



Moduli Spaces of Γ -invariant Vector Bundles

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Abstract

In this talk, we explore the moduli spaces of semistable Γ -invariant vector bundles on a smooth complex curve X , where Γ is a finite group acting via a Galois cover $X \rightarrow Y$. We focus in particular on the connected components of these moduli spaces. We then introduce a corresponding Hitchin system on the moduli space of invariant bundles and, in the case of smooth spectral curves, provide an explicit description of the Hitchin fibers: they are given by Γ -invariant line bundles on the spectral curve, equipped with a compatible Γ -action. This is joint work with Dr. Zakaria Ouaras.

Keywords: *Algebraic geometry, Moduli spaces, Vector bundles, Higgs bundles, Hitchin system, Galois cover.*
