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Subject: covariances in global coordinates

Posted by [Sebastian Neubert](#) on Thu, 28 Feb 2008 11:23:10 GMT

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Hi!

LSLTrackRep now can produce the required 6x6 covariances.

The respective methods are:

```
virtual TVectorT<double> getGlobal(); // (x,y,z,px,py,pz)
virtual TMatrixT<double> getGlobalCov(); // covariances
```

When the Kalman Filter has been run, this should produce a valid covariance. See also `GenfitTester::test_LSLtoGLOB()`;

However there is one issue:

Since there is always one free parameter in a track (z in the case of LSLTrackRep) the 6x6 covariance matrix is a bit strange. For example at the moment the z-row/column has only the variance and no COvariances! I do not know how to solve this.

Originally this was the reason why I suggested that we should NOT have a 6-coordinate system.

But maybe there is a solution to this which I do not see at the moment.

At least you can start palying around now. Please give me some feedback on what you get! So far I have not investigated the covs too much!

Cheers! Sebastian.

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