

CWAN'23

Chirality and Wobbling in Atomic Nuclei

July 10 - July 14, 2023, Huizhou, China

Scientific Program

Monday, July 10, 2023

9:00 – 12:00

Registration

12:00 - 14:00 Lunch

SESSION 1 – Chair: **Pengwei Zhao** (Peking University, Beijing, China)

14:00 - 15:00

Costel Petrache (IJCLab, Orsay, France)

Chirality and wobbling in nuclei from an experimental perspective

15:00 - 16:00

Ernest Grodner (HIL, Warsaw, Poland)

Direct chiral geometry measurement, the proof of concept

16:00 - 16:30 Coffee break

SESSION 2 – Chair: **Costel Petrache** (IJCLab, Orsay, France)

16:30 - 17:30

Stefan Frauendorf (Notre Dame, Indiana, USA) (**remote: 10h30**)

Wobbling of triaxial nuclei

17:30 - 18:30

Jie Meng (Peking University, Peking, China) (**remote: 11h30**)

Theoretical investigation on nuclear chirality

18:30 - 19:30

Peter Ring (Technical University, München, Germany): (**remote: 12h30**)

Effective Masses in Relativistic Brueckner-Hartree-Fock Theory

19:30 - 21:30 Welcome cocktail

Tuesday, July 11, 2023

SESSION 3 – Chair: **Ernest Grodner** (HIL, Warsaw, Poland)

8:30 - 9:00

Julian Srebrny (HIL, Warsaw, Poland)

Experimental proof of chirality by absolute transition probabilities

9:00 - 9:30

Elena Lawrie (iThemba LABS, Somerset West, South Africa)

Tilted precession in triaxial nuclei calculated with the quasiparticle-rotor model

9:30 - 10:00

Kosuke Nomura (Hokkaido University, Hokkaido, Japan): (remote:10h30)

Structure of odd-mass γ -soft nuclei within the IBFM

10:00 - 10:30 Coffee break

SESSION 4 – Chair: **Bin Qi** (Shangong University, Shandong, China)

10:30 - 11:00

Pengwei Zhao (Peking University, Beijing, China)

Chiral dynamics in "rigid" and "soft" triaxial nuclei

11:00 - 11:30

Qibo Chen (East China Normal University, Shanghai, China)

Study of chirality and wobbling within CDFT+PRM

11:30 - 12:00

Radu Budaca (NIPNE, Magurele, Romania)

Spin dynamics of triaxial nuclei with quasiparticle alignments

12:00 - 14:00 Lunch

SESSION 5 – Chair: **Elena Lawrie** (iThemba LABS, Somerset West, South Africa)

14:00 - 14:30

Zhipan Li (Southwest University, Chongqing, China)

Nuclear low-lying spectrum and shape coexistence

14:30 - 15:00

Chen Liu (Shandong University, China)

Experimental studies on the nuclear chirality in SDU

15:00 - 15:30

Bin Qi (Shangong University, Shandong, China)

Theoretical studies on the chirality and wobbling in SDU

15:30 - 16:00 Coffee break

SESSION 6 – Chair: **Xiao-Tao He** (Nanjing University of Aeronautics and Astronautics)

16:00 - 16:30

Javid Sheikh (University of Kashmir, Srinagar, India) (remote: 12h30)

Microscopic investigation of γ -deformation in atomic nuclei

16:30 - 17:00

Nikolay Minkov (INRNE, Sofia, Bulgaria) (remote: 10h30)

Reflection asymmetry and triaxiality in even-even atomic nuclei

17:00 - 17:30

Jerzy Dudek (IPHC, Strasbourg, France) (remote: 11h00)

Nature of triaxiality seen via exotic geometrical symmetries and new concepts of nuclear shells

17:30 - 18:00

Sanjay Kumar Chamoli (Delhi University, India)

A fresh experimental investigation into the high spin states in ^{118}Xe (remote: 15h00, July 11)

18:00 - 20:00 Dinner

Wednesday, July 12, 2023

Visit of the HIAF facility and touristic tour

Thursday, July 13, 2023

SESSION 7 – Chair: **Guangshun Li** (IMP, Lanzhou, China)

8:30 - 9:00

James Allmond (ORNL, Tennessee, USA) (remote: 20h30, July 12)

An updated view on empirical moments of inertia of axially asymmetric nuclei

9:00 - 9:30

Song Guo (IMP, Lanzhou, China)

Pseudospin-chiral quartet bands in ^{131}Ba

9:30 - 10:00

Bingfeng Lv (IMP, Lanzhou, China)

Chirality and wobbling in the $^{135,136,137}\text{Nd}$ and ^{135}Pr nuclei

10:00 - 10:30 Coffee break

SESSION 8 – Chair: **Guo Song** (IMP, Lanzhou, China)

10:30 - 11:00

Jurgen Gerl (GSI/FAIR, Darmstadt, Germany)

New perspectives for studies of the collectivity of neutron-rich nuclei at GSI/FAIR

11:00 - 11:30

Guang-Shun Li (IMP, Lanzhou, China)

Development and cooperation on γ -spectroscopy instruments

11:30 - 12:00

Eiji Ideguchi (RCNP, Osaka, Japan) (remote: 12h30)

Gamma ray spectroscopy at RCNP, Osaka University

12:00 - 14:00 Lunch

SESSION 9 – Chair: **Zhipan Li** (Southwest University, Chongqing, China)

14:00 - 14:30

Yu Zhang (Liaoning University, Shenyang, China)

Collective multiple chiral doublets bands and wobbling bands in transitional systems

14:30 - 15:00

Yakun Wang (Peking University, Beijing, China)

Relativistic configuration-interaction density functional theory: chiral rotation in ^{130}Cs

15:00 - 15:30

Yuan-Yuan Wang (North China Electric Power University, Beijing, China)

Selection rules of electromagnetic transitions for chirality-parity violation in atomic nuclei

15:30 - 16:00 Coffee break

SESSION 10 – Chair: **Yu Zhang** (Liaoning Normal University, China)

16:00 - 16:30

Jian Li (Jilin University, Changchun, China)

Nuclear chirality in cesium isotopes with covariant density functional theory

16:30 - 17:00

Lang Liu (Jiangnan University, Wuxi, China)

Pairing phase transition in hot nuclei

17:00 - 17:30

Yiping Wang (School of Physics, Peking University): (remote)

Nuclear chiral rotation induced by superfluidity

17:30 - 18:00

Marco Rocchini (INFN Firenze, Italy): (remote: 11h30)

First evidence of axial shape asymmetry and configuration coexistence in ^{74}Zn : suggestion for a northern extension of the N=40 island of inversion

18:00 - 20:00 Dinner

Friday, July 14, 2023

SESSION 11 – Chair: **Jurgen Gerl** (GSI/FAIR, Darmstadt, Germany)

8:30 - 9:00

Xiao-Tao He (Nanjing University, Nanjing, China)

High-K state and rotational band in light superheavy nuclei by PNC-CSM method

9:00 - 9:30

Zhen-Hua Zhang (North China Electric Power University, Beijing, China)

Rotational excitations in rare-earth nuclei: a comparative study within different cranking models

9:30 - 10:00

Yanxin Liu (Huzhou University, Huzhou, China)

Study on nuclear structure of important neutron-rich nuclei related to the r-process

10:00 - 10:30 Coffee break

SESSION 12 – Chair: **Lang Liu** (Jiangnan University, China)

10:30 - 11:00

Kuankuan Zheng (IMP, Lanzhou, China)

Collectivity and chirality in extremely neutron deficient ^{119}Cs , ^{119}Ba , and ^{118}Cs

11:00 - 11:30

Sinegugu Mthembu (iThemba LABS, Somerset West, South Africa): (remote: 5h00)

Nature of the low-spin states in the moderately-deformed triaxial ^{193}Au nucleus

11:30 - 11:45

Atreyee Dey (IIT, Kharagpur, India): (remote: 7h30)

Search for triaxiality in ^{125}Te

11:45 - 12:00

Costel Petrache (IJCLab, Orsay, France)

Closing remarks

12:00 - 14:00 Lunch

END