Leibniz Universität Hannover

Oberseminar Analysis und Theoretische Physik

Prof. Dr. Maximilian Lein

Universität Potsdam

Pseudodifferential Calculi for Magnetic Systems and Their Semiclassical Limits

Pseudodifferential calculi, also known as Weyl calculi, have become a robust mathematical tool to derive perturbation expansions and semiclassical limit. Müller and Mantoiu and Purice independently proposed a way to include magnetic fields on the level of the pseudodifferential calculus. In this talk, I will explain how this manifestly gauge-covariant formulation can be applied to obtain semiclassical limits in several settings. The simplest concerns a single quantum particle, the next level makes the Born-Oppenheimer approximation rigorous. Lastly, we will outline a magnetic pseudodifferential calculus meant for dissipative and open quantum systems.

Dienstag, 1.7.2025, 15:00 Uhr, Raum c311
Hauptgebäude der Leibniz Universität

Dazu laden herzlich ein:
Prof. Dr. Wolfram Bauer, Prof. Dr. Joachim Escher, Prof. Dr. Johannes Lankeit,
Prof. Dr. Elmar Schrohe, Prof. Dr. Alexander Strohmaier,
Prof. Dr. Christoph Walker, PD Dr. Alden Waters