Subject: R3BNeutronTracker2D crashes
Posted by C. A. Douma on Wed, 23 Mar 2016 16:28:11 GMT
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Dear Mr. Kresan,

When I use the new Neuland-class for a NeuLAND simulation, the R3BNeutronTracker2D gives a segmentation violation.
Could this be because it searches for "LandPoint" and "LandFirstHits" but not for "NeulandPoints" and "NeulandPrimaryNeutronInteractionPoints"?

Christiaan.

File Attachments
1) TrackerLog.txt, downloaded 345 times

Subject: Re: R3BNeutronTracker2D crashes
Posted by Jan Mayer on Wed, 23 Mar 2016 16:34:50 GMT
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If you just want to know the efficiency, using the calibr macro is enough, as it gives you the same efficiency tables. I have not yet finished the modifications on this class, it will not work with NeulandPrimaryNeutronInteractionPoints. (And it actually should not depend on them.)

Jan

Subject: Re: R3BNeutronTracker2D crashes
Posted by C. A. Douma on Thu, 24 Mar 2016 10:44:25 GMT
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I am not sure if the problem is the NeulandPrimaryNeutronInteractionPoints. I just noticed that the tracker needs the LandFirstHits to check on the outcomes of the tracking. Hence I think that the tracker crashes because for the neuland-class, the LandFirstHits do not exist and NeulandPrimaryNeutronInteractionPoints should be used instead. But I am not sure of it. The only thing I am sure of is that the tracker gives a seg-fault for the neuland-class.

For the VETO I do not just need the efficiencies, I really need the distinct reconstructed neutron interaction points per event so I can decide which hits are due to neutrons and which hits are due to protons, so I can veto those.

Hence maybe you can explain something else to me. Suppose that I supply the R3BNeutronTracker with, say, 10 Energy cuts and a kappa. Will the tracker then automatically look for 10 tracks (given that the number of clusters and total energy deposition of that event falls between the last 2 cuts)? Or should the tracker be modified to identify more then 4 tracks? If so, how should I modify it? I need this in the case I have 4 neutrons and some protons in the same event.

Christiaan.

Subject: Re: R3BNeutronTracker2D crashes
Posted by Dmytro Kresan on Wed, 30 Mar 2016 07:14:28 GMT
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Hi Christiaan,

What you suggest, with manually adding 10 energy cuts in order to find 10 candidates for neutron interactions, does not really make sense. In the reconstruction, you will need events which fall into your 9-th or 10-th cut, so you will need 9 or 10 incident neutrons. This is not really what you want to simulate.

There is a feature in the NeutronTracker2D, you can call the following method from the r3blandreco.C macro (comment out ReadCalibrFile(...) call):

tracker->Disable2DEventCut(10);

Which will force the algorithm to produce 10 candidates. Afterwards you can apply your VETO criterium.

Best regards,
Dima