Subject: How does the IsElastic-function in the NeutronTracker2D work?
Posted by C. A. Douma on Fri, 19 Aug 2016 14:31:32 GMT

Dear Mr. Kresan,

Can you explain to me how the IsElastic-function in the NeyutronTracker works?
I know what an elastic collision between nucleons is, but I do not understand
how you can use those physics to test the clusters.

In particular I am interested in how this function can be modified to also
test for particles that do not come in straight.

I suspect that some of my troubles with the VETO come from the fact that I try to
reconstruct all particles as if they are neutrons. Especially when I have
protons coming in from the side, I suspect that this reconstruction might fail.

Yours Sincerely,
Christiaan Douma.

Subject: Re: How does the IsElastic-function in the NeutronTracker2D work?
Posted by Dmytro Kresan on Mon, 12 Sep 2016 12:27:37 GMT

Quote:Can you explain to me how the IsElastic-function in the NeyutronTracker works?
Imagine a neutron did elastic scattering first, and after certain path next interaction. After
elastic scattering we have a cluster created by the knocked-out proton, and an arbitrary cluster
from second interaction. The goal of this IsElastic function is to eliminate the second cluster, in
order that it is not considered as a candidate for first interaction of an incident neutron. By
combining start position and angle of one cluster and start position of another, we can decide
(based on kinematics), that both were created by the products of the same neutron.

Quote:In particular I am interested in how this function can be modified to also test for particles
that do not come in straight.
The best is to ask Michael Heil, he is the author of this code. But I can hardly imagine such a
restriction in the function.

Best regards,
Dima

Subject: Re: How does the IsElastic-function in the NeutronTracker2D work?
Posted by C. A. Douma on Tue, 13 Sep 2016 07:50:28 GMT

Thank you. This clarifies a lot. I will study the code once more and maybe ask Mr. Heil.

Christiaan.