T-dualities and scale-separated AdS3 in massless IIA

George Tringas*[1]

[1]Lehigh University – United States

Abstract

In this presentation we discuss new scale-separated solutions of massive type IIA supergravity on a G2-holonomy toroidal orbifold with four smeared O6-planes. We analyze their properties and perform a double T-duality to obtain the corresponding massless backgrounds. In the dual frame, the internal space is locally given by a six-dimensional quotient space X6 with an SU(3)-structure of Iwasawa type times an untwisted circle S1. Globally, it is further modded out by a non-trivial Z2 quotient inherited from the G2 orbifold action. Finally, we present the corresponding superpotential in massless type IIA and identify parametrically controlled families of classical scale-separated solutions, including a family with parametrically large internal radii, scale separation, and strong coupling that admits an uplift to eleven-dimensional supergravity.

*Speaker