Tensionless String Limits in AdS5/CFT4 and the Sharpened Distance Conjecture

Gabriel Fenati*†[1], Miguel Montero‡[1], and Irene Valenzuela§[2,1]

[1]Instituto de Física Teórica UAM/CSIC (IFT) – C/ Nicolás Cabrera 13-15, Campus de Cantoblanco, 28049 Madrid Spain, Spain

[2]CERN Theoretical Physics Department – CERN dep TH, 1211 Geneve 23, Switzerland, Switzerland

Abstract

Based on work in progress with M. Montero and I. Valenzuela. We extend the results of (2410.07309) by showing that all 4d Lagrangian SCFTs satisfy the bound of the Sharpened Distance Conjecture in the large N limit. We also provide an example of a quiver SCFT, dual to a Planckian AdS background, where the bound is violated by taking a different kind of semi-classical limit, in which the number of gauge factors is taken to be large at fixed N.

Keywords: Swampland Program, Distance Conjecture, AdS/CFT, String theory

*Speaker

†Corresponding author: gabriel.fenati@ift.csic.es

‡Corresponding author: miguel.montero@csic.es

§Corresponding author: irene.valenzuela@uam.es