
Subject: Re: Difference of neutral candidate between Geant4 and Geant3

Posted by [Dima Melnychuk](#) on Thu, 06 Feb 2014 10:56:13 GMT

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Hi,

As Stefano suggested I tried to compare the number of neutral candidate between Geant 3 and Geant 4 with different "hadronic process" setting for Geant 3. The default value for "hadronic process" in /gconfig/SetCuts.C is 1.

```
gMC->SetProcess("HADR",1);
```

I tried "3" and "5" and with "5" simulation stuck. But actually between "hadronic process" "1" and "3" with respect to number of neutral candidates there is no much difference.

So the results for 15 GeV DPM events.

Multiplicity for Geant 4 is much lower, and almost no difference between different "hadronic process" in Geant3.

Distribution of cluster size (number of crystals per cluster)

indicate 2 times difference in single cluster crystals between Geant3 and Geant4.

And if we consider the multiplicity of neutrals with more than 2 crystals:

there is already a reasonable agreement between Geant3 and Geant4.

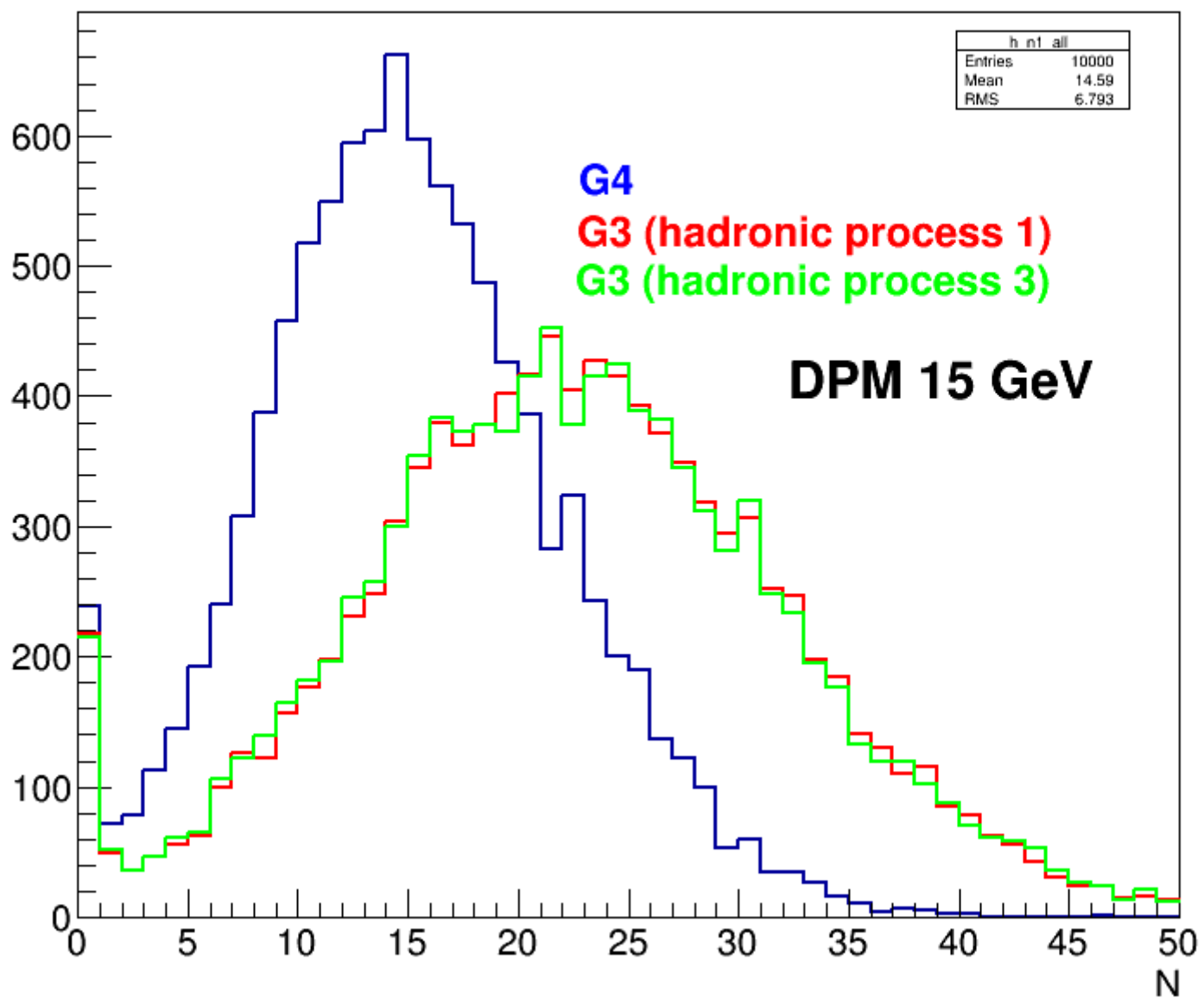
And still there is no conclusion which engine is more correct Geant3 or Geant4.

Dima

File Attachments

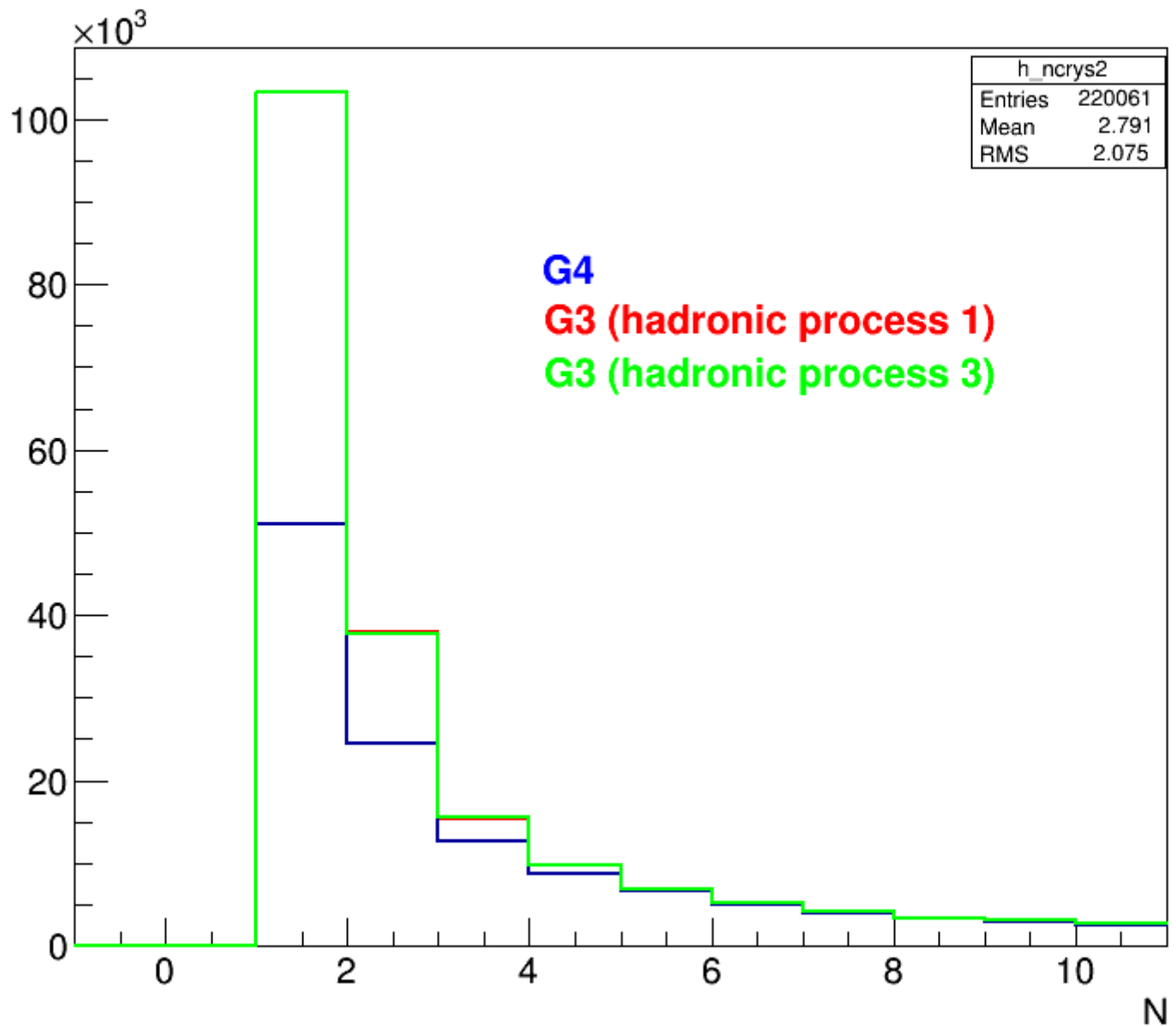
1) [number_neutral.png](#), downloaded 1671 times

Number of neutral



2) [number_crystals.png](#), downloaded 1533 times

Number of crystals



3) [number_neutral_gt2.png](#), downloaded 1689 times

Number of neutral

