
Subject: Re: Bear Smear and Cross Sections
Posted by [Ingo Fröhlich](#) on Tue, 28 Aug 2012 06:35:40 GMT
[View Forum Message](#) <> [Reply to Message](#)

Michael Kunkel wrote on Tue, 28 August 2012 01:32
I wanted to say

Is $_f$ the density function? If so, wouldn't using Input : $_x$ s $\cos(\theta)$, $_y$ is differential cross section
Output : $_f$ cross section suffice?

No, that's not correct. $_x$ is $\cos(\theta)$, and $_y$ is the c.m. energy. It's a 2-dimensional function. $_f$ is the results, and this is $(d\sigma/d(\cos(\theta)))(q)$, i.e. the differential cross section as a function of $\cos(\theta)$ and q

Michael Kunkel wrote on Tue, 28 August 2012 01:32
I have 64 models I will be using. I was assuming I could implement this as

```
model1->SetRange(1.77,1.8);  
...  
...  
...  
model64->SetRange(2.56,2.6);  
  
model1->AddHistogram(example1,"value = Eval(_x); _f = _y * value");  
makeDistributionManager()->Add(model1);  
...  
...  
...  
model64->AddHistogram(example64,"value = Eval(_x); _f = _y * value");  
makeDistributionManager()->Add(model64);
```

No, this will not work. Pluto is a sampling event generator. If you use it like this, the first model samples θ and q , the second model overwrites that, and so on...

Michael Kunkel wrote on Tue, 28 August 2012 01:32
In the above snippet I use 1 histogram for each model. Each histogram is derived from published data with

$_x = \cos(\theta)$
 $_y = \text{Differential Cross section}$

You are using a different convention, this is part of the confusion. $_y$ is the c.m. energy in a 2-dimensional function. If you are using a 1-dimensional histogram, the results should be still mapped on $_f$, not $_y$.

The only thing you have to implement is a function $_f = F(_x,_y) = F(\cos(\theta),q)$
