Subject: EmProcess threshold
Posted by Valery Rodionov on Wed, 14 Jan 2009 07:31:29 GMT
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Hi

could you answer my question:

how can I change electromagnetic production threshold in pandaroot?
For example to 100eV?
In G4 it looks like: G4ProductionCutsTable::GetProductionTable()->SetEnergyRange(100*eV, upprelimit))

Valera

Subject: Re: EmProcess threshold
Posted by Mohammad Al-Turany on Wed, 14 Jan 2009 14:38:46 GMT
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Hallo Valery,

The SetCuts in VMC provide Tracking cuts and not the production/threshold cuts so according to Ivana "The threshold can be applied via cuts in range, which are applied per region. With this approach, with unique cut in range we get different cuts in
energy per material"

/mcPhysics/rangeCut 1 cm
/mcPhysics/rangeCutForGamma 1 cm

from within the gconfig/g4config.in with the suitable range cut in mm or cm.

hope this will help you!

Mohammad

Subject: Re: EmProcess threshold
Posted by Valery Rodionov on Wed, 14 Jan 2009 15:51:13 GMT
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Hi Mohammad

Thank you for an answer

Yes, Geant4 gives an unique treatment of cuts as _range cuts_, which are converted to energy in each material.
By changing the range cut for a particle one can not go below

990 eV energy threshold, and this can
only be done by changing the _energy_ cut in ProductionCutsTable.
It was my question.

The same situation in the frame of pandaroot?

  Valera

Subject: Re: EmProcess threshold
Posted by Mohammad Al-Turany on Thu, 15 Jan 2009 10:06:20 GMT

Hallo valery,

I asked Ivana about this problem and there is a solution for this, but first in Geant4.9.2 which
well be in our next external packages hopfully this month! anyway according to ivana:

Quote:To change the limits for the threshold one
can use G4 command:
/cuts/setLowEdge 100 eV
/cuts/setHighEdge 100 GeV

These commands interface the function
G4ProductionCutsTable::GetProductionTable()->SetEnergyRange(1000*eV,upprelimit) which
you asked about in your first mail.
In VMC, user can put these command in g4config.in

Quote:The command is available in Geant4 9.2 version only
(I did not notice it before). If you stay with
VMC version 2.5, you need to update from trunk
the macro g4libs.C.
I plan to tag a new version when there is available
also a tag in Root, as we have now introduced (on request of ALICE)
the interface for magnetic field.

Regards,

Ivana

So as soon as the new versions are available it will be trivial to set these values!

regards

Mohammad

Subject: Re: EmProcess threshold
Posted by Valery Rodionov on Thu, 15 Jan 2009 11:29:01 GMT
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Thank you.