

1125-51-2305

Elisheva Adina Gamse* (adina.gamse@utoronto.ca). *Vanishing theorems in the cohomology ring of the moduli space of parabolic bundles.*

Let Σ be a compact connected oriented 2-manifold of genus g , and let p be a point on Σ . We define a space $S_g(t)$ consisting of certain irreducible representations of the fundamental group of $\Sigma \setminus p$, 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 $S_g(t)$ is the moduli space of parabolic vector bundles of rank N over Σ .

For $N=2$, Weitsman considered a tautological line bundle on $S_g(t)$, and proved that the $(2g)$ th power of its first Chern class vanishes, as conjectured by Newstead. In this talk I will present his proof and then outline my extension of his work to $SU(N)$ and to $SO(2n + 1)$. (Received September 20, 2016)