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Nuclear fragments reconstruction in C-p reactions in the SRC setup of the BM@N experiment.

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The Short Range Correlation (SRC) program is the extension of the BM@N (Baryonic Matter at Nuclotron) experiment. It studies interactions of carbon beam with a liquid-hydrogen target. The data analysis in the SRC experiment requires a comparison of experimental data with Monte-Carlo information. Due to various reason the procedure of simulation doesn't reproduce the experiment in some details. In the report the steps made to solve this problem are presented. Firstly, the influence of signal thresholds and variance of electron avalanche radius in Gas Electron Multipliers (GEM) on hit residuals and cluster width in GEMs were investigated in order to make the Monte Carlo data more realistic. The simulation chain was also modified by adding Beam Counters (BC). It allows us to determine the total outgoing charge of event and distinguish the fragments obtained in the MC procedure. All changes were made according to the experimental data. Algorithm of the vertex finder was improved in reconstruction of experimental cases, so the interactions on the target construction are excluded from experimental data during analysis.
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