Concurrent session 8: Quantum & Statistical Physics

Friday, July 27, 2018

14:00 – 18:05	Concurrent session 8: Quantum & Statistical Physics
Venue:	Anthony Lau Building (E4), E4-3063
Chairpersons:	1. Guanghui Hu 2. Huashan Li
14:00 – 14:25	Keynote presentation
	Complexity Science in a Quantum World Mile Gu, Nanyang Technological University. MC: Guanghui Hu
14:25 – 15:40	Invited presentations
14:25 – 14:40	**Ultimate precision limit for quantum metrology** Haidong Yuan, The Chinese University of Hong Kong. MC: Guanghui Hu
14:40 – 14:55	**One-Shot Detection Limits of Quantum Illumination with Discrete Signals** Man-Hong Yung, Southern University of Science and Technology. MC: Guanghui Hu
14:55 – 15:10	**Simplified Gentlest Ascent Dynamics for Transition State with Application to Allen-Cahn in Presence of Shear** Xiang Zhou, City University of Hong Kong. MC: Guanghui Hu
15:10 – 15:25	**Density Functional Theory: Two Cases Study** Jingrun Chen, Soochow University. MC: Guanghui Hu
15:25 – 15:40	**An efficient steady-state solver for Boltzmann equation with applications to microflow simulation** Zhicheng Hu, Nanjing University of Aeronautics and Astronautics. MC: Guanghui Hu
15:40 – 16:00	Contributed presentations
15:40 – 15:50	**Optimal operation for the triple-quantum-dot spin qubits** Chengxian Zhang, City University of Hong Kong. MC: Guanghui Hu
15:50 – 16:00	**A tunable charge qubit based on barrier-controlled triple quantum dots** Guo Xuan Chan, City University of Hong Kong. MC: Guanghui Hu
16:00 – 16:30	Tea/coffee break, poster, discussion
16:30 – 16:55	Keynote presentation
	Gibbs partitions, Mittag Leffler functions and waiting time models Lancelot F. JAMES, Hong Kong University of Sciences and Technology. MC: Huashan Li
16:55 – 17:55	Invited presentations
16:55 – 17:10	**On efficient numerical simulations of time-dependent density functional theory** Guanghui Hu, University of Macau. MC: Huashan Li
17:10 – 17:25	**Averaging principle for one dimensional stochastic Burgers equations** Xiaobin Sun, Jiangsu Normal University. MC: Huashan Li
17:25 – 17:40	**Asymptotics for stochastic reaction-diffusion equation driven by subordinate Brownian motion** Ran Wang, Wuhan University. MC: Huashan Li

17:40 – 17:55	Topological states and cotranslational symmetry in strongly interacting multi-particle systems
	Chaohong Li, Sun Yat-sen University. MC: Huashan Li
17:55 – 18:05	**Contributed presentations**
	Automatic spin-chain learning to explore quantum speed limit
	Xiaoming Zhang, City University of Hong Kong. MC: Huashan Li
After 18:10	**Banquet Dinner (Hotel: Galaxy Macau, Bus pick-up point & time: E4 G/F Lobby @ 18:10 pm)**

Saturday, July 28, 2018

09:00 – 12:05	**Concurrent session 8: Quantum & Statistical Physics**
Venue:	**Anthony Lau Building (E4), E4-3063**
Chairpersons:	**1. Lihu Xu 2. Chunxiong Zheng**
09:00 – 09:50	**Keynote presentation**
09:00 – 09:25	Extended WKB analysis for the generalized Schrodinger equations in the semi-classical regime
	Chunxiong Zheng, Tsinghua University. MC: Lihu Xu
09:25 – 09:50	Quantum Monte Carlo study of Disordered Spin Systems
	Daoxin Yao, Sun Yat-sen University. MC: Lihu Xu
09:50 – 10:20	**Invited presentations**
09:50 – 10:05	Approximation of heavy tailed distributions
	Lihu Xu, University of Macau. MC: Chunxiong Zheng
10:05 – 10:20	Integrated quantum interface of ion trap and parabolic mirror
	Zhao Wang, Sun Yat-sen University. MC: Chunxiong Zheng
10:20 – 10:30	**Contributed presentations**
	Enhancing Synchronization Stability in Kuramoto Model in Complex Networks against Fluctuations by Optimal Resource Adjustment
	Kin Yau Tsang, Hong Kong University of Science and Technology. MC: Chunxiong Zheng
10:30 – 10:50	Tea/coffee break, poster, discussion
10:50 – 11:15	**Keynote presentation**
	Multi-photon processes on superconducting qubit circuits
	Hou Ian, University of Macau. MC: Lihu Xu
11:15 – 11:45	**Invited presentations**
11:15 – 11:30	Entanglement detection by the uncertainty relation
	Yuan-Yuan Zhao, Sun Yat-sen University. MC: Lihu Xu
11:30 – 11:45	Random Active Path Model of Deep Neural Networks with Diluted Binary Synapses
	Haiping Huang, Sun Yat-sen University. MC: Lihu Xu
11:45 – 12:05	**Contributed presentations**
11:45 – 11:55	An efficient and adaptive finite element method for Kohn—Sham equation
	Yang Kuang, University of Macau. MC: Lihu Xu
11:55 – 12:05	An asymptotic-based adaptive finite element method for Kohn-Sham equation
	Yedan Shen, University of Macau. MC: Lihu Xu
12:10 – 14:00	**Buffet Lunch (venue: UM Chao Kuang Piu College, W21-G019)**