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The MadNIS Reloaded –Boosting MG5AMC with Neural Networks

Tuesday 14 November 2023 09:30 (30 minutes)

We combine machine-learned multi-channel weights with a normalizing flow for importance sampling to improve classical methods for numerical integration. By integrating buffered training for potentially expensive integrands, VEGAS initialization, symmetry-aware channels, and stratified training, we elevate the performance in both efficiency and accuracy of the MadNIS framework. We empirically validate these enhancements through rigorous tests on diverse LHC processes, including VBS and W+jets

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Session Classification: Phase-space sampling