Futaki invariants and harmonic metrics for the Hull-Strominger system

Raúl Gonzalez Molina
UAM-ICMAT

Abstract:

It has been proposed by Yau that the Hull-Strominger system should serve as a geometrization tool for understanding the moduli of Calabi-Yau threefolds via conifold transitions in the program of 'Reid's fantasy'. In this talk we will use generalized geometric elements to codify the data of a solution in a holomorphic Courant algebroid satisfying a Hermite-Einstein condition, and to extract Futaki invariants as a consequence. This way we provide new non-trivial obstructions for the existence of solutions to the system. Time permitting, we will discuss some directions towards a GIT picture of the moduli of Courant algebroids suitable to this problem.