CENTRO DE MATEMÁTICA
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

Complex Lagrangian subvarieties of the Higgs bundle moduli space

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Abstract. Given a complex reductive group G, the moduli space $M(G)$ of G-Higgs bundles on a curve has a natural hyperkähler structure and it comes equipped with an algebraically completely integrable system through the Hitchin fibration. These moduli spaces have played an important role in mirror symmetry and in the geometric Langlands program and thus it has become of particular interest the study of certain decorated special subvarieties (branes) of $M(G)$.

In this talk we discuss various aspects related to two classes of complex Lagrangians (or BAA-branes) inside $M(G)$; one arising from real forms of G and the other from symplectic representations of the group. Also, we indicate the difficulties in describing the dual brane (inside the Higgs bundle moduli space for the Langlands dual group) when a Fourier–Mukai transform is not known to exist and indicate in some examples possible ways around the problem.

FRIDAY, MAY 11	15H30	ROOM 1.09

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