

## TRACKING MODULES WITH DSSD SENSORS FOR THE BM@N EXPERIMENT

D. Dementev<sup>1</sup>, A. Sheremetev<sup>1</sup>, I. Rufanov<sup>1</sup>, M. Shitenkov<sup>1</sup>, V. Leontyev<sup>2</sup>, Yu. Murin

<sup>1</sup>*Joint Institute for Nuclear Research*; <sup>2</sup>*Lomonosov Moscow State University*

E-mail: [dementiev@jinr.ru](mailto:dementiev@jinr.ru)

Modules with a double-sided silicon microstrip sensors are the back-bone components of the future wide-aperture Silicon Tracking System of BM@N experiment. The main features of this module are the fast readout electronics based on STS-XYTER ASIC and the usage of low mass (0.23% X<sub>0</sub>) aluminum micro-cables for the transfer of analog signals from the sensor strips to the input channels of the readout electronics. The results of tests of the tracking modules with 1 GeV proton beams at the SC-1000 accelerator at PNPI are presented. Stable operation of the readout electronics at occupancies, which are close to the maximum values - 360 kHz sec<sup>-1</sup> cm<sup>-2</sup> was demonstrated. The Signal-to-Noise ratio for the module is more than 23. The measured coordinate resolution of the modules within the beam telescope is  $17 \pm 0.4$   $\mu$ m, and the detector registration efficiency for protons with energy of 1 GeV is more than 99%.