



CENTRO DE  
**MATEMÁTICA**  
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

# The Narasimhan-Ramanan map on the moduli space of Higgs bundles

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**Abstract.** Let  $\mathcal{N}$  be the moduli space of rank two holomorphic vector bundles with fixed determinant of degree one on a curve of genus two. In a classic paper from 1969, Narasimhan and Ramanan proved that  $\mathcal{N}$  is isomorphic to a quadratic line complex, giving an identification of  $\mathcal{N}$  with an intersection of two quadrics in  $\mathbb{P}^5$ . Their construction uses Hecke modifications of vector bundles to define a map from  $\mathcal{N}$  to the Grassmannian of lines in the moduli space of bundles with trivial determinant, which they had shown to be isomorphic to  $\mathbb{P}^3$ . We generalize their construction to the nilpotent cones of the analogous moduli spaces of Higgs bundles, using Hecke modifications.

This is joint work with Dan Avritzer (UFMG).

FRIDAY, NOVEMBER 09

15H30

Room 1.09

**FCT** Fundação para a Ciência e a Tecnologia  
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



With the support of UID/MAT/00144/2013