STABILITY OF LINE BUNDLES ON SOME ELLIPTIC SURFACES

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Abstract: Abstract: Donaldson and Uhlenbeck-Yau established the classical result that on a compact Kahler manifold, an irreducible holomorphic vector bundle admits a Hermitian metric solving the Hermitian-Yang-Mills equation if and only if the vector bundle is Mumford-Takemoto stable. A modern analog of this question was posted by Collins-Yau. In this talk, we will first discuss a partial answer to this modern analog for a set of line bundles on a Weierstrass elliptic K3 surface. An important ingredient in the proof is an autoequivalence on the elliptic K3 surface, the relative Fourier-Mukai transform. We will further explore the effect of another autoequivalence, the spherical twist, on stability conditions. This is based on joint works with Tristan Collins, Jason Lo, and Shing-Tung Yau.

See `http://math.bu.edu/research/geom/seminar.html` or contact Yu-Shen Lin (*yslin@bu.edu*) or Brian Williams (*bwill22@bu.edu*) for more information.