Fakultät für Mathematik, Informatik und Physik
Universität Innsbruck

Ankündigung des öffentlichen Vortrags („defensio dissertationis“)

im Rahmen der abschließenden kommissionellen Prüfung (Verteidigung der Dissertation) im Doctor of Philosophy - Doktoratsstudium Physik

von

Krimphoff Carlo Benjamin

über

“Quench Dynamics of closed Quantum Many-Body Systems”

Zeit: Dienstag, 31. Oktober 2017, 12.00 Uhr
Ort: SR 2S17, ITP, 1. Obergeschoss

Inhalt:
The out-of-equilibrium dynamics of quantum many-body systems is one of the most fascinating directions currently explored at the interface of statistical physics and quantum mechanics. Using exact diagonalization (ED), we numerically study quenches of closed and translationally invariant spin systems. Our goal is to connect dynamics, as characterized by local real-time observables on short to intermediate time scales, to statistical properties such as equilibration, especially with respect to quantum integrability. Since ED allows for the exact computation of energy spectra, we are able to explore the relation between time evolution and spectral properties of a quench. By combining both approaches with results from analytical techniques, we achieve a broad description of various dynamical phenomena.

Betreuer der Dissertation: Univ.-Prof. Dr. Andreas Martin Läuchli Herzig

Prüfungssenat: **Univ.-Prof. Dr. Andreas Martin Läuchli Herzig**
Univ.-Prof. Dipl.-Phys. Dr. Hanns-Christoph Nägerl
Univ.-Prof. Mag. Dr. Helmut Ritsch (Vorsitz)