

5th East Asia Joint Seminars on Statistical Physics

22 (Tuesday) — 25 (Friday), October, 2019

Conference Room 6620 (6th floor, 6楼 6620 会议室)
Institute of Theoretical Physics, Chinese Academy of Sciences (ITP-CAS),
中国科学院理论物理研究所
Zhong-Guan-Cun East Road 55, Beijing 100190, China
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EAJSSP2019 webpage: <https://indico.itp.ac.cn/event/7/>



October 22, Tuesday

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08:30 - 08:45 Registration

08:45 - 08:55 Opening address

Session 1 (Chair: Hai-Jun Zhou, Institute of Theoretical Physics CAS)

09:00 - 09:30 (I-1)

Hisao Hayakawa (Kyoto University)

A Nontrivial Fluctuation Theorem for Adiabatic Pumping Processes

09:30 - 10:00 (I-2)

Hyunggyu Park (Korea Institute for Advanced Study)

Exactly Solvable Two-Terminal Heat Engine with Asymmetric Onsager Coefficients: Origin of the Power-Efficiency Bound

10:00 - 10:30 (I-3)

Haitao Quan (Peking University)

Experimental Test of the Differential Fluctuation Theorem and a Generalized Jarzynski Equality for Arbitrary Initial States

10:30 - 11:00 Tea break

Session 2 (Chair: Hyunggyu Park, Korea Institute for Advanced Study)

11:00 - 11:30 (I-4)

Chulan Kwon (Myongji University)

Quantum Stochastic Thermodynamics for a Simple Floquet System

11:30 - 12:00 (I-5)

Fei Liu (Beihang University)

Quantum Work Statistics in Phase Space Representation

12:00 - 12:30 (I-6)

Jaegon Um (Pohang University of Sci. and Technol.)

Coherence Effect in a Multi-Level Quantum-Dot Heat Engine

12:30 - 14:00 Lunch break

Session 3 (Chair: Haitao Quan, Peking University)

14:00 - 14:30 (I-7)

Tomoki Ozawa (RIKEN)

Probing Topology, Geometry, and Localization Through Fluctuation-Dissipation Theorem in Ultracold Atomic Gases and Beyond

14:30 - 15:00 (I-8)

Jae Dong Noh (University of Seoul)

Thermalization of Quantum Gas upon Free Expansion

15:00 - 15:30 (I-9)

Joonhyun Yeo (Konkuk University)

Symmetry and its Breaking in Path Integral Approach to Open Quantum Systems

15:30 - 16:00 Tea break

Session 4 (Chair: Pan Zhang, Institute of Theoretical Physics CAS)

16:00 - 16:30 (I-10)

Bei Zeng (Hong Kong Univ. of Sci. and Technol.)

Determining System Hamiltonian From Eigenstate Measurements Without Correlation Functions

16:30 - 17:00 (I-11)

Dong Hee Kim (Gwangju Inst. of Sci. and Technol.)

Typical Growth Behavior of the Out-of-Time-Ordered Commutator in Many-Body Localized Systems

17:00 - 17:30 (I-12)

Lei Wang (Institute of Physics, Chin. Acad. of Sci.)

Neural Canonical Transformations

Session 5

17:30 - 19:00

Poster Session

List of Poster Titles (to be updated)

Xinqi Gong (Renmin University of China)

Statistical Differentiation of Many-Body Superlarge Protein-Protein Interactions

Geng Li (Institute of Theoretical Physics, Chinese Academy of Sciences)

Stochastic Thermodynamics With Odd Controlling Parameters

Zhongtao Mei (Asia-Pacific Center for Theoretical Physics)

Matrix Product Solution of the Stationary State of Two-Species Open Zero Range Processes

Yasushi Nagano (University of Tokyo)

Error Correction in Perceptron Learning With Noise

Wanming Qi (China University of Mining and Technology)

Finite-Size Scaling and the Multi-Crossover Critical Behavior in a 2D Incompressible Flocking Model

Tian Qiu (Peking University)

Quantum to Classical Transition of Trajectory Work in Two Prototype Systems

Peng Wang (Ningxia University)

Non-equilibrium diffusion characteristics of a particle system and the correspondence to a social system

Kota Yoshiyama (University of Tokyo)

Application of Tensor Renormalization Group to a Lattice Glass Model

Han Zhao (Institute of Theoretical Physics, Chinese Academy of Sciences)

Multi-State Method to Sample Solutions in the Random K-SAT Problem

Yongfeng Zhao (Shanghai Jiao-Tong University)

Surface Tensions Between Active Fluids and Solid Interfaces: Bare vs Dressed

Hai-Jun Zhou (Institute of Theoretical Physics, Chinese Academy of Sciences)

Statistical physics of minimum feedbacks

October 23, Wednesday

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Session 6 (Chair: Fei Liu, Beihang University)

09:00 - 09:30 (I-13)

Pik-Yin Lai (National Central University)

Shortcuts to Isothermality in Forward and Reverse processes: Experimental Realization and Theoretical Results

09:30 - 10:00 (I-14)

Naoto Shiraishi (Gakushuin University)

Proof of absence of local conserved quantity in $S=1/2$ XYZ chain with a magnetic field

10:00 - 10:30 (I-15)

Kyogo Kawaguchi (RIKEN)

Active Nematic Cells and Topology

10:30 - 11:10 Group photo and tea break

Session 7 (Chair: Hisao Hayakawa, Kyoto University)

11:10 - 11:40 (I-16)

Haruki Watanabe (University of Tokyo)

Quantum Quench and f-sum Rules on Linear and Non-Linear Conductivities

11:40 - 12:10 (I-17)

Sosuke Ito (University of Tokyo)

Thermodynamics of Information Geometry and a Generalization of the Glansdorff-Prigogine Criterion for Stability

12:10 - 12:30 (C-1)

Jong-Min Park (Korea Institute for Advanced Study)

Thermodynamic Uncertainty Bound Modified by a Magnetic Field

12:30 - 14:00 Lunch break

Session 8 (Chair: Lei Wang, Institute of Physics CAS)

14:00 - 14:30 (I-18)

Hajime Yoshino (Osaka University)

Replica theory on a deep neural network

14:30 - 15:00 (I-19)

Wenan Guo (Beijing Normal University)

Surface Critical Behavior of Critical Spin Models

15:00 - 15:15 Tea break

Session 9 (Chair: Pik-Yin Lai, National Central University)

15:15 - 15:45 (I-20)

Hong Zhao (Xiamen University)

Thermalization and Delocalization in Thermodynamic Limit

15:45 - 16:15 (I-21)

Chong-Wai Io (National Chung Cheng University)

The Spatial-Temporal Modulated Mesoscopic Collective Behavior of Laser-Activated Self-Propelling Particle Suspension

16:15 - 16:30 Tea break

Session 10 (Chair: Chulan Kwon, Myongji University)

16:30 - 17:00 (I-22)

Xin Zhou (University of Chinese Academy of Sciences)

Probe Critical Ice Nucleus based on Graphene Oxide Nanosheets

17:00-17:30 (I-23)

Hsuan-Yi Chen (National Central University & Institute of Physics, Academia Sinica)

Hydrodynamic models of tissue growth and skin cancer

17:30-17:50 (C-2)

Long Zhang (University of Chinese Academy of Sciences)

Universal Thermodynamic Signature of Self-dual Quantum Critical Points

October 24, Thursday

Session 11 (Chair: Wenan Guo, Beijing Normal University)

09:00 - 09:30 (I-24)

Hidetoshi Nishimori (Tokyo Institute of Technology)

Quantum Annealer as a Simulator of the 1d Transverse-Field Ising Model

09:30 - 10:00 (I-25)

Shunji Matsuura (1QBit)

Variational Methods in Quantum Annealing

10:00 - 10:30 (I-26)

Takuya Hatomura (NTT Corporation)

Shortcuts to Adiabaticity for a Classical Model of Quantum Annealing

10:30 - 11:00 Tea break

Session 12 (Chair: Xin Zhou, University of Chinese Academy of Sciences)

11:00 - 11:30 (I-27)

Jae Sung Lee (Korea Institute for Advanced Study)

Brownian Engine in Colored Noise Reservoirs

11:30 - 12:00 (I-28)

Cheng-Hung Chang (National Chiao-Tung University)

Chemical Potential Formalism for Entropic Effects in Confined Polymers

12:00 - 12:30 (I-29)

Qing-Hu Chen (Zhejiang University)

Quantum Phase Transitions in the Spin-Boson Model and Rabi-Stark Model

12:30 - 13:30 Lunch break

Session 13

13:30 - 18:00 Field open discussion

October 25, Friday

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Session 14 (Chair: Hsuan-Yi Chen, National Central University)

09:00 - 09:30 (I-30)

Seung Ki Baek (Pukyong National University)

Sex-Ratio Bias Induced by Mutation

09:30 - 10:00 (I-31)

Fu-Lai Wen (Academia Sinica)

Self-Organized Tissue Deformation Induced by Cell Mechano-Polarity Feedback

10:00 - 10:30 (I-32)

Jun Takahashi (Institute of Physics, Chinese Academy of Sciences)

Monte Carlo Study of Microscopic Models for Néel-to-Plaquette VBS Transition in 2D Square Lattice

10:30 - 11:00 Tea break

Session 15 (Chair: Yanting Wang, Institute of Theoretical Physics CAS)

11:00 - 11:30 (I-33)

Ming-Chya Wu (National Central University)

Protein Packing Model With the Universal Geometric Factor of Volume and Surface Area Ratio

11:30 - 12:00 (I-34)

Yongjoo Baek (Seoul National University)

A Systematic Approximation Method for Weakly Active Particles

12:00 - 12:30 (I-35)

Leihan Tang (Beijing Computational Science Center & Hong Kong Baptist University)

A Theory for Circularly Polarized Collective Motion of Micro-Swimmers

12:30 - 12:40

Closing remarks