BRANES ON G-MANIFOLDS

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Abstract. Let $X$ be Calabi-Yau manifold acted by a group $G$. We give a definition of $G$-equivariance for branes on $X$, and assign to each equivariant brane an element of the equivariant cohomology of $X$ that can be considered as a charge of the brane. We prove that the spaces of strings stretching between equivariant branes support representations of $G$. This fact allows us to give formulas for the dimension of some of such spaces, when $X$ is a flag manifold of $G$.

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1. Introduction

Let $X$ be a compact Kähler $n$-manifold analytically acted by a Lie group $G$. Some objects related with $X$ admit an “equivariant” version, when they are equipped with a $G$-action compatible with its structure, for example, the equivariant vector bundles on $X$.