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Silicon Tracking Systems for BM@N and MPD experiments at NICA

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A current status of activities towards large aperture silicon tracking systems for the BM@N stage 2 and MPD experiments at NICA is presented. In 2020 it is planned to upgrade existing tracking system of BM@N experiment based on GEM detectors by installing additional four stations of silicon detectors. These stations will be based on double-sided microstrip silicon sensors and fast readout electronics developed for CBM experiment at FAIR. Such system will provide a spatial resolution less than $25\ \mu\text{m}$ and material budget per one station less than $1.5\% X_0$ and will improve sufficiently tracking reconstruction efficiency of the BM@N tracking system. Inner tracker (IT) of MPD experiment will be based on ALPIDE chip, a CMOS Monolithic Active Pixel Sensor being developed for the Upgrade of the ITS of the ALICE experiment at CERN. Design of the IT is now under discussion and first results of the Monte Carlo simulations for different system configurations were made.

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