

Jun 23, 14 14:36

upgrade_G4.9.5.txt

Page 1/2

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 Subject: upgrade to Geant4.9.5.p02 for lbcfsim

Hi Everybody (Matt and Joe, this is probably most useful for you),

I upgraded the lbcfsim to be compatible with a new version of Geant4 (new for us, still pretty old compared to the most recent release). The version is Geant4.9.5.p02. I also installed this version on the UMN machines and tested that the simulation works there (not extensively, but it seems to be OK for ~10000 muons with standard geometry). The head version of the git repository is currently tagged as v1.2 and the two tags to version compatible with this Geant4.9.5.p02 are:

v1.2
 G4.9.5.p02-first

I strongly recommend using at least these versions for working with any simulation where one wants to use the --hex option for hexagonally constructed tubes.

Last week Matt and Joe found some inconsistencies with tracking which I seem to have solved by going to G4.9.5.p02. I don't, however, fully understand what the problem(s) were, I will casually look into that unless more tracking issues arise or the tracking is actually not fixed in as good a way as I hope it is.

The Geant4.9.5.p02 install on the UMN system is picked up by sourcing the following file:

```
$source
/local/cdms/geant4.9.5.p02-install/share/Geant4-9.5.2/geant4make/geant4make_wdata.sh
```

There is an additional procedure related to the linkage of the expat library (-lexpat) which I talk about in the updated version of the README file. Basically what it amounts to is that on the UMN system you must do:

```
$source umnexpat.sh
```

from the "simulation/" directory of the repository BEFORE compiling the application as normal.

Thanks,
 Anthony

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Monday June 23, 2014

1/2

Jun 23, 14 14:36

upgrade_G4.9.5.txt

Page 2/2

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