Seminar/Talk

Irreducible components of the global nilpotent cone

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Given a curve X of genus g, the moduli stack of Higgs sheaves of rank r and degree d is known to be of dimension 2(g-1)r^2. It can be viewed as the cotangent stack of the stack of coherent sheaves of type (r,d) over X, and Laumon proved that the substack of nilpotent Higgs pairs is Lagrangian. This substack is a global analog of the nilpotent cone, and is nothing but the 0-fiber of the Hitchin map. It is highly singular, and one first interesting step toward its comprehension is the study of its irreducible components. This study is also motivated by a result stating that the number of stable components is given by the value at 1 of the Kac polynomial of the quiver with one vertex and g loops (conjectured by Hausel, Letellier, Rodriguez Villegas, proved by Mellit), as well as by the W=P conjecture (de Cataldo, Hausel, Migliorini). I will give a nice combinatorial description of this set of components, and will explain which ones subsist when we restrict ourselves to the semistable locus (with respect to the usual slope stability).

Thursday, March 1, 2018 01:00pm - 03:00pm
Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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