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READOUT ELECTRONICS OF THE SILICON TRACKING SYSTEM OF THE BM@N EXPERIMENT AT NICA

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BM@N experiment at NICA in Dubna is currently being upgraded for the study of dense nuclear matter in heavy-ion collisions. One of the major upgrades is a new hybrid tracking system consisting of large-area Silicon Tracking System (STS) and seven GEM planes. The STS contains four tracking stations equipped with double-sided micro-strip silicon sensors of CBM-type. To collect data from 600 000 channels, a state-of-art data acquisition system (DAQ) based on the STS-XYTER ASIC and supporting the GBT data transmission protocol is being developed and tested. The standalone, initially self-triggered STS data acquisition system must be able to operate on a trigger and be integrated into the global DAQ of the BM@N experiment. Front-end electronics, electrical connections, data concentrator and architecture of data processing board are described in the report. The results of testing of a pilot version of the readout chain are presented.
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