# BRIDGELAND STABILITY CONDITIONS ON THE CATEGORY OF MORPHISMS

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Abstract

A triple $(E_1, E_2, \varphi)$ on a abelian category $\mathcal{A}$, consists of a pair of objects $E_1, E_2 \in \mathcal{A}$ and a morphism $\varphi \in \mathrm{Hom}_{\mathcal{A}}(E_1, E_2)$. We consider the abelian category $\mathrm{Mor}_{\mathcal{A}}$ of triples on $\mathcal{A}$. The aim of this talk is to study Bridgeland stability conditions on $\mathcal{T}_{\mathcal{A}} = D^b(\mathrm{Mor}_{\mathcal{A}})$ by using semiorthogonal decompositions and the Serre functor on $\mathcal{T}_{\mathcal{A}}$. We focus on the case $\mathcal{A} = \mathrm{Coh}(C)$, where $C$ is a smooth projective curve with $g(C) \geq 1$. We describe completely the stability manifold $\mathrm{Stab}(\mathcal{T}_{\mathrm{Coh}(C)})$. This is partly joint work with Eva Martínez Romero and Arne Rüffer.

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