

Development of detailed ROOT geometry for the inner tracker detectors in the BM@N experiment

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The configuration of the basic detectors (Forward Si and GEM), included in the inner tracking system of the BM@N setup, has to be improved in order to be in compliance with requirements of the forthcoming experimental runs that will be held in 2021-2022. The preliminary estimation of geometric efficiency for the next configurations of tracking detectors is made with simulation procedure based on using ROOT geometry. Therefore, it is important to take into account not only sensitive planes but also passive elements such as frames, electronics, different material layers inside gas-filled chambers and others. In the report two versions of ROOT geometry for each detector configuration are presented. The first one is simplified geometry consisting of only sensitive planes and some basic frames. The second version is detailed, more realistic, geometry that comprises constructive elements (passive volumes of various materials). Also, comparison of these geometries in terms of material budget is given in the report.

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