

Computing Yukawa couplings from string theory

Wednesday 9 July 2025 11:00 (30 minutes)

I will discuss how to compute Yukawa couplings in realistic heterotic string models, using machine learning techniques. More specifically, I will explain how training of neural networks can be used to find the main geometrical ingredients of string theory Yukawa couplings, namely approximate Ricci-flat metrics on Calabi-Yau manifolds, Hermitian Yang-Mill connections and harmonic bundle-valued forms. The techniques are illustrated for a specific string model with a low-energy standard model spectrum.

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