Weak/strong gauge duality in M-Theory on K3xK3

ASP2024 alumni online presentations (2)

Thursday 17 October 2024 16:44 (10 minutes)

Testing the Swampland conjectures in the context of string theory on Calabi-Yau threefolds has led to interesting results, both mathematically and physically. We generalize results of fibration structure of Calabi-Yau fourfold with finite volume in infinite distances in the moduli space. By applying these results to compactifications of M-theory on K3xK3 we relate weak coupling and strong coupling regimes to each other, which allows for non perturbative treatement of the three dimensional Effective field theory. This allows testing the Asymptotic Weak Gravity Conjecture in three dimensions.

Author: CHARKAOUI, Mohammed (Faculté des sciences Université Mohammed V)

Co-authors: SAIDI, El Hassan (Faculté des sciences Université Mohammed V); AHL LAAMARA, Rachid (Faculté des sciences Université Mohammed V); SAMMANI, Rajae (Faculté des sciences Université Mohammed V)

Presenter: CHARKAOUI, Mohammed (Faculté des sciences Université Mohammed V)