

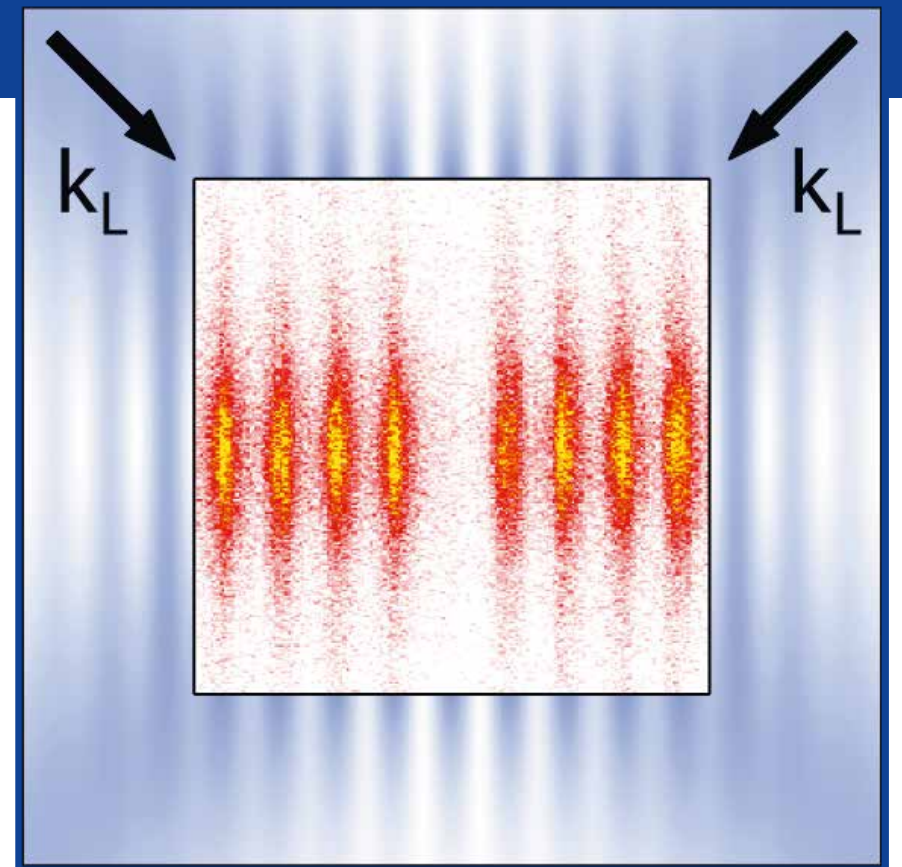
Quantum Transport with Ultracold Atoms

International Workshop 29 Aug - 02 Sep 2022

Modern experiments with ultracold atoms allow us to study the coherent nature of quantum transport in clean and scalable realizations, governed by time-scales much different from electronic devices. This has the potential to produce functional devices based on coherent components for “quantumtronics”. We want to provide a platform for the different experimental realizations, the theoretical modeling of quantum many-body transport set-ups, as well as the various overlapping communities from transport, dynamics and quantum optics. The workshop aims at stimulating new concepts for an optimized implementation of transport set-ups, with the long-term goal to realize new quantum-enhanced technologies based on neutral-atom transport.

Topics:

- ultracold quantum gases
- quantum many-body physics
- quantum circuits
- quantum simulation
- neutral atom transport
- tailored potential landscapes
- spin-orbit coupling
- Floquet engineering
- quantum scattering theory
- matter-wave guides
- hybrid quantum systems



Invited speakers:

Monika Aidelsburger (DE)
 Andrea Alberti (DE)
 Wolfgang Belzig (DE)
 Joachim Brand (NZ)
 Jean-Philippe Brantut (CH)
 Andreas Buchleitner (DE)
 Franco Dalfovo (IT)
 Tilman Esslinger (CH)
 Sergej Flach (KR)
 David Guéry-Odelin (FR)
 Walter Hofstetter (DE)
 Maarten Hoogerland (NZ)
 Oliver Morsch (IT)
 H.-C. Nägerl (AT)
 Tomaž Prosen (SLO)
 Stephanie Reimann (SE)
 Klaus Richter (DE)
 Giacomo Roati (IT)
 Mark Sadgrove (JP)
 Luca Salasnich (IT)
 Peter Schlagheck (BE)

Peter Schmelcher (DE)
 Ulrich Schollwöck (DE)
 Leticia Tarruell (ES)
 Wolf von Klitzing (GR)
 David Weld (US)
 Artur Widera (DE)

Scientific coordinators:

Herwig Ott
 (Kaiserslautern, Germany)

Sandro Wimberger
 (Parma, Italy)

Organisation:

Mandy Lochar,
 MPIPKS Dresden

Applications received before 30th June 2022 are considered preferentially.

We plan for an in person workshop with all participants on-site.
 The number of attendees is limited.

The registration fee is 140 Euro and should be paid by all participants;
 costs for accommodation and meals will be covered by the Max Planck
 Institute.

Limited funding is available to partially cover travel expenses.

For further information please contact:

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