

A derived category approach to some moduli spaces on cubic threefolds and fourfolds.

P. Stellari
(Università degli Studi di Milano)

We exploit the homological properties and the geometric meaning of Kuznetsov's semiorthogonal decomposition of the derived categories of cubic fourfolds (and threefolds) to study the (birational) geometry of some interesting moduli spaces on such varieties. We will start working out the very instructive example of the moduli space of stable aCM bundles of a given rank on a cubic threefold. Then we will discuss our main result concerning the case of generalized twisted cubics on cubic fourfolds not containing a plane. We will show that we can recover the picture by Lehn-Lehn-Sorger-van Straten in terms of moduli spaces of (weakly) stable sheaves/complexes.

This is joint work with M. Lahoz, M. Lehn, and E. Macrì.