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## Misalignment influence on the track reconstruction in the MPD TPC

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A method of determining the position of the readout sectors of a time projection chamber using experimental data is proposed. Considering the results of modeling the response of sensitive elements of the time projection chamber of the multipurpose detector (MPD), three types of tracks were reconstructed: cosmic muons, beams of the laser detector system, and muons from the interaction of nuclei. The accuracy of the MPD TPC alignment finding is investigated in MC events with different types of tracks. For the Time Projection Camera, a measure of deviation of the used alignment from the real one is introduced. The simulation of track reconstruction shows the systematic dependence of the reconstructed  $p_T$  on its value. The systematic shift depends on the track projection width which is a function of the gas and the electric field in the camera. The developed alignment tools for the MPD TPC allow to estimate its value using experimental data and to introduce the correction in the reconstructed track parameters. The influence of the misalignment on reconstructed track parameters is low

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