Subject: Re: Question on R3BNeutronTracker2D
Posted by C. A. Douma on Mon, 11 Jul 2016 11:26:37 GMT
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Dear Mr. Kresan,

I found the source of the problem concerning the beta test. The beta test works fine exactly as you designed it.
However, in my specific case the beam starts 4 meters behind the target. This causes that the collision at the target
does not happen at t=0. When beta is then computed as

beta = cluster->GetZ()/(cluster->GetT()*c);

the time requested by cluster->GetT() is the TOF between the target and NeuLAND plus the time between the beam starting point
and the target. But beta should of course be computed as

beta = cluster->GetZ()/(TOF*c);

where TOF is only the time between the cluster startpoint and the target collision.

I modified this in the neutron tracker. I also changed the beta definitions (and other similar pieces of code) to:

beta = TMath::Sqrt(cluster->GetZ()*cluster->GetZ() + cluster->GetY()*cluster->GetY() + cluster->GetX()*cluster->GetX())/(TOF*c);

so that the neutron tracker is now fully invariant under rotations etc. of the detector (relevant to simulate the EOS experiment of Igor, for example).

NOTE: the io-system of the tracker that I added here is still designed to work only for my own simulations.

Christiaan.

PS: I also noticed that the tracker still does not work with the R3B Neuland-class, only with the land-class. Is there a possibility to fix this?

File Attachments

1) R3BNeutronTracker2D.cxx, downloaded 299 times
2) R3BNeutronTracker2D.h, downloaded 282 times