Moduli spaces of relatively semi-stable sheaves on some Calabi-Yau-type 3-folds

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Abstract

Let X be a compact 3-dimensional manifold which is an elliptic principal bundle over a compact complex surface with trivial canonical bundle. We assume that this fibration is not trivial (thus it is not Kähler). Using a Fourier-Mukai transform between the bounded derived category of coherent sheaves on X and a category of coherent twisted sheaves on its relative Jacobian (inspired by the work of A. Căldăraru) we are able to give a description of the moduli spaces of relatively semi-stable sheaves on X.

Some results presented here are the object of the paper V.Brînzănescu, A.D. Halanay, G. Trautmann, *Vector Bundles on non-Kähler Calabi-Yau type 3-folds*, arXiv:1008.3365 and the author's Ph.D. Thesis.

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