## Subject: Covariance Matrices in RhoCandidates

## Posted by SHenssler on Tue, 25 Mar 2014 13:51:53 GMT

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Hello together,
I am currently evaulating alternative procedures for kinematic fitting and while doing some debugging i noticed, that the Covariance-Matrices i get are not positive-semi-definite.
I used the Rho-Macro for the kinematic fits and simply called my own routine after the vertex-fit was done (instead of calling the PndKinFitter).
My program also implements RhoFitterBase and after calling:
fDaughters.clear();
FindAndAddFinalStateDaughters(fHeadOfTree);
i take the P4-vectors and their covariances for each final state particle.
When i calcualte the eigenvectors for the covariances there are always some who are negative, which means the covariance matrices are not positive-semi-definite (i calculated the eigenvectors by hand for one example to make sure it is not a numeric problem and $i$ get the same results).

Does anybody know something about this?
Thanks in andvance
Simon Henssler

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