Subject: [SOLVED] PAnyDistribution Add Multiple equation
Posted by Michael Kunkel on Sat, 29 Sep 2012 05:22:29 GMT

Greetings

I would like to implement several logic statements into a distribution using PAnyDistrubution.

I tried to model this by mimicking the example macro demo_PAnyDistribution in the macros directory.


```
    TH1F * cache  = new TH1F ("cache","Rho0 t cache",400,-4.0,0.0);

    decay->AddEquation(cache,"beam = _parent->GetBeam(); beam->Boost(_parent) ; t1 =
(beam - [rho0])->Mag2(); _x = t1;");

   decay->AddEquation("beam2 = _parent->GetBeam(); beam2->Boost(_parent); if (beam2 <
4.6) _f = exp( 6.9*t1 ); if (beam2 > 4.6) _f = exp( 8.9*t1 );");
```


It seems I do not understand, because PLUTO will always execute the first "IF" statement regardless of the beam energy.

If this something I would have to use a 2D histogram for? A 2D histogram seems overkill for a project like this.

Thanks

Subject: Re: PAnyDistribution Add Multiple equation
Posted by Ingo Froehlich on Sun, 30 Sep 2012 17:09:42 GMT

This does not work for 2 reasons: you use "beam2", which is an object, so what you practically do is to test on the existence of the particle object, and therefore the first "if" always returns true. And also, the if-statements are excluding each other: if the first condition is true, the second one will always give a negative result, and thus the last part will never be executed.

I'm not sure which observable you want to use (kinetic energy?), therefore I also cannot judge if the boost is really what you want do. I can only provide you the following template:

```
decay->AddEquation("beam2 = _parent->GetBeam(); if (beam2->KE() < 4.6) _f = exp( 6.9*t1
);");
decay->AddEquation("if (beam2->KE() >= 4.6) _f = exp( 8.9*t1 );");
```

Subject: Re: PAnyDistribution Add Multiple equation

The observable I am attempting to control is the t-slope as a function of beam energy. I assumed _parent->GetBeam() would be the beam energy alone and I would have to boost this into to c.m. of the system.

As the way you wrote the example,

decay->AddEquation("beam2 = _parent->GetBeam(); if (beam2->KE() < 4.6) _f = exp(6.9*t1);");
decay->AddEquation("if (beam2->KE() >= 4.6) _f = exp(8.9*t1);");

This beam2 is in the lab frame, I presume?