



# Spectral Theory and Dynamics of Quantum Systems

GRADUIERTENKOLLEG 1838

## Stuttgart-Tübingen GRK-Seminar

20. November 2017

Universität Stuttgart

Raum: 8.122, Pfaffenwaldring 57, Campus Vaihingen

Programm		
14:00 – 14:25	Andreas Bitter:	Mathematik des Efimov-Effekts
14:30 – 14:55	Daniela Maier:	Breathers in nonlinear wave equations on quantum graphs
Pause		
15:15 – 15:40	Jonas Brinker:	Spektralinvariante Algebren von $\Psi$ DOs auf kompakten Lie-Gruppen
15:45 – 16:10	Michael Hofacker:	Grundzustandsenergie von Atomen als Funktion der Kernladungszahl
Kaffeepause		
16:45	Mathematisches Kolloquium	
ab 17:45	Nachsitzung	

**Mathematisches Kolloquium:**

### Derivation of the Vlasov equation

**Prof. Dr. Peter Pickl (LMU München)**

**ABSTRACT:** The rigorous derivation of the Vlasov equation from Newtonian mechanics of  $N$  Coulomb-interacting particles is still an open problem. In the talk I will present recent results, where an  $N$ -dependent cutoff is used to make the derivation possible. The cutoff is removed as the particle number goes to infinity. Our result holds for typical initial conditions, only. This is, however, not a technical assumption: one can in fact prove deviation from the Vlasov equation for special initial conditions for the system we consider.

(Joint work with N. Boers and D. Lazarovici)