

## Sesto Incontro Nazionale di Fisica Nucleare



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# AI application to hadron spectroscopy

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Generative models driven by artificial intelligence (AI) have been successfully used in several fields. In this contribution I will present the idea behind the A(i)DAPT (AI for Data Analysis and Data PreservaTion) working group. Our objective is to study how AI can be used to address the main challenges in Nuclear Physics and High Energy Physics measurements: unfolding detector effects and preserve information when working on large, multi-dimensional datasets.

I will present the closure test results based on MC simulations in CLAS g11 experiment kinematics, where AI-supported generative models were able to reproduce highly correlated multi differential distributions in the presence of detector induced distortions. I will also show the current progress in expanding this study towards more complex processes, such as CLAS12 two pion electroproduction, and its use in data analysis.

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