Learning Yukawa Couplings from String Theory

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Abstract

I will review attempts to determine Yukawa couplings of quarks and leptons directly from string theory. Machine learning methods can be used to compute Yukawa couplings "top-down", for a given locus in moduli space. Alternatively, one can follow a complementary "bottom-up" approach, which amounts to a string theory version of Froggatt-Nielsen model building. Two models whose Yukawa couplings are consistent with the observed lepton and quarks masses as well as the CKM matrix have recently been found in this way. I will also briefly mention new computational tools which have been developed in this context.

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