

Chirality 2019

The 5th Workshop on Chirality, Vorticity and Magnetic Field in Heavy Ion Collisions

*Tsinghua University
Beijing, China*

April 8 – 12, 2019

Scientific Program

Venue: *The third lecture hall, Hotel Jinchunyuan (近春园第三会议室)*

Wireless internet: *SSID: chirality, password: chirality2019*

Monday, April 8

Chair: Nu Xu

- 9:00 – 9:10 Pengfei Zhuang
“Welcome speech”
- 9:10 – 9:50 Huanzhong Huang
“Overview on chiral magnetic effect”
- 9:50 – 10:30 Francesco Becattini
“Overview on vorticity and polarization”
- 10:30 – 11:00 *Coffee Break*

Chair: Laszlo Csernai

- 11:00 – 11:30 Cheming Ko
“Chiral kinetic study of magnetic and vortical effects in relativistic heavy ion collisions”
- 11:30 – 12:00 Qun Wang
“A microscopic mechanism for global polarization through spin-orbit couplings in particle scatterings”
- 12:00 – 12:30 Shuzhe Shi
“Anomalous-viscous fluid dynamics (AVFD)”
- 12:30 – 14:00 *Lunch Break*

Chirality 2019

Chair: Mei Huang

- 14:00 – 14:30 Xuguang Huang
“Overview on chiral kinetic transport”
- 14:30 – 15:00 Jianhua Gao
“Relativistic quantum kinetic theory for massive fermions and spin effects”
- 15:00 – 15:20 Anping Huang
“Quantum relativistic kinetic theory in 2+1 dimensions”
- 15:20 – 15:40 Ziyue Wang
“Mass correction to chiral kinetic equations”
- 15:40 – 16:00 *Coffee Break*

Chair: Defu Hou

- 16:00 – 16:20 Xinli Sheng
“Kinetic theory for massive spin-1/2 particles from the Wigner-function formalism”
- 16:20 – 16:40 Yuchen Liu
“Chiral kinetic theory in curved spacetime”
- 16:40 – 17:00 Aradhya Kumar Shukla
“Reparametrization Invariance of chiral kinetic theory from high density effective theory”
- 17:00 – 17:20 George Prokhorov
“Acceleration as imaginary chemical potential”
- 17:45 *Photo (Sunken square, school of science, 理学院下沉广场)*
- 18:00 *Reception (Lobby, school of science, 理学院大厅)*

Tuesday, April 9

Chair: Teiji Kunihiro

- 9:00 – 9:30 Niklas Mueller
“Chiral kinetic theory”
- 9:30 – 10:00 Yi Yin
“Hydro+” and chirality/spin transport”
- 10:00 – 10:30 Guoliang Ma

Chirality 2019

“Impact of the characteristics of magnetic field on the CME and CMW measurements at RHIC”

10:30 – 11:00 *Coffee Break*

Chair: Yi Yin

11:00 – 11:30 Hui Liu
“Higher order corrections to CME”

11:30 – 11:50 Miklos Horvath
“Non-static chiral magnetic response”

11:50 – 12:10 Lixin Yang
“On mass correction to CVE&CSE and frequency dependent electronic conductivity from CKT”

12:10 – 12:30 Wenhao Zhou
“Simulating chiral anomalies in a box system”

12:30 – 14:00 *Lunch Break*

Chair: Cheming Ko

14:00 – 14:30 Fuqiang Wang
“Status of experimental searches for the chiral magnetic effect”

14:30 – 15:00 Roy Lacey
“Different observables of CME signals”

15:00 – 15:30 Aihong Tang
“Probe Chiral Magnetic Effect with Signed Balance Function”

15:30 – 16:00 *Coffee Break*

Chair: Sergei Voloshin

16:00 – 16:30 Gang Wang
“Background estimation in search of the CME at STAR”

16:30 – 17:00 Jie Zhao
“Measurements of the chiral magnetic effect with background isolation in 200 GeV Au+Au collisions at STAR”

17:00 – 17:30 Qiye Shou

Chirality 2019

“Study of CME in heavy-ion collisions at the LHC with ALICE with event-shape engineering”

17:30 – 18:00 Sergei Voloshin (moderator)
“Discussions on CME Observables”

18:30 *IAC Dinner (Jinchunyuan restaurant, 近春园餐厅)*

Wednesday, April 10

Chair: Michael Lisa

9:00 – 9:30 Takafumi Niida
“Z-component polarization”

9:30 – 10:00 Ranbir Singh
“Global polarization of hyperons and spin alignment of vector mesons with ALICE at the LHC”

10:00 – 10:30 Michael Lisa (moderator)
“Discussions on puzzles in polarization measurements”

10:30 – 11:00 *Coffee Break*

Chair: Zhangbu Xu

10:30 – 11:00 Yilong Xie
“Global and local Λ polarization in relativistic heavy ion collisions”

11:30 – 12:00 Gaoqing Cao
“Polarization transfer in decays and its effect in relativistic nuclear collisions”

12:00 – 12:20 Xiaoliang Xia
“Local Lambda polarization and local phi spin alignment”

12:20 – 12:40 Hui Li
“Effect of resonance decay on local Lambda polarization”

12:40 – 14:00 *Lunch Break*

Chair: Roy Lacey

14:00 – 14:30 Zhangbu Xu
“Probe extreme electromagnetic field with Breit-Wheeler process”

Chirality 2019

14:30 – 15:00 Jun Xu
“Transport simulations of spin and chiral dynamics”

15:00 – 15:20 Xingyu Guo
“Magnetic field in the charged subatomic swirls”

15:20 – 15:50 *Coffee Break*

Chair: Qun Wang

15:50 – 16:10 Kun Xu
“Determine the magnitude of the magnetic field at freeze-out”

16:10 – 16:30 Haolei Chen
“Charged Pion Condensate in Magnetic Field with Rotation”

16:30 – 16:50 Yilin Cheng
“Electromagnetic field from asymmetric to symmetric heavy Ion collision at 200 GeV/c”

17:00 *Bus to Huguang Guild Hall, Beijing, 北京湖广会馆*

18:30 *Beijing Opera Show*

Thursday, April 11

Chair: Francesco Becattini

9:00 – 9:30 Dirk Rischke
“Dissipative magnetohydrodynamics from the Boltzmann equation”

9:30 – 10:00 Radoslaw Ryblewski
“Relativistic fluid dynamics for polarized media and the classical treatment of spin”

10:00 – 10:30 Hidetoshi Taya
“Formulation of relativistic spin hydrodynamics based on the entropy-current analysis”

10:30 – 11:00 *Coffee Break*

Chair: Aihong Tang

11:00 – 11:30 Huichao Song
“Application of machine learning on hydrodynamics and collective flow”

Chirality 2019

- 11:30 – 12:00 Li Yan
“Hydrodynamics and AMPT model”
- 12:00 – 12:30 Shi Pu
“Longitudinal boost invariant magnetohydrodynamics with chiral magnetic effects”
- 12:30 – 14:00 Lunch Break

Chair: Dirk Rischke

- 14:00 – 14:30 Mei Huang
“QCD Phases in magnetic fields”
- 14:30 – 15:00 Defu Hou
“QCD phases under rotation”
- 15:00 – 15:30 Shu Lin
“Axial charge dynamics in heavy ion collisions”
- 15:30 – 16:00 Coffee Break

Chair: Kenji Fukushima

- 16:00 – 16:30 Hengtong Ding
“Chiral crossover and phase transition in (2+1)-flavor QCD”
- 16:30 – 17:00 Lianyi He
“Local suppression and enhancement of pairing condensate under rotation”
- 17:00 – 17:30 Yin Jiang
“Fermion pairing condensate under rotation”
- 17:30 – 17:50 Zeyan Wang
“Relaxation to CKW state in a transport calculation”
- 18:30 Banquet (Quanjude Restaurant, 全聚德餐厅)

Friday, April 12

Chair: Jinfeng Liao

- 9:00 – 9:30 Enrico Speranza
“Spin tensor and its role in non-equilibrium thermodynamics”
- 9:30 – 10:00 A.D. Gallegos Pazos

Chirality 2019

“Spin current hydrodynamics in holographic first order gravity”

10:00 – 10:30 Avdhesh Kumar

“Relativistic hydrodynamics with spin and spin polarization evolution in a Bjorken flow Background”

10:30 – 11:00 *Coffee Break*

Chair: Huanzhong Huang

11:00 – 11:30 Mamoru Matsuo

“Spin hydrodynamics in condensed matter theory”

11:30 – 12:00 Kenji Fukushima

“New developments in magnetic field and rotation induced effects”

12:00 – 12:30 Jinfeng Liao

“Status, prospect, and the path forward”

12:30 – 12:40 Huanzhong Huang

“Closing speech”

12:40 – 14:00 *Lunch Break*

14:00 ***End of the Workshop***