High Energy Physics - Theory

Non-geometric Fluxes, Asymmetric Strings and Nonassociative Geometry

Ralph Blumenhagen, Andreas Deser, Dieter Lust, Erik Plauschinn, Felix Rennecke

(Submitted on 1 Jun 2011)

We study closed bosonic strings propagating both in a flat background with constant H-flux and in its T-dual configurations. We define a conformal field theory capturing linear effects in the flux and compute scattering amplitudes of tachyons, where the Rogers dilogarithm plays a prominent role. For the scattering of four tachyons, a fluxed version of the Virasoro-Shapiro amplitude is derived and its pole structure is analyzed. In the case of an R-flux background obtained after three T-dualities, we find indications for a nonassociative target-space structure which can be described in terms of a deformed tri-product. Remarkably, this product is compatible with crossing symmetry of conformal correlation functions. We finally argue that the R-flux background flows to an asymmetric CFT.

Comments:	37 + 15 pages, 2 figures
Subjects:	**High Energy Physics - Theory (hep-th)**; Mathematical Physics (math-ph)
Report number:	MPP-2011-59, LMU-ASC 17/11, ITP-UU-11/20, SPIN-11/15
Cite as:	**arXiv:1106.0316 [hep-th]** (or **arXiv:1106.0316v1 [hep-th]** for this version)

Submission history

From: Erik Plauschinn [view email]
[v1] Wed, 1 Jun 2011 20:36:25 GMT (48kb)

Which authors of this paper are endorsers?