

International Workshop on New Developments in Laboratory Astrophysics

Date: January 9-11, 2024
Place: Chikushi Campus, Kyushu University
Zoom: <https://us06web.zoom.us/j/84128511106> (contact us to get the password)
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Agenda

Day 1: January 9 (Room D-106)

Session: instability

15:00-15:10 Opening

15:10-15:30 “Numerical Study of Growth of Kelvin-Helmholtz Instability in Collisionless Shock Experiments”
Akira Mizuta (RIKEN)

15:30-16:00 “Efficient Magnetic Field Amplification by Ion-Weibel Instability with Magnetized Electrons”
Taiki Jikei (University of Tokyo)

16:00-16:40 Open discussion with student presentation
(Lucile Fouquet, Shutaro Kurochi)

18:00- Deep discussion

Day 2: January 10 (Room E-101)

Session: particle acceleration

10:30-11:00 “Cosmic Ray Acceleration in Relativistic Collisionless Shocks”
Masanori Iwamoto (Kyoto University)

11:00-11:30 “Laser-Driven Collisionless Shock Acceleration in Micron-Scale Spherical Hydrogen Targets”
Yuji Fukuda (Kansai Institute for Photon Science)

11:30-12:00 “Over 100 MeV Proton Acceleration with Graphene, Picosecond Laser, and Machine Learning”
Takumi Minami (Osaka University)

Lunch

Day 2: January 10 (Room E-101)

Session: artificial intelligence

14:00-14:30 “Advancements in Neural Network Techniques for Electric and Magnetic Field Reconstruction: Application to Ion Radiography”
Chun-Sung Jao (National Cheng Kung University)

14:30-15:30 Open discussion with student presentation
(Rikimaru Kitamura, Fuka Nikaido, Naoya Tamaki)

Break

16:00-16:30 “Reconstruction of the Magnetic Reconnection Structure by using Physics Informed Neural Networks (PINNs)”
Shogo Isayama (Kyushu University)

16:30-17:00 “On the Classification of Electron in Plasma Wake Field”
Naoki Watamura (Osaka University)

17:00-17:30 “TBA”
Nathaniel Saura (Aix-Marseille University)

17:30-18:00 Discussion

19:30- Deep discussion

Day 3: January 11 (Room E-101)

Session: shocks in magnetized plasmas

10:30-11:30 “Nonstationarity of a Collisionless Shock (temporary)”
Shuichi Matsukiyo (Kyushu University) **tutorial**

Lunch

14:00-14:30 “ECR Plasma Production in the HYPER-I Device”
Shinji Yoshimura (National Institute for Fusion Science) **tutorial**

14:30-15:00 “Formation of Magnetized Bow Shocks with High-Power Laser: Dependence of their Shape on Magnetic Field Orientation”
Shuta Tanaka (Aoyama Gakuin University)

15:00-15:30 “Current Status on the Combined Experiment of Lasers and ECR Plasmas”
Kentaro Sakai (National Institute for Fusion Science)

15:30-15:55 Discussion

15:55-16:00 Closing

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