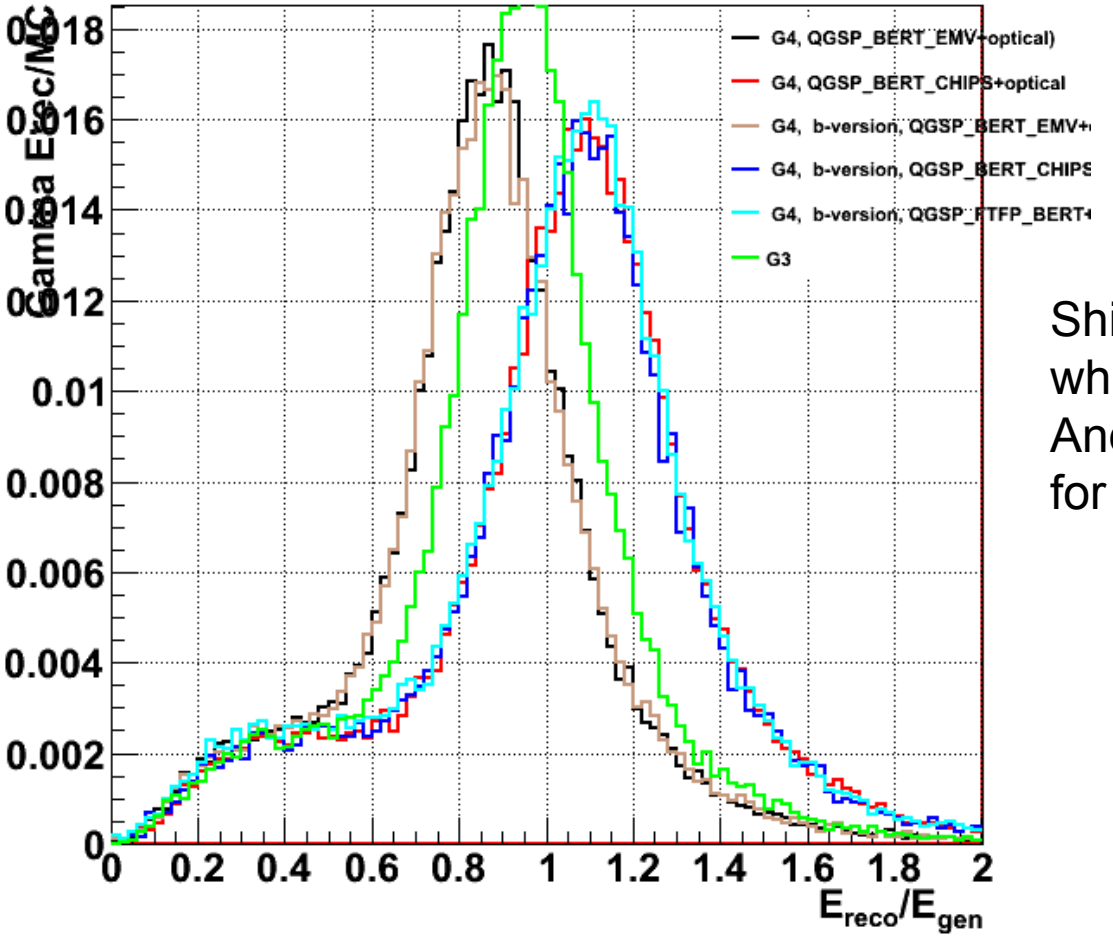
$1/N_{ev}dN/d\Delta E$



$(1/N_{ev}dN/d\Delta E)/(1/N_{ev}\ dN/d\Delta E)_{Geant3}$

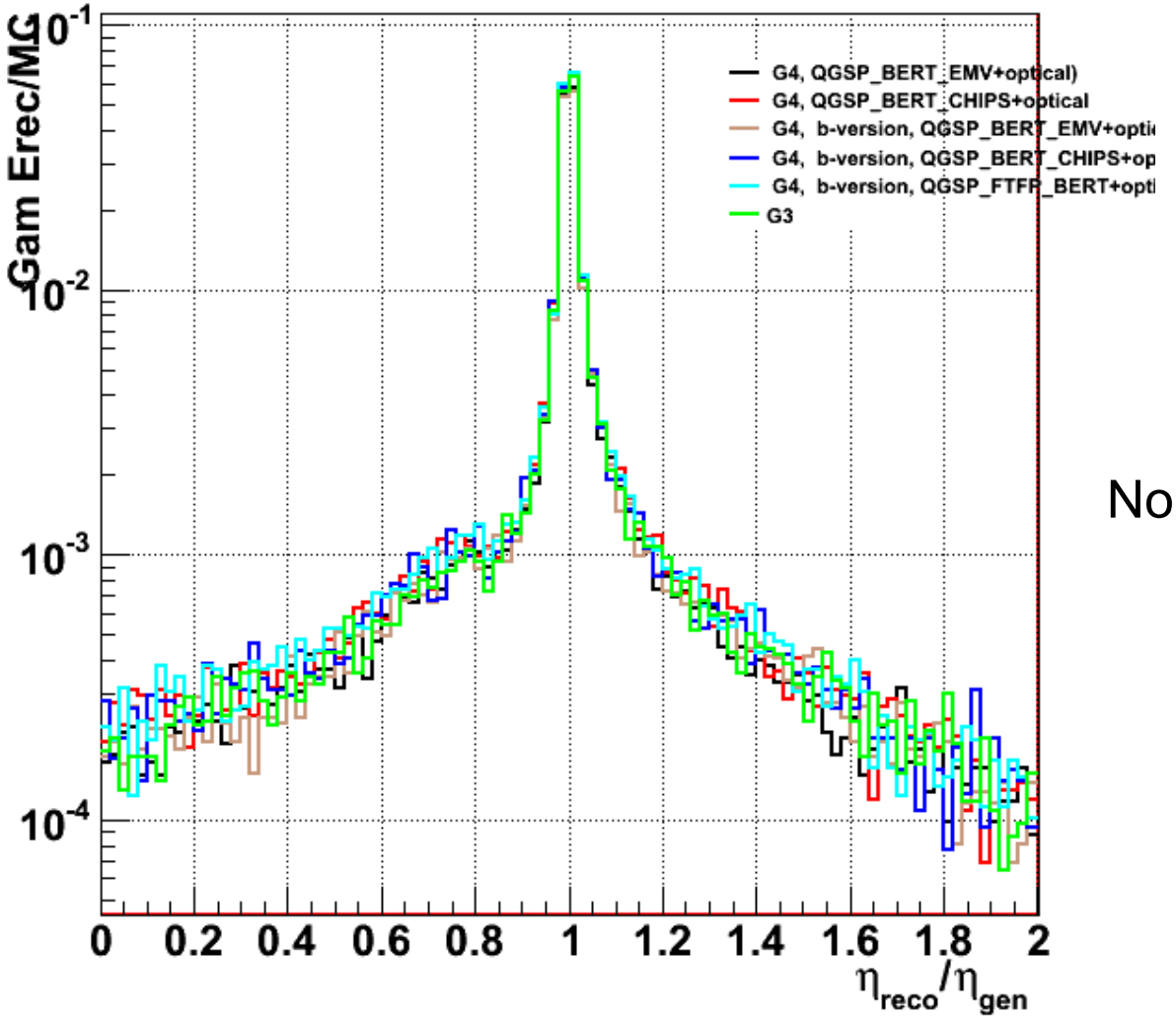


EMCAL-E_{rec}/E_{gen} for γ



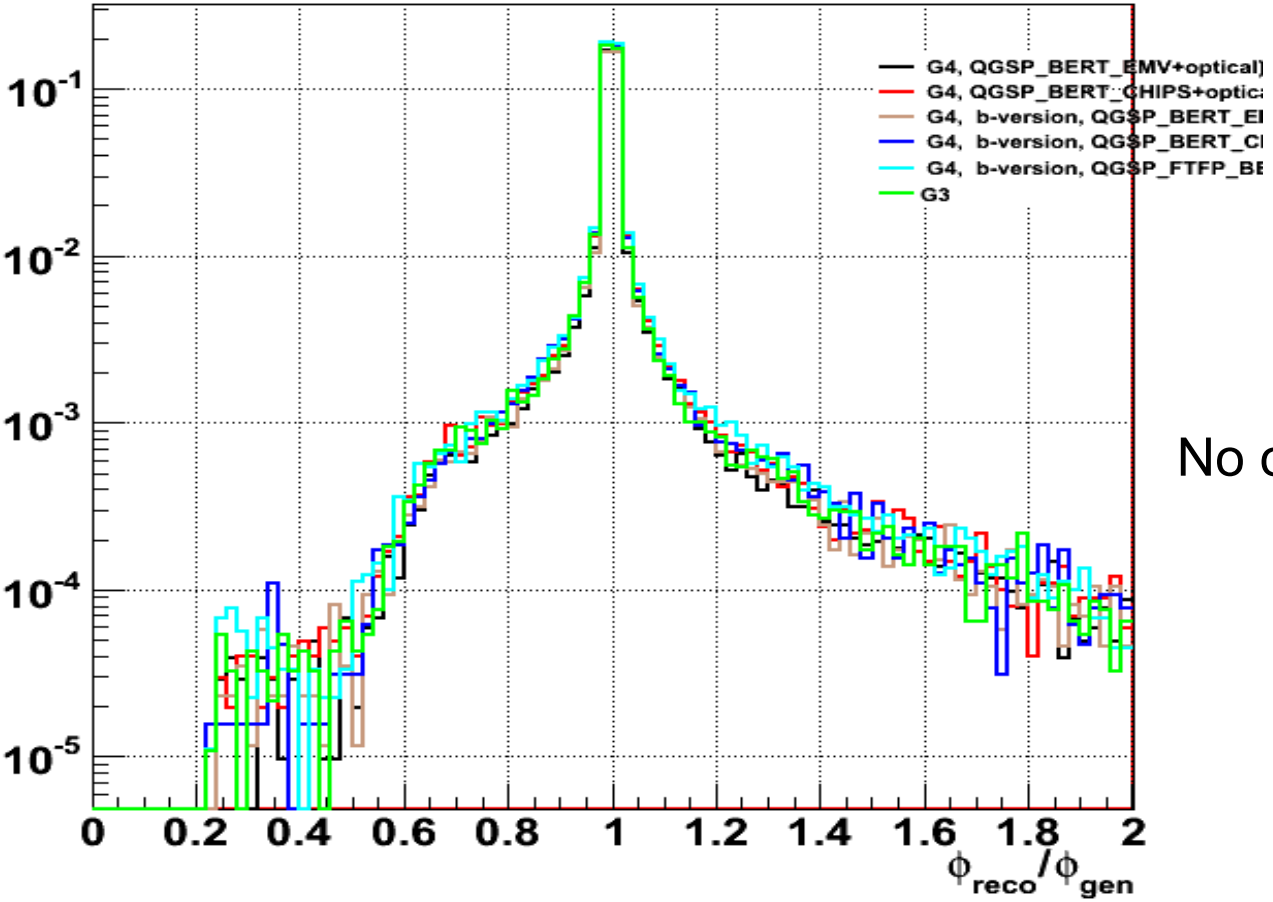
Shift due to sampling fraction
which was fixed for Geant 3
And not
for the Geant4 simulations

EMCAL η reconstructed/generated for γ



No obvious deviation

EMCAL Φ reconstructed/generated for γ



No obvious deviation

Conclusions

- LHC11d6a (Geant4, QGSP_BERT_EMV+optical)
- LHC11d6c (Geant4, beta version QGSP_BERT_EMV+optical)

  are closer to Geant 3