Generalised discrete torsion at genus two

Giorgio Leone*[1], Carlo Angelantonj[2], and Diego Perugini[3]

[1]Università degli Studi di Padova – Italy
[2]Università degli Studi di Torino – Italy
[3]Institut de Physique Théorique - UMR CNRS 3681 (IPHT) – Université Paris-Saclay, Centre National de la Recherche Scientifique, Direction de Recherche Fondamentale (CEA) – Institut de Physique ThéoriqueOrme des Merisiers batiment 774 Point courrier 136 CEA/DSM/IPhTCEA/Saclay F-91191 Gif-sur-Yvette Cedex, France

Abstract

A generalised discrete torsion is a generalisation of the ordinary discrete torsion for suitable orbifold compactifications, where different local phases are allowed for different fixed points. Although these additional configurations give rise to modular invariant partition functions at one loop, their consistency at higher genera was still unclear. In this talk, I will present the construction of the Tˆ6/Z2 x Z2 orbifold partition function at genus two, and I will discuss the constraints imposed by two-loop modular invariance on the local phases. This talk is based on a work in progress with Carlo Angelantonj and Diego Perugini.

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*Speaker