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Geometry as seen by string theory*

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Abstract. This is an introductory review of the topological string theory from physicist's perspective. I start with the definition of the theory and describe its relation to the Gromov–Witten invariants. The BCOV holomorphic anomaly equations, which generalize the Quillen anomaly formula, can be used to compute higher genus partition functions of the theory. The open/closed string duality relates the closed topological string theory to the Chern–Simons gauge theory and the random matrix model. As an application of the topological string theory, I discuss the counting of bound states of D-branes.

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