

DBI and Universal Hypermultiplet in N=2 Supersymmetry

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The effective action of string compactifications on Calabi-Yau manifolds can be described in 4d global N=2 supersymmetry in the gravity-decoupling limit. Adding D-branes brakes half of the supersymmetry, which is then nonlinearly realised on their worldvolume. I will describe the coupling of the DBI action for the D-brane gauge field to the Universal Hypermultiplet. Taking into account the Heisenberg symmetry of string perturbation theory uniquely fixes the form of the action, thus providing a consistent effective theory description of (the brane-dilaton sector of) string compactifications. The analysis of this system shows some interesting dynamics.

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