



Contribution ID : 762

Type : Oral talk

Application of Machine Learning methods for centrality determination in heavy ion reactions at the BM@N and MPD@NICA

Friday, 9 October 2020 17:25 (15)

Forward hadron calorimeters in heavy ion experiments are used to determine the centrality and orientation of reaction plane in nucleus-nucleus collisions. In BM@N and MPD@NICA experiments hadron calorimeters with a beam hole in the center will be used, which is motivated by high radiation doses at the BM@N and by the design of the MPD collider experiment. This feature makes it impossible to determine centrality from the total energy deposition in the calorimeter. Therefore, an approach using machine learning methods was developed to solve the centrality problem. This approach uses information on the energy distribution of spectators over the calorimeter surface. The report is dedicated to the description of the new approach for centrality determination. The results of applying the approach to the simulation data for the BM@N and MPD@NICA experiments will be shown.

Primary author(s) : KARPUSHKIN, Nikolay (russian)

Presenter(s) : KARPUSHKIN, Nikolay (russian)

Session Classification : Heavy Ion Physics

Track Classification : Heavy Ion physics