SFB-Seminar

ZEIT:
30.11.2010, 16:00 Uhr - 19:00 Uhr

ORT:
HU
Institut für Sportwissenschaft
Philippstr. 13, 10115 Berlin (Mitte)
Haus 11, Hörsaal 5

PROGRAMM:

16:00 - 17:00 **Marcos Jardim (IMECC-UNICAMP Brazil)**

Moduli spaces of framed instantons sheaves on IPn
We generalize the ADHM construction of instantons to describe the moduli space of framed torsion-free
instanton sheaves on IPn, n ≥ 2. We then discuss instanton bundles on IP3 and describe the geometric
structure of their moduli space. If time allows, we shall also discuss perverse instanton sheaves.
This is joint work with Amar Henni and Renato Martins.

17:00 - 17:30 Kaffeepause/ Coffee Break

17:30 - 18:30 **Giovanni Landi (Universita di Trieste)**

Dimensional Reduction over the quantum projective line and non-abelian q-vortices
We extend equivariant dimensional reduction techniques to the case of quantum spaces which are the
product of a Kähler manifold M with a quantum Riemann sphere. We work out the reduction of bundles
which are equivariant under the natural action of the quantum SU(2) group, and also of invariant gauge
connections on these bundles. The reduction of Yang-Mills gauge

Kontakt:
Humboldt-Universität zu Berlin . Institut für Mathematik
SFB 647 . Unter den Linden 6 . 10099 Berlin
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727
sfb647@math.hu-berlin.de

theory on the product space leads to
q-deformations of the usual quiver gauge theories on M. In particular, we formulate generalized instanton
equations on the quantum space and show that they correspond to q-deformations of the usual
holomorphic chain vortex equations on M. We study some topological stability conditions for the
existence of solutions to these equations, and prove that the corresponding vacuum moduli spaces
are generally better behaved than their undeformed counterparts, but much more constrained by the
q-deformation. We work out explicit examples, including new examples of non-abelian vortices on
Riemann surfaces, and q-deformations of instantons whose moduli spaces admit the standard
hyper-Kähler quotient construction.

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