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Better LHC measurements through information geometry

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Tools from information geometry can be used to understand and optimize LHC measurements. Our approach is based on the Fisher information, which encodes the maximum precision with which theory parameters can be measured in a given experiment. We show how the Fisher information in LHC processes can be calculated, and demonstrate how information geometry lets us improve event selections, determine the most powerful observables, and compare the power of modern multivariate techniques to that of traditional histogram-based analyses.

Summary

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