Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 27. Oktober 2015

17 Uhr s.t., Geom H4

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Quantum sl(2), low-dimensional topology and TQFTs

Abstract:

Discovery of Jones polynomial invariant of Knots, and its interpretation by Witten in terms of Chern-Simons Quantum Field Theory were the starting points for so called Quantum Topology. Quantum groups play a fundamental role in the domain. We will present a choice of constructions and results in relation with quantum sl(2) and its representations.
We will start with the Lie algebra sl(2), describe quantum deformation of its representations, their role in constructing Knot invariants, 3-manifold invariants and Reshetikhin-Turaev Topological Quantum Field Theories (TQFT). We will then consider a variant of quantum sl(2) used by Costantino-Geer-Patureau for construction of new invariants of 3-dimensional manifolds with flat connexion and describe their non semisimple TQFT extensions.

Vor dem Vortrag (ab 16.30 Uhr) stehen im Raum 327 Kaffee und Tee bereit.