



## D1-brane in Constant R-R 3-form Flux and Nambu Dynamics in String Theory

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We consider D1-string in a constant R-R 3-form flux background and analyze its low energy limit. The leading order low energy theory has reparametrization symmetry and is a generalization of an earlier work by Takhtajan. We show that the dynamical evolution of the theory takes a generalized Hamiltonian form in terms of a Nambu bracket. This description is formulated in terms of reparametrization invariant quantities and requires no fixing of the reparametrization symmetry. We also show that a Nambu- Poisson  $(p + 2)$ -bracket arises naturally in the reparametrization invariant description of the low energy theory of a  $p$ -brane in a constant  $(p + 2)$ -form flux background. For example, our results apply for a fundamental string in a constant NS-NS 3-form flux  $H_3$  and an M2-brane in a constant 4-form flux  $F_4$ .

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