BRIDGELAND STABILITY CONDITIONS ON THE CATEGORY OF HOLOMORPHIC TRIPLES

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Abstract

A holomorphic triple (E_1, E_2, φ) on a smooth projective curve C over the complex numbers, consists of a pair of coherent sheaves $E_1, E_2 \in \mathrm{Coh}(C)$ and a morphism $\varphi\colon E_1 \to E_2$. We consider the abelian category $\mathrm{TCoh}(C)$ of holomorphic triples. The aim of this talk is to study Bridgeland stability conditions on $D^b(\mathrm{TCoh}(C))$, including the stability conditions on $\mathrm{TCoh}(C)$ studied by Bradlow and García-Prada. Using semiorthogonal decompositions and the Serre functor on $D^b(\mathrm{TCoh}(C))$, we describe completely the stability manifold $\mathrm{Stab}(\mathrm{TCoh}(C))$. This is partly joint work with Eva Martínez Romero and Arne Rüffer.

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