



Spectral Theory and Dynamics of Quantum Systems

GRADUIERTENKOLLEG 1838

Stuttgart-Tübinger Doktorandenseminar

3. Juli 2015

Universität Tübingen

Auf der Morgenstelle 10, 72074 Tübingen

Doktorandenseminar in Raum N 16 (C-Gebäude)

Kolloquium in Raum N 14

| Programm | |
|---------------|--|
| 14.30 – 14.55 | Stefan Haag: The Adiabatic Limit of the Connection Laplacian |
| 15.00 – 15.25 | Tim Tzaneteas: Derivation of the Ginzburg-Landau Equations via Bifurcation Theory |
| 15.30 – 15.55 | Andreas Wünsch: Self-adjointness and domain of the Fröhlich Hamiltonian |
| 16.00 – 16.30 | Steffen Gilg: NLS approximation for periodic quantum graphs |
| Kaffeepause | |
| 17.15 | Mathematisches Kolloquium Tübingen |
| ab 18.15 | Nachsitzung |

Mathematisches Kolloquium:

The classical entropy of quantum states

Prof. Jan Philip Solovej (Universität Kopenhagen)

ABSTRACT: To quantify the inherent uncertainty of quantum states Wehrl ('79) suggested a definition of their classical entropy based on the coherent state transform. He conjectured that this classical entropy is minimized by states that also minimize the Heisenberg uncertainty inequality, i.e., Gaussian coherent states. Lieb ('78) proved this conjecture and conjectured that the same holds when Euclidean Glauber coherent states are replaced by $SU(2)$ Bloch coherent states. This conjecture was settled recently in joint work with Lieb. Recently we simplified the proof and generalized it to $SU(N)$ for general N . In proving the conjecture we study the quantum channels known as Universal Quantum Cloning Machine} and determine their minimal output entropy.