

Graph neural network application to the particle track reconstruction for data from the GEM detector

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Tracking particles is a challenging problem in modern high-energy physics detectors producing a vast amount of data, such as experiments on the future NICA collider. Particle track reconstruction is one of the important parts of such experiments, but existing tracking algorithms do not scale well with a growing data stream. In the same time, new effective tracking methods based on graph neural network (GNN) are actively developed and tested in the HEP.TrkX project at CERN. We introduce our GNN approach for the GEM detector of BM@N experiment of the NICA megaproject. Our approach is well-adapted for solving the known fake hit problem inherent to strip detectors like GEM. Preliminary results are presented.

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