

Using Machine Learning to control the GlueX Central Drift Chamber

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Machine learning (ML) is becoming more widely used in nuclear physics, often used to complement or replace conventional data analysis, eg for detector calibration, track reconstruction and particle identification, but it is rarely used for detector control. We developed a ML model and incorporated it into software to control the anode voltage of the GlueX Central Drift Chamber in order to stabilize its gain, which would otherwise vary considerably with the atmospheric pressure. This system has been used for recent experiments in Hall D at Jefferson Lab. Its development and deployment will be described.

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