

Geometry & Topology Seminar

2015/09/17 Elisheva Adina Gamse

Title: Vanishing relations in the cohomology of the moduli space of parabolic bundles

Abstract: Let Σ be a compact connected oriented 2-manifold of genus g , and let p be a point on Σ . We define a space $Sg(t)$ consisting of certain irreducible representations of the fundamental group of $\Sigma - p$, modulo conjugation by $SU(N)$. This space has interpretations in algebraic geometry, gauge theory and topological quantum field theory; in particular if Σ has a Kähler structure then $Sg(t)$ is the moduli space of parabolic vector bundles of rank N over Σ . We construct tautological line bundles on $Sg(t)$ and prove that the ring generated by their Chern classes vanishes above a certain degree. This is joint work with Jonathan Weitsman.