Contribution ID: **263** Type: **Oral talk (15 min + 5 min questions)**

Commissioning of the forward detectors to measure spectators in nucleus-nucleus reactions at the BM@N

Thursday, 14 July 2022 17:09 (20 minutes)

The BM@N (Baryonic Matter at Nuclotron) is a fixed target experiment at the NICA-Nuclotron (JINR, Dubna, Russia) accelerator complex designed to study the properties of the dense nuclear matter produced in the nucleus-nucleus collisions. Several forward detectors have been developed and constructed at the INR RAS. These detectors are the Forward Hadron Calorimeter (FHCal), the Scintillation Wall (ScWall) and the Beam Hodoscopes (BH).
The FHCal is a lead/scintillator sampling hadron calorimeter with modular design and longitudinal module segmentation. The calorimeter has a hole in the center for the passage of the beam particles that did not interact with the target through the calorimeter. The ScWall consists of scintillator tiles and is designed to detect the charged fragments from nucleus-nucleus reactions. The BHs are designed for detection of heaviest nuclear fragments and non-interacting beam ions. They will be installed on the entrance of the FHCal and will cover the beam hole of the calorimeter. The BHs consist of optically isolated scintillator or quarz bars with light collection from both ends. All forward detectors have light detection performed by silicon photomultipliers. Signals are amplified and digitized with fast sampling ADCs.
The status of development and construction of the forward detectors for the BM@N experiment will be presented. Performance of the forward detectors and their calibration during the Short Range Correlations (SRC) run period at the BM@N will be discussed.

The speaker is a student or young scientist

No

Section

1. Intermediate and high energies, heavy ion collisions

Primary author: IZVESTNYY, Alexander (INR RAS)

Co-authors: GOLUBEVA, Marina (INR RAS); Dr GUBER, Fedor (INR RAS); IVASHKIN, Alexander (INR RAS); KARPUSHKIN, Nikolay (INR RAS); MAKHNEV, Aleksandr (Institute for Nuclear Research of the Rusian Academy of Sciences); MOROZOV, Sergey (INR RAS); PETUKHOV, Oleg (INR RAS); VOLKOV, Vadim (INR RAS, MIPT)

Presenter: IZVESTNYY, Alexander (INR RAS)

Session Classification: Intermediate and high energies, heavy ion collisions