Contribution ID: **1** Type: **not specified**

Swampland conjectures for higher spin AdS3 gravity

Thursday 17 October 2024 16:05 (10 minutes)

We give Swampland constraints on the three dimensional Landscape of Anti-de Sitter higher spin gravity in the Chern-Simons formulation with connection valued in various split real forms of Lie algebras. We derive the finiteness conjecture by computing the upper bound on the rank of possible gauge groups then we refine it using the AdS distance conjecture. We discuss the implications of this Swampland constraint on the spectrum of higher spin gravity theories and we contrast it with the gravitational exclusion principle, required from BTZ black hole consideration, to excerpt a constraint on the Chern-Simons level k. The relevance and potential extensions of these results to 4D theories will be addressed as well.

Keywords: Swampland program, Quantum gravity, AdS3 Landscape, Higher spin gravity, BTZ black hole, AdS/CFT correspondence.

Author: SAMMANI, Rajae

Co-authors: Prof. SAIDI, El hassan; Prof. AHL LAAMARA, Rachid

Presenter: SAMMANI, Rajae