



PKU-CUSTIPEN Nuclear Reaction Workshop  
**"Reactions and Spectroscopy  
of Unstable Nuclei"**

Supported by NSFC, State Key Laboratory of  
Theoretical Physics (ITP), CCAST, Peking U,  
Beijing Normal U, KIAA-PKU.

# Program

August 10-14, 2014, Peking University, Beijing

## Sunday, August 10, 2014

2:00 pm – 6:00 pm	Registration (Hotel Building 9, 中关村新园 9 号楼)
6:00 pm – 8:00 pm	Reception and discussion (Hotel Building 6, 中关村新园辰光咖啡厅)

## Monday, August 11, 2014

The Kavli Institute for Astronomy and Astrophysics (科维理天文与天体物理研究所)

Time	Speaker / Affiliation	Title
<b>Chair:</b> Furong Xu (Peking U)		
9:00 am – 9:05 am (5')	Yanlin Ye Peking U	Welcome address
9:05 am – 9:35 am (25'+5')	Carlos Bertulani TAMU-Commerce	$p, 2p$ and $p, pn$ reactions with unstable nuclei
9:35 am – 10:05 am (25'+5')	Yanlin Ye Peking U	Clustering and its observation in unstable nuclei
10:05 am – 10:35 pm	Conference photo and coffee break	
<b>Chair:</b> Huanqiao Zhang (CIAE)		
10:35 am – 11:00 am (20'+5')	Alexandre Obertelli CEA Saclay	Recent experimental results and developments on direct stripping reactions with unstable nuclei

11:00 am – 11:25 am (20'+5')	Luciano Canton INFN	Resonance and scattering aspects of weakly bound nuclei at low energy
11:25 am – 11:50 am (20'+5')	Kazuki Yoshida RCNP	Extracting electric dipole breakup cross section of one-neutron halo nuclei from inclusive breakup observables
11:50 am – 12:15 am (20'+5')	Youngman Kim RISP/IBS	RISP and nuclear reactions for RAON
12:15 am – 2:00 pm	Lunch @Yannan Restaurant (燕南食堂)	
<b>Chair:</b> Ramon Wyss (KTH)		
2:00 pm – 2:25 pm (20'+5')	Nasser Kalantar KVI-CART	Nuclear Structure and Reactions within NUSTAR
2:25 pm – 2:50 am (20'+5')	Phil Walker U Surrey	Stored exotic nuclei
2:50 pm – 3:15 pm (20'+5')	Daniel Bazin MSU	Knockout reactions: a tool for spectroscopy of exotic nuclei
3:15 pm – 3:40 pm (20'+5')	Yosuke Kondo TI Technology	Recent experimental results on unbound oxygen isotopes beyond the drip line
3:40 am – 4:10 pm	Coffee break	
<b>Chair:</b> Shan-Gui Zhou (ITP, CAS)		
4:10 pm – 4:35 pm (20'+5')	Tohru Motobayashi RIKEN	Coulomb dissociation for nuclear astrophysics studies
4:35 pm – 5:00 pm (20'+5')	Xiaodong Tang IMP, CAS	Nuclear physics uncertainty in the s-process nucleosynthesis
5:00 pm – 5:25 pm (20'+5')	R. G. Pizzone INFN - LNS	Trojan Horse method and its application to nuclear astrophysics with stable and radioactive beams
5:25 pm – 5:45 pm (15'+5')	Liyong Zhang IMP, CAS	Indirect measurement of the $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$ reaction rate
5:45 pm – 6:05 pm (15'+5')	Bing Wang ITP, CAS	Systematic study of breakup effects on complete fusion cross sections at energies above the Coulomb barrier

6:30 pm Dinner @Zhengda International Center (正大国际)

**Tuesday, August 12, 2014**

**Chair: Zhongyu Ma (CIAE)**

9:00 am – 9:25 am  
(20'+5')

Thomas Aumann  
TU Darmstadt

Dipole response of neutron-rich nuclei investigated at R3B

9:25 am – 9:50 am  
(20'+5')

Kazuyuki Ogata  
RCNP

Recent reaction studies on particle-unbound states with CDCC

9:50 am – 10:15 am  
(20'+5')

Yu-Gang Ma  
SINAP, CAS

How alpha-Cluster Configuration Affects Giant Dipole Resonance

10:15 am – 10:45 am Coffee break

**Chair: Phil Walker (U Surrey)**

10:45 am – 11:10 am  
(20'+5')

Yuri Litvinov  
GSI

Beta decay of highly-charged ions

11:10 am – 11:35 am  
(20'+5')

Maria Doncel  
KTH

Lifetime measurements in  $^{112}\text{Te}$

11:35 am – 11:55 am  
(15'+5')

Hongjie Li  
KTH

First identification of excited states in  $^{165}\text{Re}$  with tagging techniques

11:55 am – 2:00 pm Lunch @Shaoyuan Restaurant (燕南食堂)

**Chair: Sheng-Jiang Zhu (Tsinghua U)**

2:00 pm – 2:25 pm  
(20'+5')

Bo Cederwall  
KTH

The complex picture of neutron-proton pair correlations in  $N = Z$  nuclei, an experimental perspective

2:25 pm – 2:50 pm  
(20'+5')

Zsolt Podolyak  
U Surrey

Population of high-spin states in projectile fragmentation

2:50 pm – 3:15 pm  
(20'+5')

Takashi Nakamura  
TI Technology

Island of inversion studied by Coulomb and nuclear breakup

3:15 pm – 3:40 pm  
(20'+5')

Nguyen Van Giai  
IPN Orsay

Exploring the magicity of the  $^{54}\text{Ca}$  nucleus in the RHFB approach

3:40 am – 4:10 pm Coffee break

<b>Chair: Jingdong Bao (Beijing Normal U)</b>		
4:10 pm – 4:35 pm (20'+5')	Kazuhiro Yabana U Tsukuba	Imaginary-time formalism of triple-alpha reaction
4:35 pm – 5:00 pm (20'+5')	Stefan Typel GSI	Cluster correlations in dilute matter and nuclei
5:00 pm – 5:25 pm (20'+5')	Isao Tanihata Beihang U	Effect of tensor forces in the ground state of nuclei: "a new challenge"
5:25 pm – 5:50 pm (20'+5')	Miguel Marques LPC-Caen	The structure of Beryllium and Boron isotopes beyond the neutron drip line
5:50 pm – 6:10 pm (15'+5')	Jie Zhao ITP, CAS	The tetrahedral $4\alpha$ -cluster state of $^{16}\text{O}$ from MDC-RMF
6:30 pm	Banquet @ Zhengda International Center (正大国际二楼)	

### Wednesday, August 13, 2014

<b>Chair: Fengshou Zhang (Beijing Normal U)</b>		
9:00 am – 9:25 am (20'+5')	Bao-An Li TAMU-Commerce	Effects of short-range correlation on symmetry energy and their manifestations in heavy-ion collisions
9:25 am – 9:50 am (20'+5')	Jorge A. López U Texas at El Paso	Classical aspects of the nuclear symmetry energy
9:50 am – 10:15 am (20'+5')	Jenny Lee HKU	TBA
10:15 am – 10:45 am	Coffee break	
<b>Chair: Thomas Aumann (TU Darmstadt)</b>		
10:45 am – 11:10 am (20'+5')	Stefanos Paschalis TU Darmstadt	Spectroscopic studies of stable and exotic nuclei using quasi-free scattering reactions in inverse kinematics
11:10 am – 11:35 am (20'+5')	Zhigang Xiao Tsinghua U	Time dependent of the $N/Z$ composition of the emission particles in the fission events of Ar+Au at 35 MeV/u
11:35 am – 12:00 am	Yingxun Zhang	Influence of Skyrme interactions on the HICs

(20'+5')	CIAE	observables
12:00 am – 2:00 pm	Lunch @Yannan Restaurant (燕南食堂)	
2:00 pm – 6:00 pm	Excursion (Summer Palace)	
6:30 pm	Dinner @ Zhengda International Center (正大国际)	

### Thursday, August 14, 2014

#### *Chair:* Zhongzhou Ren (Nanjing U)

9:00 am – 9:25 am (20'+5')	Bruce Richard Barrett U Arizona	The no core Gamow shell model: Including the continuum in the NCSM
9:25 am – 9:50 am (20'+5')	Steven Karataglidis U Johannesburg	Aspects of structure of exotic nuclei from low and intermediate energy scattering
9:50 am – 10:15 am (20'+5')	Chong Qi KTH	New insight on the odd-even mass staggering and pairing correlation in drip-line nuclei
10:15 am – 10:45 am	Coffee break	

#### *Chair:* Zhuxia Li (CIAE)

10:45 am – 11:10 am (20'+5')	F. Sammarruca U Idaho	From nuclear matter to nuclear reactions
11:10 am – 11:35 am (20'+5')	Renxin Xu Peking U	A strangeness barrier on strange star surface
11:35 am – 12:00 am (20'+5')	Yuan Tian CIAE	Study of Perey-Buck Nonlocal optical potential
12:00 am – 2:00 pm	Lunch @Yannan Restaurant (燕南食堂)	

#### *Chair:* Yumin Zhao (SJTU)

2:00 pm – 2:25 pm (20'+5')	Sato Yoshiteru Seoul National U	Inclusive one-neutron knockout reaction of $^{17,18,20}\text{C}$ and migration of lowest-lying negative parity states in neutron rich C isotopes.
2:25 pm – 2:50 am (20'+5')	Lu Guo UCAS	Effect of spin-orbit and tensor force in TDHF theory
2:50 pm – 3:15 pm (20'+5')	Ligang Cao IMP, CAS	Spin-isospin response in finite nuclei from an extended Skyrme interaction

3:15 pm – 3:35 pm (15'+5')	Yinu Zhang Peking U	Exotic surfaces and continuum contributions in deformed weakly-bound nuclei
3:35 am – 4:10 pm	Coffee break	
<b>Chair:</b> Carlos Bertulani (TAMU-Commerce)		
4:10 pm – 4:35 pm (20'+5')	Paulo Gomes U Federal Fluminense	Fusion, breakup and scattering of light unstable nuclei
4:35 pm – 5:00 pm (20'+5')	Danyang Pang Beihang U	Neutron-skin thickness of heavy ions studied with $\alpha$ -particle scattering
5:00 pm – 5:20 pm (15'+5')	Chun-Wang Ma Henan Normal U	Isobaric yield ratio difference and nuclear density determination
5:20 pm – 5:25 pm (5')	Bao-An Li TAMU-Commerce	Closing (and for CUSTIPEN)
6:00 pm	Dinner @ Zhengda International Center (正大国际)	