

Eleventh NRW Topology Meeting – Bielefeld (Germany)

Saturday, May 09, 2009

12.30, Hörsaal 3

Andrei Teleman (Marseille): **“Donaldson classes on instanton moduli spaces over negative definite 4-manifolds”**

The main difficulty in extending Donaldson theory to the class of negative definite 4-manifolds is the presence of reduction loci, which cannot be eliminated by perturbing the ASD equations.

We will show that, despite this difficulty, certain Donaldson cohomology classes and new Donaldson type invariants can be defined in this framework. Understanding these invariants (for instance deciding whether they are trivial or of topological nature) will give important information on the geometry of certain moduli spaces of polystable bundles over class VII surfaces. These moduli spaces are the fundamental objects used in our program to prove existence of curves on this class of complex surfaces.