EP2DS-25 & MSS-21

Grenoble, 9-14 July, 2023

Tuesday 11/07/2023

Parallel session 4A: 2D materials - transport II

Location: Auditorium — Chair: Uli Zeitler

09:00 — **Emanuel Tutuc** — **Invited** — Abstract
University of Texas at Austin, USA
Interlayer coherence in twist-controlled double layers of 2D materials

09:30 — **Adbhut Gupta** — **Contributed** — Abstract
Princeton University, Princeton, USA
Next generation two-dimensional carrier systems in GaAs quantum wells

09:45 — **Lyudmila Turyanska** — **Contributed** — Abstract
University of Nottingham, Nottingham, United Kingdom
Charge Transfer In Perovskite/Graphene Field Effect Transistors

10:00 — **Vincent Renard** — **Contributed** — Abstract
Univ. Grenoble Alpes, CEA, IRIG, PHELIQS, Grenoble, France
Experimental evidence of a Berry-Kekulé vortex in graphene

10:15 — **Pawel Potasz** — **Contributed** — Abstract
Nicolaus Copernicus University, Torun, Poland
Magnetic properties of partially filled energy bands of moire superlattice

Parallel session 4B: Qubits II

Location: Salle Makalu — Chair: Gloria Platero

09:00 — **Kenta Takeda** — **Invited** — Abstract
Center for Emergent Matter Science (CEMS), RIKEN, Wako, Japan
High-fidelity quantum operations and quantum error correction in silicon

09:30 — **Boris Brun** — **Contributed** — Abstract
CEA, Grenoble INP, IRIG-Pheliqs, Grenoble, France
A single hole spin with enhanced coherence in natural silicon

09:45 — **Oriol Pietx-Casas** — **Contributed** — Abstract
Delft University of Technology, Delft, Netherlands
Hotter is easier: overcoming heating effects and temperature scaling of 28Si/SiGe spin qubits

10:00 — **Mohamed Seddik Ouacel** — **Contributed** — Abstract
Université Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, Grenoble, France
Flying electron qubit using ultrashort charge pulses

10:15 — **Leo Pugliese** — **Contributed** — Abstract
SPEC, CEA, CNRS, Université Paris-Saclay, CEA Saclay, France
Emission and coherent control of Levitons in graphene

10:30 — **Coffee break**

Parallel session 5A: Fractional Quantum Hall effect I

Location: Auditorium — Chair: Dmitri K. Efetov

11:00 — **Masayuki Hashisaka** — **Invited** — Abstract
NTT Basic Research Laboratories, NTT Corporation, Atsugi, Japan
Coherent-Incoherent Crossover of Charge and Neutral Mode Transport at a Fractional-Integer Quantum Hall Junction

11:30 — **Chengyu Wang** — **Contributed** — Abstract
Princeton University, Princeton, USA
Even-denominator fractional quantum Hall states in ultra-high-mobility GaAs twodimensional hole systems

11:45 — **June-Young Lee** — **Contributed** — Abstract
KAIST, Daejeon, Korea
Non-Abelian Anyon Collider

12:00 — **Yigal Meir** — **Contributed** — Abstract
Ben Gurion University, Beer Sheva, Israel
Measuring Entropy of Exotic Particles

12:15 — **Jinhong Park** — **Contributed** — Abstract
Karlsruhe Institute of Technology, Karlsruhe, Germany
Noise on the non-Abelian ν=5/2 quantum Hall edge: Towards the identification of its topological order

Parallel session 5B: Topology

Location: Salle Makalu — Chair: Hartmut Buhmann

11:00 — **Carmine Autieri** — **Invited** — Abstract
Institute of Physics, Polish Academy of Sciences, Warsaw, Poland
New topological phases in HgTe-based systems

11:30 — **Stefan Hartl** — **Contributed** — Abstract
Universität Regensburg, Regensburg, Germany
Quantum Hall effect and current distribution in a 3D-topological insulator

11:45 — **Guangtai Lu** — **Contributed** — Abstract
University of Tokyo, Tokyo, Japan
Lasing oscillation in twisted quadrupole topological photonic crystals

12:00 — **Erwann Bocquillon** — **Contributed** — Abstract
ENS, CNRS, Sorbonne Université, Paris, France
Velocity of edge plasmons in HgTe-based 2D topological insulators

12:15 — **Hui Li** — **Contributed** — Abstract
Hong Kong University of Science and Technology, China
Third-order nonlinear transport in antiferromagnetic topological insulator $MnBi_2Te_4$ flakes

12:30 — **Lunch break**

Parallel session 6A: Fractional Quantum Hall effect II

Location: Auditorium — Chair: Moty Heiblum

14:30 — **François Parmentier** — **Invited** — Abstract
Université Paris-Saclay, CEA, CNRS, SPEC, France
Heat equilibration of integer and fractional quantum Hall edge modes in graphene

15:00 — **Pierre Glidic** — **Contributed** — Abstract
Université Paris-Saclay, CNRS, C2N, Palaiseau, France
Exploring the nature of integer and fractional quantum Hall quasiparticles in a 'collider' geometry

15:15 — **Toshimasa Fujisawa** — **Contributed** — Abstract
Tokyo Institute of Technology, Tokyo, Japan
Non-thermal Tomonaga-Luttinger liquid emerged from hot electrons in quantum Hall edge channels

15:30 — **Heung-Sun Sim** — **Invited** — Abstract
KAIST, Daejeon, South Korea
Braiding of anyons at quantum point contacts

Parallel session 6B: 2D materials - optics II

Location Salle Makalu — Chair: Alexey Chernikov

14:30 — **Wojciech Pacuski** — **Invited** — Abstract
University of Warsaw, Poland
Excitons in transition metal dichalcogenides grown by MBE on hBN

15:00 — **Jean-Michel Gérard** — **Contributed** — Abstract
CEA, INP, IRIG-PHELIQS, NPSC laboratory, Grenoble, France
A nanowire optical cavity for broadband enhancement of spontaneous emission

15:15 — **Aleksander Rodek** — **Contributed** — Abstract
University of Warsaw, Warsaw, Poland
Controlled coherent-coupling and dynamics of exciton complexes in a $MoSe_2$ monolayer

15:30 — **Elena Blundo** — **Invited** — Abstract
Sapienza University of Rome, Rome, Italy
Strain tuning of the optoelectronic properties of two-dimensional crystals

16:00 — **Coffee break**

Parallel session 7A: 2D materials - transport III

Location: Auditorium — Chair: Alberto Morpurgo

16:30 — **Annika Kurzmann** — **Invited** — Abstract
RWTH Aachen, Germany
Kondo effect in bilayer graphene quantum dots

17:00 — **Aurélien Schmitt** — **Contributed** — Abstract
Laboratoire de Physique de l'ENS, Paris, France
Mesoscopic Klein-Schwinger effect in graphene

17:15 — **Priya Tiwari** — **Contributed** — Abstract
Weizmann Institute of Science, Rehovot, Israel
Experimental observation of spin-split energy dispersion in high-mobility single-layer graphene/WSe_2 heterostructures

17:30 — **Mark Greenaway** — **Invited** — Abstract
Loughborough University, UK
Doppler-shifted magnetophonon resonances, Mach supersonics and a critical "Landau" velocity in graphene

Parallel session 7B: Low dimensional systems II

Location: Salle Makalu — Chair: Jean-Michel Gérard

16:30 — **David Northeast** — **Invited** — Abstract
National Research Council Canada, Ottawa, Canada
Hybrid integrated quantum photonic circuits using InAsP quantum dots in InP nanowires on a silicon nitride platform

17:00 — **Hajer Tlili** — **Contributed** — Abstract
CEA, INP, IRIG-PHELIQS, NPSC laboratory, Grenoble, France
Exploring the high-frequency mechanical resonances of a quantum dot-microwire hybrid system

17:15 — **Kazuyuki Kuroyama** — **Contributed** — Abstract
The University of Tokyo, Tokyo, Japan
Electrical Detection of Ultrastrong Coupling between Two-Dimensional Electrons and a Single Terahertz Optical Resonator by Using a Quantum Point Contact

17:30 — **Takase Shimizu** — **Contributed** — Abstract
NTT Basic Research Laboratories, NTT corporation, Japan
Bias-induced decoherence in a Mach-Zehnder interferometer consisting of spin resolved copropagating edge channels

17:45 — **Chuyao Tong** — **Contributed** — Abstract
ETH Zurich, Switzerland
Long-lived valley states in bilayer graphene quantum dots

18:00-20:00 — **Poster session 2 (Atrium)**