7D (non-)susy vacua & DWs from dynamical open strings

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Abstract

We describe the effect of introducing open string degrees of freedom (scalars and fluxes) associated with spacetime-filling branes/orientifold planes in dimensional reductions of massive type IIA supergravity on a 3-sphere with warping. The corresponding supergravity description in 7 dimensions needs extra vector multiplets coupled to the gravity multiplet and new embedding tensor components parametrizing the possible gaugings. The scalar potential of such theory exhibits novel AdS
vacuum solutions, with and without supersymmetry. The analysis of domain wall solutions interpolating between the different pairs of vacua allows to identify analytical as well as numerical solutions, providing additional information about the stability and possible non-perturbative transitions between vacua.

Keywords: Flux compactifications, Supergravity vacua, open strings

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