

# Topological strings in generalized complex space

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## Abstract

A two-dimensional topological sigma-model on a generalized Calabi–Yau target space  $X$  is defined. The model is constructed in a Batalin–Vilkovisky formalism using only a generalized complex structure  $\mathcal{J}$  and a pure spinor  $\rho$  on  $X$ . In the present construction, the algebra of  $Q$ -transformations automatically closes off-shell, the model transparently depends only on  $\mathcal{J}$ , the algebra of observables and correlation functions for topologically trivial maps in genus zero are easily defined. The extended moduli space appears naturally. The familiar action of the twisted  $\mathcal{N} = 2$  conformal field theory (CFT) can be recovered after a gauge fixing. In the open case, we consider an example of generalized deformation of complex structure by a holomorphic Poisson bivector  $\beta$  and recover holomorphic noncommutative Kontsevich  $*$ -product.

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