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Subject: Updated version of CbmGeanePro  
Posted by [Lia Lavezzi](#) on Fri, 30 May 2008 15:44:28 GMT  
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Hi!

We just uploaded to the svn repository an updated version of CbmGeanePro, where two bugs have been fixed:

1) in the case of propagation to the point of closest approach to a space point now we set:  $v_{wi} = \text{point}$  ( $v_{wi} = \text{space point itself}$ ). Previously the  $v_{wi}$  was not filled and so when calculating one of the two axes to define the virtual detector plane with:

```
// find plane
```

```
// unitary vector along distance
```

```
// vpf on track, vwi on wire
```

```
TVector3 fromwiretoextr = vpf - vwi;
```

```
fromwiretoextr.SetMag(1.);
```

the result was not correct. Now the first axis is the line where both the space point and the point of closest approach to it lie.

2) In the case when only two steps are performed during the PCA finding the procedure used to give a wrong result, because the FindPCA didn't take this case into account properly. Now this bug has been fixed and the function works fine.

In case of problems using this new CbmGeanePro please let us know!

Regards,  
Lia and Susanna.

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Subject: Re: Updated version of CbmGeanePro  
Posted by [Sebastian Neubert](#) on Wed, 04 Jun 2008 18:48:19 GMT  
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Hi!

Do I understand it correctly, that you choose the coordinate system such, that the line connecting the pca and the hit coincides with the x-axis of the plane?

Cheers! Sebastian.

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Subject: Re: Updated version of CbmGeanePro  
Posted by [Lia Lavezzi](#) on Thu, 05 Jun 2008 08:10:59 GMT  
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Hi Sebastian,

the x-axis joins the hit to the pca, actually it goes from the hit to the pca.

I changed this because I saw that in the `Propagate(CbmTrackParP *TStart, CbmTrackParP`

\*TEnd, Int\_t PDG) you added the "support for poca with points", i.e.:

```
if(fPCA==1){// point
  TVector3 mom(TStart->GetPx(),TStart->GetPy(),TStart->GetPz());
  wiredirection=mom.Cross(fromwiretoextr);
}
```

so I thought you wanted to make your plane perpendicular to the track direction, is this correct?

Previously the vwi was set to (0,0,0) in the case of pca = 1 and so the fromwiretoextr axis (x-axis of the plane) was from (0,0,0) to the pca...

I hope this is ok...

Ciao,  
Lia.

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