Contribution ID: **499** Type: **Oral (Student, In Competition) / Orale (Étudiant(e), inscrit à la compétition)**

Linear perturbations of type IIB SUGRA in flux compactifications

Wednesday 17 June 2015 09:45 (15 minutes)

We consider linear perturbations of the background type IIB SUGRA solutions and find the equations of motion for the moduli. In particular, we allow for spacetime fluctuations of the positions of the D3-branes in the compact dimensions. We postulate an ansatz for the 5-form flux due to the motion of the D3-branes, and a corresponding first-order part of the metric. The movement of the D3-branes is then shown to affect the warp factor at linear order. Using the equations of motion for the D3-branes, the universal volume modulus, and the universal axion, we construct a second-order, effective action. Finally, based on the form of the effect action, we examine a Kahler potential for the moduli space.

Author: COWNDEN, Bradley (University of Manitoba)

Co-authors: Prof. FREY, Andrew (University of Winnipeg); Prof. UNDERWOOD, Bret (Pacific Lutheran University)

Presenter: COWNDEN, Bradley (University of Manitoba)

Session Classification: W1-4 Gravity I (DTP) / Gravité I (DPT)

Track Classification: Theoretical Physics / Physique théorique (DTP-DPT)