
Subject: Re: Bear Smear and Cross Sections
Posted by [Ingo Froehlich](#) on Tue, 28 Aug 2012 06:35:40 GMT
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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 `theta` 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 = 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 $f = F(x, y) = F(\cos(\theta), q)$
