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Neural Generative Modeling of the Time Projection Chamber responses at the MPD detector

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The accurate modeling of detector responses in high energy physics experiments is crucial for obtaining reliable physical results.However, nowadays, with the increasing luminosity of modern particle accelerators, the modelling requirements are growing faster than the available computational resources. Therefore, faster methods for modeling of detectors needs to be developed.
In this presentation, we discuss generative-adversarial neural networks in context of modelling the response of the Time Projection Chamber (TPC) for the Multi-Purpose Detector (MPD) at the NICA accelerator complex. We emphasize typical problems on this way and possible approaches of resolving them.

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