HYPERPOLYGONS AND MODULI SPACES OF PARABOLIC HIGGS BUNDLES

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ABSTRACT

In this talk I will prove the existence of an isomorphism between two families of manifolds: hyperpolygon spaces and moduli spaces $\mathcal{H}$ of stable, rank-2, holomorphically trivial parabolic Higgs bundles over $\mathbb{CP}^1$ with fixed determinant and trace free Higgs field. Moreover I will analyze the fixed point locus of a natural involution on $\mathcal{H}$. Precisely, denote by (E, Φ) an element in $\mathcal{H}$ and consider the involution defined by $(E, \Phi) \mapsto (E, -\Phi)$. The fixed point locus of this involution is identified with the moduli spaces of polygons in Minkowski 3-space and the identification yields information on the connected components of the fixed point locus.

This is based on joint works with Leonor Godinho and with Indranil Biswas, Carlos Florentino and Leonor Godinho .