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Fast Vertexing Code

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We present a new fast vertexing software for determination of the primary vertex. The software is relying on the linear extrapolation of tracks near the beamline, as the curvature of the track is negligible for short distances. The method treats tracks as infinitely extended ellipsoids, thereby transforming the vertex-finding problem into a proximity one - between points with ellipsoidal error matrices. We have implemented this approach in C++ using the NXV4 package for vector and matrix operations. We have tested the resolution and speed performance on SpdRoot simulated data, for the SPD experiment at JINR.

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