Subject: Experimental verification of the Geant4 physics list for S438
Posted by C. A. Douma on Sun, 15 Jan 2017 11:24:07 GMT
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Dear Mr. Kresan,

I made a comparison between experiment and simulation for 3 situations of the S438 experiment.
I used Ken Miki his experimental results and did the simulation with R3BRoot. The chosen physics list .in-macro is included.

Do you have any suggestions how I can change and/or bias the physics list to bring the simulation in better agreement with the experimental result?

Picture explanation: We are looking at the second single plane of NeuLAND. For this plane we create
a histogram with 50 bins. 1 count is added to the respective bin when a bar inside this plane fired.
(calculated by Jan Mayer his NeuLAND Digitizer). Repeating this for 1000000 beam particles (=events)
gives the respective pictures.

The simulation can also be used to trace back (by G4 MotherID) what kind of particle fired the bar.
This allows us to see the breakdown of the picture for the simulation case, but not for the experimental case.

Hence, as a comparison, one can only look to what extend the total sums match.
Applying the VETO condition means here that an entire event is discarded when at least one bar in the VETO fired. VETO responce is also calculated with Jan Mayer his digitizer.

Yours Sincerely,
Christiaan Douma.

File Attachments

1) Verified.zip, downloaded 441 times