

Topological Strings on Mirror Curves of Genus Two and Siegel Modular Forms

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Topological string theory on non-compact geometries has been studied for many years and continues to provide insight in the most diverse areas of mathematical physics. However, at higher worldsheet genus the theory has only been solved for geometries with mirror curves of genus one, where a rich modular structure lies at hand. We present a new almost meromorphic Siegel modular object which provides the generator for higher genus free energies and describe Solutions for two geometries. In particular this gives rise to a generalised Ramanujan identity which reflects the physical conditions on the generator.

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