International School/Workshop
Anyon Physics of Ultracold Atomic Gases
Technische Universität Kaiserslautern (Germany), December 10 – 14, 2018

Monday, December 10

9:00-10:00	**Thore Posske (Hamburg, Germany):**
	Anyon models in 2D and 1D - a short introduction
10:00-10:15	Discussion
10:15-10:45	*Coffee Break*
10:45-11:45	**Mikhail Baranov (Innsbruck, Austria):**
	Introduction to the physics of anyons
	with Majorana fermions as an example - Part I
11:45-12:00	Discussion
12:00-13:45	*Lunch*
13:45-14:45	**Bakhodir Abdullaev (Tashkent, Uzbekistan):**
	Interplay of hidden order, quantum criticality and
	superconductivity in the physics of 2D Heavy, Ultracold Atomic
	and Sulfur Hydride Fermions
14:45-15:00	Discussion
15:00-15:30	*Coffee Break*
15:30-16:45	**Group Work**
17:15-18:45	***Physics Colloquium*** **(Building 46, Room 270)**
	Sabine Hossenfelder (Frankfurt, Germany):
	How beauty leads physics astray

Tuesday, December 11

9:00-10:00	**Thore Posske (Hamburg, Germany):**
	Many-particle theory of anyons in 1D – Part I
10:00-10:15	Discussion

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10:15-10:45	*Coffee Break*
10:45-11:45	**Mikhail Baranov (Innsbruck, Austria):**
	Introduction to the physics of anyons
	with Majorana fermions as an example - Part II
11:45-12:00	Discussion
12:00-13:45	*Lunch*
13:45-14:45	**Sebastian Greschner (Geneva, Switzerland):**
	Floquet engineering and groundstate properties
	of 1D anyon models in ultracold atomic lattice gases – Part I
14:45-15:00	Discussion
15:00-15:30	*Coffee Break*
15:30-16:30	**Kevin Jägering (Kaiserslautern, Germany):**
	Statistically induced quantum phase transitions in
	the extended Anyon-Hubbard model – a DMRG approach
16:30-16:45	Discussion
16:45-18:00	**Group Work**

Wednesday, December 12 (Building 57, Room 215)

9:00-10:00	**Sebastian Greschner (Geneva, Switzerland):**
	Floquet engineering and groundstate properties
	of 1D anyon models in ultracold atomic lattice gases – Part II
10:00-10:15	Discussion
10:15-10:45	*Coffee Break*
10:45-11:45	**Martin Bonkhoff (Kaiserslautern, Germany):**
	Statistically induced quantum phase transitions in
	the extended Anyon-Hubbard model – a field-theoretic approach

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11:45-12:00	Discussion
12:00-13:45	*Lunch*
13:45-14:45	**Anne Nielsen (Dresden, Germany):**
	Fractional quantum Hall models in lattices
14:45-15:00	Discussion
15:00-15:30	*Coffee Break*
15:30-20:00	**Excursion**
	Sightseeing walk including Christmas market

Thursday, December 13

09:00-09:30	**Thore Posske (Hamburg, Germany):**
	Many-particle theory of anyons in 1D – Part II
09:30-10.15	**Zhen-Sheng Yuan (Hefei, China):**
	Atomic Spin Entanglement and Anyonic Statistics
	in Optical Lattices
10:15-10:45	*Coffee Break*
11:00-12:00	**Herwig Ott and Artur Widera (Kaiserslautern, Germany):**
	Labtour **(Building 46, 4th Floor)**
12:00-13:45	*Lunch*
13:45-14:45	**Anne Nielsen (Dresden, Germany):**
	Size, shape and braiding statistics of anyons
14:45-15:00	Discussion
15:00-15:30	*Coffee Break*
16:00-17:30	***Theoretical Physics Colloquium***
	Wolfgang Ketterle (Boston, USA):
	New forms of matter with ultracold atoms:
	spin-orbit coupling and supersolidity
19:00-22:00	***Conference Dinner*** **(Restaurant TwentyOne)**

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Friday, December 14

9:00-10:00	**Philipp Preiss (Heidelberg, Germany):**
	Simulating anyonic statistics in few-body dynamics
10:00-10:15	Discussion
10:15-10:45	*Coffee Break*
10:45-11:45	**Christoph Weitenberg (Hamburg, Germany):**
	Prospects for engineering anyons with ultracold atoms
11:45-12:00	Discussion
12:00-13:45	*Lunch*
14:00-15:30	***Laser/Quantum Optics Seminar***
	Joachim Brand (Auckland, New Zealand):
	Solitons, vortices, and related nonlinear textures
	in quantum gases

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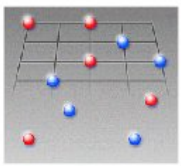
OPTIMAS



SFB/Transregio 49

Frankfurt – Kaiserslautern - Mainz

Condensed matter systems with variable many-body interactions

SFB/TR 185

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

If not stated otherwise, all talks take place

in Building 57, Room 208/210 (Rotunde)