"A p-adic analogue of a theorem of Narasimhan and Seshadri"

Abstract :

Given a compact Riemann surface, a classical theorem of of Narasimhan and Seshadri characterize vector bundles arising from unitary representations of the fundamental group as the polystable vector bundles of degree 0. Given a projective curve with good reduction over a local field of mixed charateristic 0-p, works of Faltings and Deninger-Werner associate semistable Higgs bundles of degree 0 to representations of the fundamental group. We explain some progress towards the question of characterizing which vector bundles arise in this way.