# Calibration, fuzziness: new results on AdS vacuum decay

Vincent Menet*[1] and Alessandro Tomasiello[2]

[1]Dipartimento di Fisica "Giuseppe Occhialini" = Department of Physics "Giuseppe Occhialini" [Milano-Bicocca] – Piazza delle Scienze 3 - I-20126 Milano, Italy
[2]Università degli Studi di Milano-Bicocca = University of Milano-Bicocca (UNIMIB) – Piazza dell'Ateneo Nuovo, 1 - 20126, Milano, Italy

**Abstract**

Motivated by swampland conjectures, we study the stability of AdS type II supergravity vacua. In the literature, vacuum decay mediated by abelian D-branes has been discussed extensively, while this isn't quite the case for both the D-brane bound states, and their non-abelian counterparts. In this context, we first present a tool to study large classes of D-branes and bound states, based on calibration theory, and then discuss vacuum decay mediated by weakly non-abelian D-branes. We illustrate our results by applying them to a few concrete AdS vacua.

**Keywords:** Swampland, String Compactifications, D branes

*Speaker