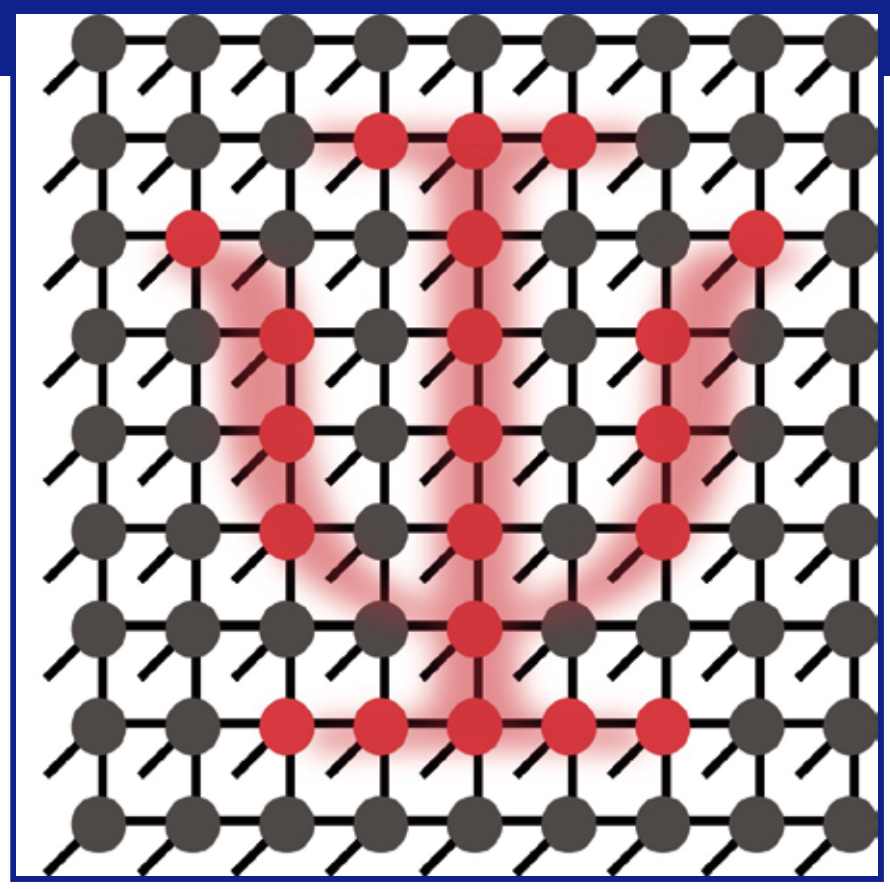
Max Planck Institute for the Physics of Complex Systems

MAX-PLANCK-GESELLSCHAFT

mpipks

Tensor Network based approaches to Quantum Many-Body Systems

International School
13 - 17 November 2018



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Tensor networks provide a new paradigm for describing quantum many body systems. This school covers recent progress in the fast moving field of tensor network based simulations of quantum many-body systems. Its main goal is to teach young PhD students the basics of tensor networks as well as the most recent technical developments within the field.

Topics:

- Many-body entanglement
- Matrix-product states
- Projected entangled pair states
- Multi-scale entanglement renormalization ansatz
- Time-dependent variational principle
- Tensor network renormalization
- Bulk boundary correspondence
- Tensor networks for finite temperatures and dynamics
- Tensor networks as impurity solver for dynamical mean field

Invited speakers:
*to be confirmed

Mari-Carmen Banuls (DE)*

Philippe Corboz (NL)

Jutho Haegeman (BE)

Claudius Hubig (DE)

Corinna Kollath (DE)

David Pérez García (ES)

Steve White (US)

Scientific coordinators:

Frank Pollmann
Garching, Germany

Ulrich Schollwöck
Munich, Germany

Norbert Schuch
Garching, Germany

Frank Verstraete
Ghent, Belgium

Organisation:

Mandy Lochar
MPIPKS Dresden

FOR 1807

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DFG Forschergruppe FOR1807

Applications received before 20 September 2018 are considered preferentially.

Applications are welcome and should be made by using the application form on the event's web page. The number of attendees is limited. The registration fee for the international school is 120 Euro and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute.

For further information please contact:
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We also offer individual fellowships (phd, postdoc, sabbatical). Applications are accepted continuously. For details, please check www.pks.mpg.de/visitors