Quantum obstructions in Type IIA orientifolds

Lukas Kaufmann*[1]

[1]University of Hamburg – Germany

Abstract

We study quantum corrections to classical infinite distance limits in the vector multiplet sector of Type IIA orientifolds with minimal supersymmetry in four dimensions. We use the uplift to M-theory on G2 manifolds to argue for a quantum obstruction to all large volume Kähler limits at constant 4d dilaton. Furthermore, we argue for the absence of any light towers of states in these limits, signaling that these classical infinite distance limits become finite distance limits in the quantum theory. We close by relating the Type IIA/ M-theory perspective to the Type IIB/ F-theory viewpoint on 4d N=1 theories.

*Speaker