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Primary vertex reconstruction in the BM@N experiment

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The BM@N (Baryonic Matter at the Nuclotron) is a working experiment at the NICA (Nuclotron-based Ion Collider fAcility) complex. The first physics runs with beams of argon and krypton (BM@N setup) as well as with beams of carbon (SRC setup - extension of the BM@N physics program) were carried in 2018.

One of the prerequisites for physics analysis of experimental data is the existence of the primary vertex position estimation. Current report describes the proposed algorithm to reconstruct the primary vertex using the virtual planes method. The results of this algorithm for different targets, beams and trigger conditions are presented. The sensitivity of presented method to its parameters is considered.

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