



Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 31. Mai 2016

17 Uhr s.t., Geom H4

Prof. Dr. Sven Bachmann
(LMU München)

Dynamics, phases and field theory of quantum spin systems

Abstract:

Beyond their relevance for concrete condensed matter physics, quantum spin systems have proved a beautiful playground to develop a general mathematical understanding of truly interacting, many-particle physics. In this colloquium talk, I will start with the basic mathematical structure of quantum mechanics and discuss propagation estimates for quantum spin systems. This in turn allows for a physically relevant, and mathematically sound, understanding of equivalence classes, a.k.a. phases of theories.

Finally, I shall also show how these propagation estimates can be used to understand in general how the physical concept of effective particles can be given a mathematical structure.

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