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Strangeness production in carbon-nucleus and argon-nucleus interactions at BM@N

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The BM@N (Baryonic Matter at Nuclotron) is the first experiment started at the accelerator complex of NICA-Nuclotron. The aim of the BM@N experiment is to study interactions of relativistic heavy ion beams with fixed targets. The scientific program comprises studies of nuclear matter in the intermediate energy range between experiments at the SIS-18 and NICA/FAIR facilities. The BM@N experiment has recorded first experimental data with the carbon, argon and krypton beams at the kinetic energy from 2.4 to 4.5 AGeV. First physics results on strangeness production are presented including the measurements of the Lambda hyperon yields in carbon-nucleus interactions at the beam kinetic energies of 3.5, 4.0 and 4.5 AGeV. The yields of positive kaons and pions and the ratios of their production rates in interactions of the 3.2 AGeV argon beam with fixed targets are also presented. The configuration of the BM@N detector setup for the future heavy ion program is shown.

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