
Subject: Energy loss in EMC: bug solved

Posted by [Stefano Spataro](#) on Tue, 27 May 2008 09:33:13 GMT

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Dear all,

Ivana has corrected the bug that was present in geant4_vmc with the option "specialCuts":

The cut was applied by mistake also to e+, and due to this, the e+ did not annihilated and so we did not recuperate the energy released in annihilation.

I did some studies with the 5x5 EMC test setup, using the r341 of VirtualMC, and this is the energy deposited for 1000 photons at 1 GeV:

In terms of CPU time, to run 1000 photons at 1GeV:

geant3: 45 s
geant4 all: 274 s
geant4 cuts: 151 s

File size:

g3: 57 M
g4 all: 289 M
g4 cuts: 137 M

So, now it seems ok from this side (even if I have to think a bit about the file size-> number of mc points). However further studies should be run in the next future, and with the full geometry.

File Attachments

1) [newcomp.gif](#), downloaded 2220 times

EmcCluster.fEnergy

