Non-invertible selection rules in magnetized orbifold models

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Abstract

In string theory on orbifolds, some string states can be labeled by conjugacy classes of a group rather than its element due to the identification of string states under the orbifold twist. In the type IIB magnetized D-brane models on T2/Z_N with magnetic fluxes, the Z_N invariant momentum operators obey non-invertible fusion rules under which degenerate chiral zero-modes non-trivially transform under the non-invertible symmetries. By using non-invertible selection rules, we can obtain various textures for the Yukawa couplings.

Keywords: Non invertible selection rules, Magnetized D brane models, Yukawa matrices

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