

Kenshi KUROKI (黒木 健志)






November 10, 2025

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Personal Data

Date of birth: Jan. 21, 1996

Place of birth: Nagasaki, Japan

Nationality: Japan

Present Position and Affiliation

Postdoctoral Fellow

Quark Matter Research Center

Institute of Modern Physics, Chinese Academy of Sciences, China

Academic Position

Jul. 2025 – Present

Postdoctoral Fellow

Institute of Modern Physics

Chinese Academy of Sciences, China

Jul. 2025 – Present

Co-Researcher Partnership

Faculty of Science and Technology

Sophia University, Japan

Apr. 2024 – Jun. 2025

Postdoctoral Fellow

Faculty of Science and Technology

Sophia University, Japan

Apr. 2021 – Mar. 2024

Research Assistant

Faculty of Science and Technology

Sophia University, Japan

Education

Apr. 2021 – Mar. 2024

Doctor of Philosophy in Physics (Ph.D.)

Department of Physics, Faculty of Science and Technology

Sophia University, Japan

Supervisor: Prof. Tetsufumi Hirano

Dissertation title: “Hadron correlation and interaction from a dynamical model in high-energy nuclear collisions”

Apr. 2019 – Mar. 2021

Master of Science in Physics (M.Sc.)

Department of Physics, Faculty of Science and Technology

Sophia University, Japan

Supervisor: Prof. Tetsufumi Hirano

Dissertation title: “Effects of event-by-event fluctuations in ultra-central heavy-ion collisions”

Apr. 2015 – Mar. 2019 **Bachelor of Science (B.S.)**
Department of Engineering and Applied Science,
Faculty of Science and Technology
Sophia University, Japan

Award

Jun. 2024 **Exemption from Return for Particularly Outstanding Achievement,**
Japan Student Services Organization (JASSO)

Fellowship/Scholarship

Apr. 2021 – Mar. 2024 Sophia Alumni Entrepreneurs Club Scholarship
Apr. 2021 – Mar. 2024 Japan Student Services Organization (JASSO) Scholarship
Apr. 2021 – Mar. 2024 Sophia University Graduate School Scholarship for Fostering
Researchers in Doctoral Program

Membership of Academic Society

The Physical Society of Japan

Community Service

Organizer for Jet Modification and Hard-Soft Correlations (SoftJet 2024), Tokyo,
Japan, Sep. 28–29, 2024, (Local Organizing Committee)

Computational Skill

Operating System Linux, Windows
Programming C/C++
Miscellaneous Shell (Bash, zsh), L^AT_EX, gnuplot, Github, Microsoft Office

Language Skill

Japanese Native
English Proficient

Reference

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|------------------|--|---|
| Shunzo Kumano | Professor, Quark Matter Research Center Institute of Modern Physics Chinese Academy of Sciences | 📍 No.1 Xinqiao North Road, Henan Bei'an, Huicheng District, Huizhou, Guangdong, 516000, China ✉ shunzo.kumano@kek.jp |
| Tetsufumi Hirano | Professor, Department of Physics, Faculty of Science and Technology, Sophia University | 📍 7-1, Kioi-cho, Chiyoda-ku, Tokyo, 102-8554, Japan ☎ +81-3-3238-3434 ✉ hirano@sophia.ac.jp |
| Koichi Murase | Research Assistant Professor, Physics Department, Tokyo Metropolitan University | 📍 1-1, Minami-Osawa, Hachioji-shi, Tokyo 192-0397, Japan ✉ phys.murase@gmail.com |

Publications

Citation data is based on INSPIRE (Nov. 10, 2025).

Refereed Journal

- **K. Kuroki, A. Sakai, K. Murase, and T. Hirano**, (Corresponding author)
“Hydrodynamic fluctuations and ultra-central flow puzzle in heavy-ion collisions”, **Phys. Lett. B** **842**, **137958** (2023), arXiv:2305.01977 [nucl-th]. [**14 citations**]

Submitted Paper

- **S. Kumano and K. Kuroki**, (Corresponding author)
“Tensor-polarized twist-3 parton distribution functions $f_{LT}(x)$ for the spin-1 deuteron by using twist-2 relations”, arXiv:2509.05046 [hep-ph]. [**0 citations**]

Conference Proceedings

- **K. Kuroki and T. Hirano**, (Corresponding author, Refereed)
“p- ϕ femtosopic correlation analysis using a dynamical model”, **The 21st International Conference on Strangeness in Quark Matter (SQM 2024)**, Strasbourg, France, Jun. 5, 2024, **EPJ Web Conf.** **316**, **03009** (2025), arXiv:2410.01204 [hep-ph]. [**1 citations**]

Presentations

The speaker is marked with a circle.

Invited Talk

- ○K. Kuroki,
“Effects of collision dynamics on $p\phi$ correlation function” (Japanese), **2nd Workshop on Intersection of J-PARC and Heavy Ion Collision Experiments**, Tokai, Ibaraki, Japan, Mar. 7, 2025.
- ○K. Kuroki,
“Effects of dynamics on interaction study via femtoscopy” (Japanese), **Go-Forward 2025**, Nagasaki, Japan, Feb. 28, 2025.
- ○K. Kuroki,
“Effects of collision dynamics on $p\phi$ femtoscopy”, **10th Asian Triangle Heavy-Ion Conference - ATHIC 2025**, Berhampur, India, Jan. 15, 2025.
- ○K. Kuroki,
“ p - ϕ interaction from femtoscopy using a dynamical model”, **International workshop on J-PARC hadron physics 2024 (J-PARC Hadron 2024)**, Tokai, Ibaraki, Japan, Jul. 23, 2024.
- ○K. Kuroki,
“Effects of hydrodynamic fluctuations on anisotropic flow in ultra-central heavy-ion collisions” (Japanese), **Post Quark Matter 2019**, Nagoya University, Nagoya, Japan, Dec. 22, 2019.

Invited Seminar

- ○K. Kuroki,
“Study on hadron correlations and interactions using a dynamical model” (Japanese), **42nd Heavy Ion Pub workshop**, Kyoto University, Kyoto, Japan, Mar. 26, 2025.
- ○K. Kuroki,
“Phenomenology of high-energy nuclear collisions using relativistic hydrodynamic models” (Japanese), **Sohaken Seminar**, Hiroshima University, Hiroshima, Japan, Jul. 3, 2023.

Contributed Talk

- ○K. Kuroki and T. Hirano,
“ p - ϕ femtoscopic correlation analysis using a dynamical model”, **The 21st International Conference on Strangeness in Quark Matter (SQM 2024)**, Strasbourg, France, Jun. 5, 2024.
- ○K. Kuroki and T. Hirano,
“ p - ϕ femtoscopy using a dynamical model” (Japanese), **The Physical Society of Japan 2024 Spring Meeting**, Online, Japan, Mar. 19, 2024.

- ○K. Kuroki, A. Sakai, K. Murase, and T. Hirano,
“Effects of hydrodynamic fluctuations in ultra-central heavy-ion collisions” (Japanese), **The Physical Society of Japan the 77th Annual Meeting**, Online, Japan, Mar. 15, 2022.
- ○K. Kuroki, A. Sakai, K. Murase, and T. Hirano,
“Effects of hydrodynamic fluctuations in ultra-central high-energy heavy-ion collisions” (Japanese), **The Physical Society of Japan the 75th Annual Meeting**, Online, Japan, Mar. 16, 2020.

Poster Presentation

- ○K. Kuroki and T. Hirano,
“ p - ϕ correlation and interaction using a dynamical model” (Japanese), **Tutorial workshop for high-energy heavy-ion collision physics 2024**, Osaka University, Osaka, Japan, Aug. 6, 2024.
- ○K. Kuroki, A. Sakai, K. Murase, and T. Hirano,
“Effects of hydrodynamic fluctuations in ultra-central Pb-Pb collisions at LHC”, **The 29th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (QM 2022)**, Online, Apr. 6, 2022.
- ○K. Kuroki, A. Sakai, K. Murase, and T. Hirano,
“Effects of hydrodynamic fluctuations on azimuthal flow in ultra-central heavy ion collisions”, **The 28th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (QM 2019)**, Wuhan, China, Nov. 4, 2019.