



香港物理學會  
PSHK



# 第一届粤港物理研讨会 Guangdong-HongKong Joint Workshop on Physics

## 会议程序册 Agenda

2008年10月11日-12日 广东 广州

October 11-12, 2008, Guangzhou, Guangdong, P.R.China



中山大學  
SUN YAT-SEN UNIVERSITY

# MEETING GUIDE

## 1. Registration

Registration begins at 9:00am until 9:00pm on October 10, and from 8:30 to 12:00 am on October 11, at Zhi-Jin Yuan Hostel, Sun Yat-sen university (SYSU), No.135, XinGanXi Road, Guangzhou.

## 2. Meeting Room

Opening and invited plenary talks on October 11 will be at the lecture hall, advance academic research center. Other sessions will be at the same lecture hall, the meeting rooms 111, and 211 in the advance academic research center, and the meeting room 101 in Zhi-Jin Yuan Hostel. Location of the meeting room will be shown after registration.

## 3. Presentation

Please check your talk in the sessions. Invited talk takes 30 minutes plus 6 minute question; while normal talk takes 10 minutes plus 2 minute question. Computer and projector are available.

## 4. Registration fee

Registration fee is 100 RMB for students, teachers and other personnel.

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The fee includes lunch and handouts, but transportation, lodging and supper are not included.

## 5. Lunches

Registrants will receive meal tickets for lunches after registration.

Oct. 11, dinning hall of Zhi-Jin Yuan Hostel, 12:15-13:45

Oct. 12, 2<sup>nd</sup> floor of Mensa one, 12:30-13:30

Breakfast and dinner are not included.

## 6. Lodging

- Zhi-Jing Yuan Hostel, SYSU

standard: ¥298/night, double room (Foreign Experts' Building)

¥198/night, double room (International Students' Buildings)

¥168/night, double room (International Students' Buildings)

¥150/night, single room (new International Students' Buildings)

- Peninsula yacht club hotel, Guangzhou (North Gate Square, SYSU) standard: ¥400/night

Tips:

- A van is available to take Registrants from Peninsula yacht club hotel to the meeting place. Please contact the

organizing group for transportation during the registration.

## 7. Medical service

Telephone of the Clinic SYSU: 84113093.

## 8. More information

SYSU website: <http://www.sysu.edu.cn>

Workshop website: <http://spe.sysu.edu.cn/spe/GD%2DHK/>

Workshop secretariat:

### (1) Guangdong Physics Society、Guandong Optics Society

Contact person: Ouyan Hongqun

E-mail: [ouyhq@mail.sysu.edu.cn](mailto:ouyhq@mail.sysu.edu.cn)

Tel: 020-84110399; 13822258421;

Fax: 020-84113048

### (2) Hong Kong Physics Society

Address: Education Development Program, Office of the Dean Of

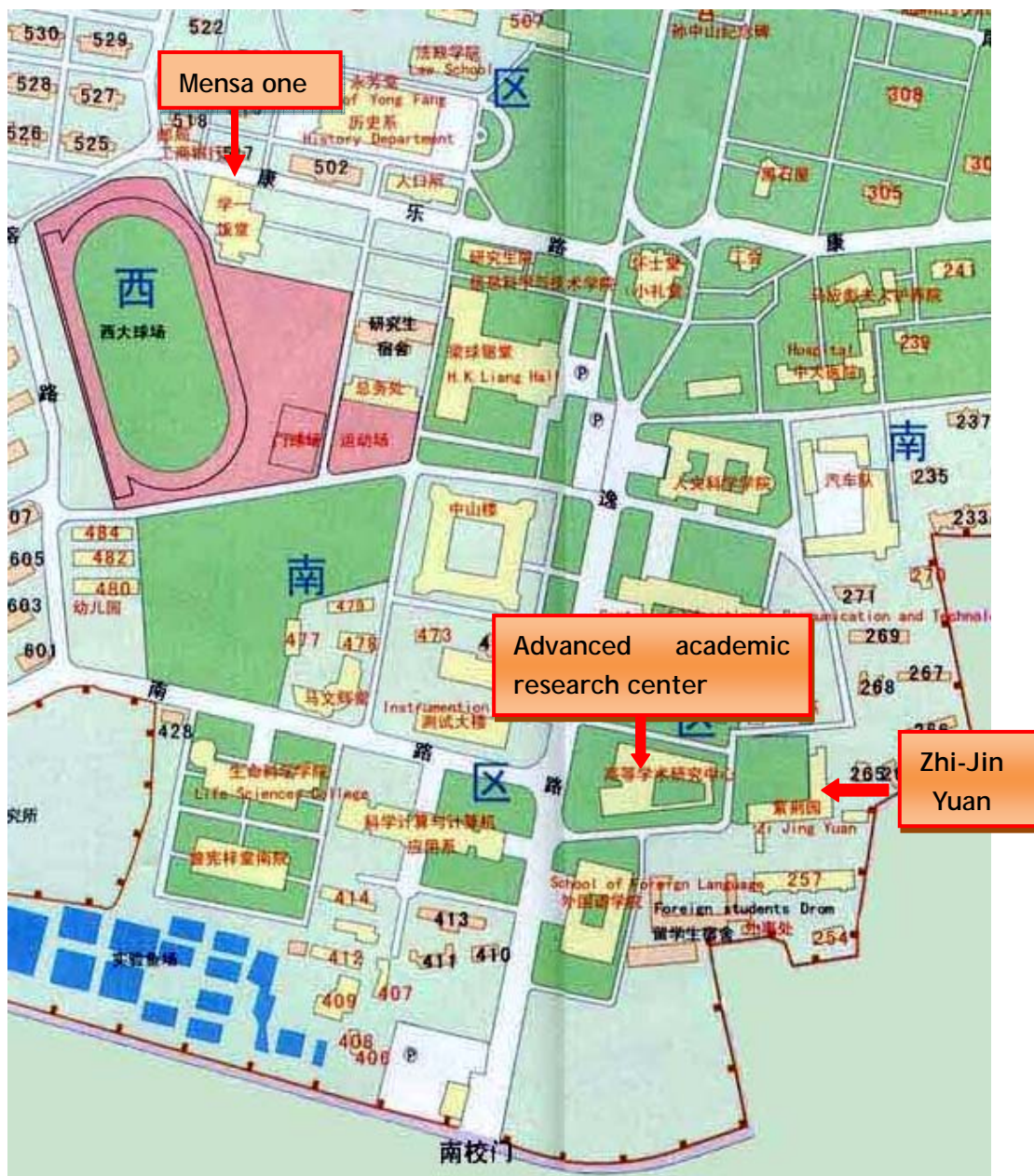
Science Clear Water Bay, Kowloon, Hong Kong

Name: TSANG Wai Man

E-mail: [edptsang@ust.hk](mailto:edptsang@ust.hk)

Phone: 2358 5084

## Meeting Location



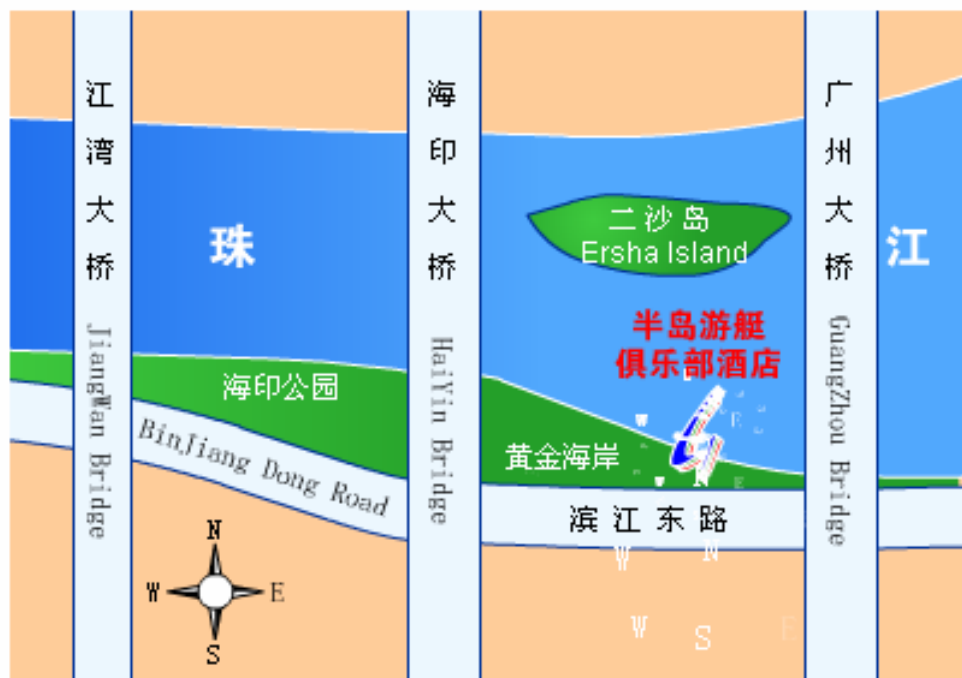
Zhi-Jin Yuan: Registration, session of superconductivity, Hostel  
(receptionist: +8620-84111888, 84110488), Lunch of Oct. 11

Advanced academic research center: opening, plenary invited talks, and other session

Mensa one: Lunch of Oct. 12

## 广州半岛游艇俱乐部酒店示意图

## Peninsula yacht club hotel



地址：广州市滨江东路 81 号（中山大学北门广场）

Address: No. 81, Bin Jiang Dong Road, Guangzhou (North Gate Square, SYSU)

Tel: +8620-34280123

Web: [Http://www.gcmarina.com](http://www.gcmarina.com)

# AGENDA

## 1、 Opening and plenary talks

Oct. 11, 8: 30am, <b>Advanced academic research center</b>		
<b>Opening</b>		
<b>Chair</b>	Professor Zhenhui He	
8:30-8:40	Oration of vice president SYSU, president of Guangdong Physics Society, Professor Ningsheng XU	
8:40-8:47	Oration of president of Hong Kong Physics Society, Professor Kam Sing WONG	
8:47-8:55	Oration of president of Guangdong Optics Society, Professor He Zhou WANG	
8:55-9:00	Organizing committee reports	
<b>Plenary talks</b>		
<b>Chair</b>	Professor Kam Sing WONG	
<b>Time</b>	<b>Speakers (affiliation)</b>	<b>topics</b>
<b>9:00-9:50</b>	Professor Lu J. SHAM (UC San Diego)	Connecting Basic Physical Concepts to Quantum and Spin Technology
<b>9:50-10:40</b>	Professor Yongyuan ZHU (The National Laboratory of Solid State Microstructures, Nanjing University)	Novel physical properties of patterned ferroelectric domain structures-dielectric superlattice

## 2、Session

Date	Time	advance academic research cente Room111	advance academic research cente lecture hall	Zhi-Jin Yuan Room101		Time	advance academic research cente Room211
10 月 11 日	10:40-11:00	Coffee break					
	11:00-12:15	7. Organic electronics and light-emitting-diode	3. Nanodevice				5. Nano-magnetis m
	12:15-13:45	Lunch					
	13:45-16:15	7. Organic electronics and light-emitting-diode	6. Nano-Optics and Quantum information	2. Fe/As high Tc superconductivity			5. Nano-magnetis m
	16:15-16:30	Coffee break					
	16:30-18:30	1. Biophysics	6. Nano-Optics and Quantum information				8. Spintronics
10 月 12 日	8:30-10:30	1. Biophysics	3. Nanodevice			8:30-11:00	5. Nano-magnetis m
	10:30-10:45	Coffee break					
	10:45-12:30	9. Condensed Matter Physics	3. Nanodevice			11:00-11:15	Coffee break
	12:30-13:30	Lunch					
	13:30-15: 45	4. Nano/micro optoelectronic material physics	6. Nano-Optics and Quantum information			11:15-12:30	8. Spintronics
	15:45-16:00	Coffee break					
	16:00-18: 00	4. Nano/micro optoelectronic material physics	7. Organic electronics and light-emitting-diode			13:30-15: 45	8. Spintronics
					16:00-18:00		

## Session Agenda

### 1、 Biophysics

**Chairman: Leihan TANG(Hong Kong Baptist University)**

Oct 11 <sup>th</sup> 16:30-18:30 Pm Location: Advance academic research cente ,Room 111		
Time	Speakers ( affiliation )	topics
16:30-17:06	Qi OUYANG (Peking University, Hong Kong Baptist University)	Reverse engineering of biological networks
17:07-17:43	Yuan Zhi SHAO (Sun Yat-Sen University)	Cancer Modeling and MRI Contrast Agent Material for Tumor Detecting
17:43-18:19	Wen Li DENG (South China University of Technology)	Structure and chemical physical properties of organic molecular assembly and complicate biosystem
18:20-18:32	Jian Ping XIONG (Institute of static electricity, Maoming University)	Influence of high voltage on the activity of seeds of snap bean and cucumber and the Catalase
Oct 12 <sup>th</sup> 8:30-10:30am Location: Advance academic research cente ,Room 111		
8:30-9:06	Jue SHI (Hong Kong Baptist University)	Cellular dynamics probed by high-throughput and quantitative microscopy
9:07-9:43	JianWei SHUAI (Xiamen University)	The stochastic dynamics of hierarchical intracellular calcium signals
9:44-10:20	Da XING (South China Normal University)	Technique of non-destructive optical acoustic and microwave thermal acoustic imaging for biotissue
10:20-10:32	C. C. Alan Fung (Hong Kong University of Science & Technology)	Dynamics of Neural Networks with Continuous Attractors

**2、 Fe/As high Tc superconductivity****Chairman: T. K. Ng (Hong Kong University of Science & Technology)**

Oct 11 <sup>th</sup> 13:45-16:15 Pm Location: Zhi-Jin Yuan Room101		
Time	Speakers (affiliation)	topics
13:45-14:21	Xian Hui CHEN (University of Science and Technology of China)	Superconductivity and phase diagram in Fe-based high-Tc superconductors
14:22-14:58	Hai Hu WEN (Institute of Physics, Chinese Academy of Sciences)	Distinct behaviors in electron doped and hole doped FeAs-based superconductors
14:59-15:35	F.C. ZHANG University of Hong Kong	Strong Coupling Theory for Superconducting Iron Pnictides
15:35-15:47	XiaoYong FENF (Hong Kong University of Science &Technology)	Non-Fermi liquid state in Bose-Fermi mixture

**3、 Nanodevice****Chairman: Bao-Jun LI (Sun Yat-Sen University)**

Oct 11 <sup>th</sup> 11:00-12:15 Am Location: Advance academic research cente , lecture hall		
Time	Speakers (affiliation)	topics
11:00-11:36	Sheng LAN South China Normal University	Optically manipulated optical switch device based on micro-nano particles
11:37-12:13	BaoJun LI (Sun Yat-Sen University)	Nanowire drawing and nanodevice assembly
Oct 12 <sup>th</sup> 8:30-11:00Am Location: Advance academic research cente , lecture hall		
8:30-9:06	Chun Fei LI Harbin Institute of Technology	Low dissipation optical switch based on nano-wave guide interferometer
9:07-9:43	Li Min TONG (Zhejiang University)	Functionalization and device application of micro-nano optical fiber
9:44-9:56	Hiu Ling Li (The Hong Kong Polytechnic University)	Nano to sub-micron BaWO4 -based phosphors for field emission display
9:57-10:09	Ya Jun CHEN (Jinan University)	The fabrication of piezoelectric materials used for manufacturing piezoelectric transformer
10:10-10:22	Wu Shu XIANG (Sun Yat-Sen University)	Bipolar resistive switch characteristics of Mn3O4 nano thin film
10:23-10:35	Lau Hon Kit (The Hong Kong Polytechnic University)	Multi-Level Resistive Switching in La0.7Sr0.3MnO3 Thin Films
10:35-10:45	Coffee break	
10:45-10:57	Shuan Ping YI (Guangdong University of Technology)	Influence of carbon nanotube and electrode additives on the electrochemical properties of nickel-hydrogen battery

**4、 Nano/micro optoelectronic material physics**  
**(Chairman: Guo-Wei YANG) (Sun Yat-Sen University)**

Oct 12 <sup>th</sup> 13:30-18:00pm Location: Advance academic research centre, Room 111		
Time	Speakers (affiliation)	topics
13:30-14:06	Jie YU (Shenzhen Academy Department of HIT)	Synthesis of continuous boron nitride nanofibers from electrospun boric oxide precursors
14:07-14:43	Jun Chong SE (Sun Yat-Sen University)	Correlation between Resistance and Field Emission Performance of Individual ZnO One-Dimensional Nanostructures
14:44-15:20	Cheng Xin WANG (Sun Yat-Sen University)	A Few Physical issues of growth and thermal oxidation of Si Nanowires
15:21-15:33	Fang Angbo (Hong Kong University of Science & Technology)	Surface Dynamic Effects on Bistable Twisted Nematic Liquid Crystal Displays
15:33-15:45	H. L. Tam (Hong Kong Baptist University)	Superlens with resonant cavity
15:45-16:00	Coffee break	
16:00-16:12	Jun ZHANG (Zhanjiang Normal university)	P-type Al and N Co-doping ZnO Films Prepared by Oxidation of rf Sputtering Zn <sub>3</sub> N <sub>2</sub> :Al
16:13-16:25	Li WANG (Guangzhou University)	Ag doped p type ZnO thin film and its ultraviolet sensitivity
16:26-16:38	Hai-Chao Sun (Guangzhou University)	Electron Raman scattering in spherical quantum dots

**5、 Nano-magnetism****Chairman: Xiang-Rong WANG(Hong Kong University of Science &Technology)**

Oct 11 <sup>th</sup> 11:00-12:15 Am Location: Advance academic research cente , Room 211 Host :Jiu Shu SHAO (Beijing Normal University)		
Time	Speakers (affiliation)	topics
11:00-11:36	Dan WEI (Tsinghua University)	Micro-magnetics and nano-magnetics
11:37-12:13	Zhou Zhou SUN (City University of Hong Kong)	Theoretical limits of optimal magnetization reversal of Stoner particles
Oct 11 <sup>th</sup> 13:45-16:15 Am Location: Advance academic research cente , Room 211 Host :Ke XIA (Institute of Physics, Chinese Academy of Sciences)		
13:45-14:21	Hai Feng DING Nanjing University	Spin polarized vacuum tunneling through Co
14:22-14:58	Xiufeng HAN (Institute of Physics, Chinese Academy of Sciences)	Spin dependent transport properties of single crystal magnetic tunnel junctions with key stack layers of Fe(001)/MgO(001)/Fe(001) and Co(001)/MgO(001)/Co(001)
14:59-15:35	XiaoHong XU Shanxi Normal University	Ferromagnetism and magnetoresistance in Co-doped ZnO thin films
15:36-15:48	Jie Lu (Hong Kong University of Science &Technology)	The influences of transverse magnetic anisotropy on field-induced domain wall propagation in magnetic nanowires
15:49-16:02	Peng Yan (Hong Kong University of Science &Technology)	Circularly polarized magnetic field induced domain wall propagation
16:03-16:15	Ye HE (Guangdong University of Technology)	Research of composite powder of Fe-carrageenin prepared by ball milling
Oct 12 <sup>th</sup> 8:30-11:00 Am Location: Advance academic research cente , Room 211 Host: Dan WEI (Tsinghua University)		
8:30-9:06	Ke XIA (Institute of Physics, Chinese Academy of Sciences)	Calculating the spin transfer torques from first principles
9:07-9:43	Chang Zhi GU (Institute of Physics, Chinese Academy of Sciences)	Structure and application of ferrometal point contact
9:44-10:20	Zhao Hua CHENG (Institute of Physics, Chinese Academy of Sciences)	Making Ferromagnetic Metal MnSi ultrathin film Magnetic Semiconductor
10:21-10:57	Jiu Shu SHAO (Beijing Normal University)	Stochastic Formulation of Quantum Dissipative Dynamics

**6、 Nano-Optics and Quantum information****Chairman: Xue-Hua WANG(Sun Yat-Sen University)**

Oct 11 <sup>th</sup> 13:45-16:15Pm Location: Advance academic research cente , lecture hall		
Time	Speakers (affiliation)	topics
13:45-14:21	C.T. CHAN (Hong Kong University of Science & Technology)	Transformation electrodynamics and its application
14:22-14:58	Yan LI Peking University	Optical research in small scale of time-space
14:59-15:35	Hong Bo SUN (Jilin University)	Research on ultrafast photonic preparation technique of polymer micro-optics and micro-mechanics device
15:36-16:12	Zhen Lin WANG (Nanjing University)	Optical properties of particle self-organization and the metallic copy of the ordered microstructural materials
16:15-16:30	Coffee break	
16:30-17:06	Hong Xing XU (Institute of Physics, Chinese Academy of Sciences)	Control Light With Plasmons In The Nanometer Scale
17:07-17:43	Jian Qiang YOU (Fudan University)	Cooling a solid-state qubit and its surrounding noise
17:44-18:20	Wei Ping ZHANG (East China Normal University)	Coherent manipulation of ultracold atoms
18:21-18:33	Zhao Hongbo (Hong Kong University of Science & Technology)	Photophysics of single-walled carbon nanotubes
Oct 12 <sup>th</sup> 13:45-16:15Pm Location: Advance academic research cente , lecture hall		
13:45-14:21	Jian Ying ZHOU Sun Yat-Sen University	Research of holographical photoetching technique for functional photonic crystal and 3d micro-nano-photonic device
14:22-14:34	G. X. Li (Hong Kong Baptist University)	Half-cylindrical far field superlens with coupled Fabry-Perot cavities
14:35-14:47	F. Y. Wang (Hong Kong Baptist University)	Half-cylindrical far field superlens with coupled Fabry-Perot cavities
14:48-15:00	Yi Quan LI (Sun Yat-Sen University)	Photonic Nerves Bus The Physical Layer Communication of Pseudo-Organics Computer
15:01-15:13	Xiang Bo YANG (South China Normal University)	Multi-connected Photonic Networks with Strong Attenuation within the Band Gaps
15:14-15:26	Yongchun Zhong (Hong Kong University of Science & Technology)	Fabrication of ZnO photonic crystals using single beam laser holographic lithography
15:27-15:39	Ping WU (Shantou University)	Correlation between Photoluminescence and oxygen vacancies in In <sub>2</sub> O <sub>3</sub> , SnO <sub>2</sub> and

		ZnO metallic oxide nanostructures
15:40-15:52	Soi-Chan Lei ( National Tsing-Hua University/ Hong Kong University of Science & Technology)	Two Species Jaynes-Cummings-Bose-Hubbard model
15:53-16:05	Han XIE (Hong Kong University of Science & Technology)	3D metallic fractals and their photonic crystal characteristics

## 7、 Organic electronics and light-emitting-diode

**Chairman: Chin Hsin CHEN (Hong Kong Baptist University)**

**K. S. WONG(Hong Kong University of Science & Technology)**

Oct 11 <sup>th</sup> 11:00-12:15 Am Location: Advance academic research cente , Room 111		
Time	Speakers (affliation)	topics
11:00-11:10	Host: Chin Hsin CHEN Opening Remark	
11:10-11:45	Aleksandra B. Djuricic The University of Hong Kong	ZnO nanostructure/organic hybrid light emitting devices
11:45-12:20	Shu Kong SO Hong Kong Baptist University	Carrier transport in molecularly doped organic semiconductors
Oct 11 <sup>th</sup> 13:45-16:05 pm Location: Advance academic research cente , Room 111		
13:45-14:20	Bao Xiu MI (Nanjing Telecom University)	Strong Luminescent Iridium Complexes with C <sup>N</sup> =N Structure in Ligands and Their Potential in Efficient and Thermal-stable Phosphorescent OLEDs
14:21-14:55	Ben Zhong TANG (Hong Kong University of Science & Technology)	Aggregation-Induced Emission
14:55-15:30	K.W. Cheah (Hong Kong Baptist University)	Materials and Devices for White Light OLED
15:30-16:05	Chun-Sing Lee (Center Of Super-Diamond and Advanced Films,City University of Hong Kong)	Methods for Estimation of carrier injection barrie at metal/organic interfaces
Oct 12 <sup>th</sup> 16:00-16:25 pm Location: Advance academic research cente lecture hall		
16:00-16:12	Lin Tao HOU (Jinan University)	Influence of MoO3 hole injection layer on the performance of OLED devices
16:13-16:25	Xue Hua CHEN (Guangdong University of Technology)	Research of REDOX for long afterglow blue light material: Sr2MgSi2O7:Eu,Dy

**8、 Spintronics****Chairman: Wei Kun GE (Sun Yat-Sen University)**

Oct 11 <sup>th</sup> 16:30-18:30pm Location: Advance academic research cente , Room 211		
Time	Speakers (affiliation)	topics
16:30-17:06	Wen Ji DENG (South China University of Technology)	Spin-orbital coupling effect in quantum transportation and schottky noise
17:07-17:43	Liang Bin HU (South China Normal University)	Alternative mechanisms for electrically-induced spin-Hall currents and spin-Hall edge spin polarizations
17:44-17:56	Y u Jun ZHAO (South China University of Technology)	The influence of defect charge state on magnetism of diluted magnetic semiconductors
17: 57– 18:10	Jianjun SONG (Hong Kong University of Science &Technology)	Wave-function engineering and spin current in cold atoms
Oct 12 <sup>th</sup> 11:15-12:28Am Location: Advance academic research cente , Room 211		
11:15-11:51	Tian Shu LAI (Sun Yat-Sen University)	Spin relaxation and ultrafast dynamics of electron, spin and lattice heat exchange in GdFeCo thin film
11:52-12:28	Ren Bao LIU (Chinese University of Hong Kong)	Optical effect of a pure spin current in a direct-gap semiconductor
Oct 12 <sup>th</sup> 13:30-15:45Pm Location: Advance academic research cente , Room 211		
13:45-14:16	Shun Qing SHEN (University of Hong Kong)	Using spin bias or spin current to manipulate and measure quantum spin
14:17-14:53	Chun Lei YANG (Sun Yat-Sen University)	Spin Dynamics in InAs/GaAs sub-monolayer structures and GaAsN/GaAs quantum wells
14:54-15:06	Li Hua TENG (Sun Yat-Sen University)	Dependence of spin polarization and relaxation on concentration in GaAs
15:07-15:19	S. P. Lau (Hong Kong Polytechnic University)	Ferromagnetism in Cu-doped ZnO films prepared by filtered cathodic vacuum arc technique

## 9、 Condensed matter physics

**Chairman::Wen Ji DENG (South China University of Technology)**

Oct 12 <sup>th</sup> 10:45-12:30Am Location: Advance academic research cente , Room 111		
Time	Speakers (affiliation)	topics
10:45-10:57	Zhen Hua QIAO (University of Hong Kong)	How edge states are destroyed in disordered mesoscopic samples?
10:58-11:10	Zheng Fa HU (Guangdong University of Technology)	Revisiting of Branching Ratio of S(3P) to S(1D): Investigation of Photodissociation of CS <sub>2</sub> via the 1B <sub>2</sub> State
11:11-11:23	Li Xin LI (Henan Polytechnic University)	Deformation and friction characteristics of Zr-based bulk metallic glasses studied by nanoindentation
11:24-11:36	Li Jun PAN (City University of Hong Kong)	Stability and mechanical properties of boron nanotubes explored through theoretical study
11:37-11:49	Xiao Bao YANG (City University of Hong Kong)	Tunable electronic properties of <112> silicon nanowires
11:50-12:02	YiXU (South China Normal University)	All-angle self-collimating phenomenon in photonic crystals with rectangular symmetry
12:03-12:15	Xiao Hong JI (South China University of Technology)	Al-2p and N-1s core level shift of AlN nanorods induced by Cu- and Fe doping
12:16-12:28	Zheng Xin LIU (Hong Kong University of Science & Technology)	Fermionic Mean Field Theory of Spin-1 Anisotropic Antiferromagnets