CENTRO DE MATEMÁTICA
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

The moduli space of Higgs bundles over a real curve and the real Abel-Jacobi map

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Abstract. The moduli space M_C of Higgs bundles over a complex curve X admits a hyperkaehler metric: a Riemannian metric which is Kaehler with respect to three different complex structures I, J, K, satisfying the quaternionic relations. If X admits an anti-holomorphic involution, then there is an induced involution on M_C which is anti-holomorphic with respect to I and J, and holomorphic with respect to K. The fixed point set of this involution, M_R, is therefore a real Lagrangian submanifold with respect to I and J, and complex symplectic with respect to K, making it a so called AAB-brane. In this talk, I will explain how to compute the mod 2 Betti numbers of M_R using Morse theory. A key role in this calculation is played by the Abel-Jacobi map from symmetric products of X to the Jacobian of X.

FRIDAY, JUNE 02 **11:30** **ROOM 1.09**

Please note the unusual time

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MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

UID/MAT/00144/2013