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Convolutional neural networks in determining centrality by front hadron calorimeters in heavy ion reactions

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The geometry of collisions in experiments with heavy ions can be determined by forward hadron calorimeters. The forward hadron calorimeters of the BM@N and MPD experiments have a design feature, namely, the presence of a hole for the beam in the center of the detector. This feature leads to the need to develop special methods for determining centrality, one of which is the use of machine learning tools. The report is devoted to the description of the application of convolutional neural networks to determine centrality.

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