Subject: getting run_rutherford to calculate eta parameter [SOLVED]
Posted by Raphael Cervantes on Wed, 14 Nov 2012 20:18:02 GMT

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Hi all,
I would like to request help in modifying fairroot to give me information about
eta=-log(tan(theta/2)), which is a very common parameter for understanding detector physics.
Moreover, I think it should calculate eta by default, in the same way that it calculates phi and
theta by default.

To give more background:
The way fairbase is in the repository, if you do
root fairroot/examples/rutherford/macros/run_rutherford.C
the output is contained in fairroot/examples/rutherford/macros/data/test.mc.root.

If I open the root file
root data/test.mc.root
TBrowser j
Then you will see the attached image. I would like to modify fairroot to include information
about eta as one of the leaves of FairRutherfordPoint. Can someone tell me how to do that?
Would I need to make changes to FairRutherfordPoint? FairMCPoint? etc...

I hope I'm making myself clear. All help is greatly appreciated
-Raphael

File Attachments
1) test.mc.root.png, downloaded 699 times

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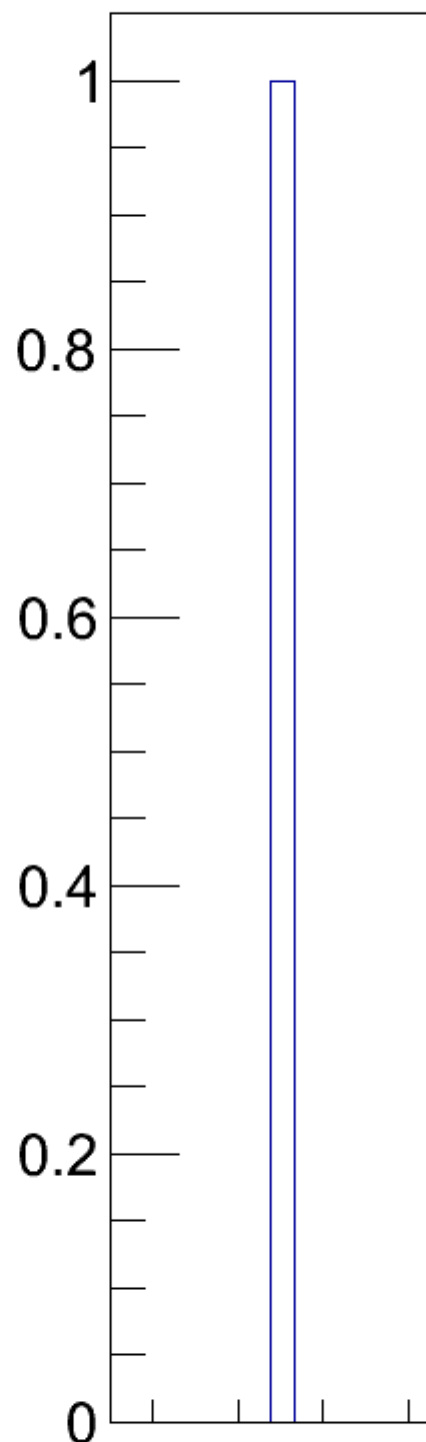
Command |

Command (local): [ ]

Subject: Re: getting run_rutherford to calculate eta parameter
Posted by Radoslaw Karabowicz on Wed, 14 Nov 2012 21:59:56 GMT

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Dear Raphael,

If you need some extra variable to be written to the root file,
then:

1. you have to edit FairRutherfordPoint.h and add the variable
in question to the private members, f.e.:
  Float_t fEta;

2. edit the FairRutherfordPoint.cxx and set the value
of the variable in the constructors, preferably after the places
when the fTheta values are set:
  fEta = -TMath::Log(TMath::Tan(fTheta/2.));

3. recompile

4. run the macro

Hopefully you will get the variable in the output tree as fEta.

yours
radek

Subject: Re: getting run_rutherford to calculate eta parameter [SOLVED]
Posted by Raphael Cervantes on Thu, 15 Nov 2012 15:53:34 GMT

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Thank you Radek,
That did the trick. For those who may have the same question as I do and who are as clueless
as I am, make sure you include the TMath header in FairRutherfordPoint.cxx at the top so that
compiling knows what is going on with Tan and Log
#include "TMath.h"
Do this at step 2.