

## Concurrent session 8: Quantum & Statistical Physics

Friday, July 27, 2018

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

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

## Saturday, July 28, 2018

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