Subject: keeping track of a particle as it goes through a detector
Posted by Raphael Cervantes on Thu, 25 Apr 2013 00:29:59 GMT
View Forum Message <> Reply to Message

Hey guys,
Say I have a scattered electron from some generated Monte-Carlo events. I simulate these generated events in a detector I built using FairRoot. I would like to keep track of this particular scattered electron as it goes through the detector. Running a script similar to run_rutherford.C gives me a root tree of the detector points and mctracks. What cuts can I make with either the detector points or mctracks to help me look at only the initial scattered electron?

I hope my question makes sense. Let me know what I can clarify.

Subject: Re: keeping track of a particle as it goes through a detector
Posted by Mohammad Al-Turany on Thu, 25 Apr 2013 06:30:23 GMT
View Forum Message <> Reply to Message

Hey,

If I understand you well, you generated the electrons out side FairRoot, and then you transport them with FairRoot through your detector. i.e your electrons are considered as primary particles, so you can cut on the Mother ID of your points (it should be -1 for primaries). From your MCPoint you can get the TrackId of the track which generate this point (FairMCPoint::GetTrackID())and then the Stack you get the MCTrack and then the mother ID of the track.

for example:

motherID =
(((FairMCTrack*)fMCTrackArray->At(FairMCPoint->GetTrackID()))->GetMotherId());

In the event display you can select display primary only to see these particles.

Mohammad