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Performance of the Time-of-Flight detector systems at the BM@N experiment

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BM@N is the first experiment at the NICA accelerator complex, aimed at studying baryonic matter under high-density conditions. This allows researchers to probe the equation of state (EOS) and explore the properties of this matter, including the potential discovery of new high-density phases. For identifying charged particles in BM@N, two time-of-flight systems, TOF400 and TOF700, are utilized. During the first physical run in 2022-2023 more than 550 million events of Xe+CsI collisions were collected. Accurate particle identification requires precise time-of-flight measurements, necessitating regular calibrations to ensure the systems maintain their high time resolution. This presentation will cover the calibration process and performance of the TOF400 and TOF700 systems after the physical run.

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