Subject: Tracklength from GEANE
Posted by Sebastian Neubert on Mon, 14 Apr 2008 13:17:27 GMT
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Hi Lia,

I am implementing the function that you get the tracklength between two point on the track at the moment. Concerning this topic I found the follwoing post:

Quote:
concerning geane, in the case of propagation to closest approach to the wire/point, there is a function of CbmGeanePro called GetlengthAtPCA() which returns the track length at the point of closest approach. This returns the complete track length (not only the xy projection).

Concerning the propagation to a defined volume or plane this function does not work, since the variable trklength is not filled.

Indeed if I use GetLengthAtPCA inside GeaneTrackRep (where we only extrapolate to planes) I always get 0.

So how can we have trklength be filled also for propagation to planes?

Cheers! Sebastian.

Subject: Re: Tracklength from GEANE
Posted by Sebastian Neubert on Mon, 14 Apr 2008 14:57:26 GMT
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Hi!

I have checked in a new version of CbmGeanePro where I added the following:

```
void CbmGeanePro::Propagate(Int_t PDG) {
  // main propagate call to fortran ERTRAK

  GeantCode=fdbPDG->ConvertPdgToGeant3(PDG);

  gMC3->Ertrak(x1,p1,x2,p2,GeantCode, fPropOption.Data());
  std::cout<<"gMC3->TrackLength="<<gMC3->TrackLength()<<std::endl;
  trklength=gMC3->TrackLength();

}
```

So now trklength is set for every Propagation. But I think there was some issue, that when we do it this way, the precision of trklength is limited to the stepsize??

In the recotasks/demo there is now a DemoToolsTask, which demosnatrate how to get the tracklength between two points.

Cheers!
Sebastian.

Cheers! Sebastian.

Subject: Re: Tracklength from GEANE
Posted by Andrea Fontana on Mon, 14 Apr 2008 16:41:53 GMT
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Hello Sebastian,
I have spoken with Lia and I think that this is the correct solution: we actually did the same for the PCA extrapolation in the EUFILL function.
The tracklength value depends on the stepsize, but I do not see other ways to do it: by propagating to a plane, GEANE has a step calculated so to finish on the plane and the number should be quite correct.

Ciao,
Andrea

Subject: Re: Tracklength from GEANE
Posted by asanchez on Tue, 15 Apr 2008 16:18:36 GMT
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Hi Sebastian, i was trying to run the macros in demo directory.
But after having run runDemo.C with geane switched ON,
i get nothing.
Do you know why?

my best regards
ALicia.

43 libraries loaded
==========
-I- CbmRunAna: Opening Input file: demo.mc.root
Info in <TGeoManager::TGeoManager>: Geometry Geometry, Geane geometry created
Info: TGeoManager::Import : Reading geometry from file: demo.mc.root
Info in <TGeoManager::CloseGeometry>: Geometry loaded from file...
Info in <TGeoManager::SetTopVolume>: Top volume is cave. Master volume is cave
Info in <TGeoManager::Voxelize>: Voxelizing...
Info in <TGeoNavigator::BuildCache>: --- Maximum geometry depth set to 100
Info in <TGeoManager::CloseGeometry>: 9 nodes/ 9 volume UID's in CBM geometry

```
Info in <TGeoManager::CloseGeometry>: ----------------modeler ready----------------
Loading Geant3 libraries ...
Loading Geant3 libraries ... finished

 MZSTOR.  ZEBRA table base TAB(0) in /MZCC/ at adr   282026719    10CF62DF HEX

 MZSTOR.  Initialize Store  0  in /GCBANK/
        with Store/Table at absolute adrs   282135565   282026719
                                  HEX    10D10C0D    10CF62DF
                                  HEX       1A77A           0
                        relative adrs      108410           0
        with     1 Str. in     2 Links in   5300 Low words in 4999970 words.
        This store has a fence of   16 words.

 MZLOGL.  Set Log Level 0 for store  0
1*****  GEANT Version  3.21/11 Released on 100298
0*****  Correction Cradle Version  0.1100

 MZDIV.   Initialize Division  Constant  in Store  0
        NW/NWMAX=   20004000000,  MODE/KIND=  1  2
        Division 20 initialized.

 MZLINK.  Initialize Link Area  /GCLINK/  for Store  0 NL/NS=    20    20

 MZLINK.  Initialize Link Area  /GCSLNK/  for Store  0 NL/NS=   100   100
-I- G3Config: Geant3 with TGeo has been created for Geane.
Energy straggling area parameter from user set to: 0.9996
CbmMCApplication::ConstructGeometry() : Now closing the geometry
Warning in <TGeoManager::CloseGeometry>: geometry already closed

 Calculating cross section tables, see gphysi.dat for more information

 Cross section calculation concluded successfully
 -I- CbmMCApplication:: Monte carlo Engine Initialisation  with TGeant3TGeo
I- CbmGeane::CbmGeane:  Geane is Initialized
OBJ: CbmRuntimeDb       CbmRuntimeDb    Class for runtime database

-I- CbmRunAna::Init :
demo.mc.root  is connected with:

PndFieldCreator::SetParm()
create PndFieldPar container PndFieldPar
create PndFieldPar container PndSolenoidPar
create PndFieldPar container PndDipolePar
create PndFieldPar container PndTransPar
create PndFieldPar container PndConstPar
create PndFieldPar container PndMultiFieldPar

************************************************************
    initialisation for run id 1705800566
************************************************************
Container CbmBaseParSet initialized from ROOT file.
```

```
Error in <PndFieldPar::init()>: PndFieldPar not initialized
Error in <PndSolenoidPar::init()>: PndSolenoidPar not initialized
Error in <PndDipolePar::init()>: PndDipolePar not initialized
Error in <PndTransPar::init()>: PndTransPar not initialized
Container PndConstPar initialized from ROOT file.
Error in <PndMultiFieldPar::init()>: PndMultiFieldPar not initialized
Error in <CbmRuntimeDb::initContainers()>: Error occured during initialization
PndFieldCreator::createCbmField()
 ------------------------------------------------------------------------ --------
--------------  actual containers in runtime database  ------------------------
CbmBaseParSet                          Test class for parameter io
PndFieldPar                           Field parameter container
PndSolenoidPar                         Solenoid Field parameter container
PndDipolePar                          Dipole Field parameter container
PndTransPar                           Trans. Field parameter container
PndConstPar                           Const Field parameter container
PndMultiFieldPar                       Multiple Field parameter container
--------------  runs, versions  ----------------------------------------------
run id
  container                           1st-inp    2nd-inp    output
run: 1705800566
  CbmBaseParSet                             -1         -1          0
  PndFieldPar                            -1         -1          0
  PndSolenoidPar                           -1         -1          0
  PndDipolePar                           -1         -1          0
  PndTransPar                            -1         -1          0
  PndConstPar                            -1         -1          0
  PndMultiFieldPar                         -1         -1          0
--------------  input/output  ------------------------------------------------
first Input:
OBJ: CbmParRootFile     demo.param.root  : 0 at: 0x9b9e6b0
Root file I/O demo.param.root is open
detector I/Os:  CbmGenericParIo
second input: none
output: none
DemoPatternRecoTask::Exec
0 tracks created
DemoKalmanTask::Exec Event 0
DemoToolsTask::Exec Event 0


Macro finished succesfully.
Output file is demo.mcreco.root
Parameter file is demo.param.root
Real time 3.41002 s, CPU time 3.34 s
```