QUASI-SPLIT REAL GROUPS AND THE HITCHIN MAP

ANA PEÓN-NIETO

Given a real semisimple algebraic group G, and a smooth complex projective curve X, we consider the moduli space of G-Higgs bundles over X, Higgs(G).

This moduli space fibers over a vector space via the Hitchin map h : Higgs$(G) \to B_G$. In the complex group case, h defines an algebraically completely integrable Hamiltonian system. For real groups, this fails to be the case, as, for example, the fibers are not abelian varieties or, even if they are, their dimension is not right.

In this talk I will explain the structure of the Hitchin map in the case of quasi-split real groups. These are the groups for which abelianization of the fibers holds. Moreover, the fibration admits a section determining a connected component with smooth points. I will use these results to derive topological invariants of the corresponding character variety.