



Miki KURIHARA

NATIONALITY JAPAN
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WEB (MINE) https://www.isas.jaxa.jp/home/ebisawalab/kurihara/new_page/miki_EN.html
WEB (LAB) [Ebisawa Lab at ISAS/JAXA](https://www.isas.jaxa.jp/home/ebisawalab/en/members/index.html)
<https://www.isas.jaxa.jp/home/ebisawalab/en/members/index.html>

EDUCATION

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| <i>Apr 2023-present</i> | Graduate School of Science, Astronomy, UTokyo, JAPAN
- Supervisors: Prof. Ken Ebisawa, Masahiro Tsujimoto (ISAS/JAXA) |
| <i>Apr 2021-Mar 2023</i> | M.Sc., Astronomy, the University of Tokyo, JAPAN
- Supervisors: Prof. Ken Ebisawa, Masahiro Tsujimoto (ISAS/JAXA) |
| <i>Apr 2017-Mar 2021</i> | B.S., Physics, Chiba University, JAPAN
- graduated at the top of the Department of Physics in 2021
<i>Frontier Science Program</i>
- special courses for a few students who skipped their final year of high school |

RESEARCH HISTORY

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| <i>Jun 2024-present</i> | <i>1D HD simulation for a flare loop plasma with HYDRAD</i>
- Research at ISAS (Institute of Space and Astronautical Science), JAPAN
- Supervisor: Dr. Jeffrey Reep |
| <i>Mar 2024-present</i> | <i>Investigation of non-Maxwellian plasma using XRISM Resolve [4]</i>
- Research at ISAS (Institute of Space and Astronautical Science), JAPAN
- Supervisor: Prof. Masahiro Tsujimoto |
| <i>May 2023-present</i> | <i>Simulating X-ray spectra from κ distribution plasma with the EBIT and the microcalorimeter at LLNL</i>
- Research at LLNL (Lawrence Livermore National Laboratory), US
- Supervisor: Dr. Natalie Hell |
| <i>Dec 2022-Mar 2024</i> | <i>Investigation of non-Equilibrium ionization process during a giant flare in the RS CVn star UX Ari observed with NICER [3]</i>
- Research at ISAS (Institute of Space and Astronautical Science), JAPAN
- Supervisor: Prof. Masahiro Tsujimoto |
| <i>Jun 2021-Dec 2023</i> | <i>Evaluation of the EMI Effect on Cryogenic Calorimeters [1, 2]</i>
- Research at ISAS (Institute of Space and Astronautical Science), JAPAN
- Supervisor: Prof. Masahiro Tsujimoto |
| <i>Apr 2021-Oct 2023</i> | <i>Time Variability Analysis of Black Hole X-ray Binaries</i>
- Research at ISAS (Institute of Space and Astronautical Science), JAPAN
- Supervisor: Prof. Ken Ebisawa |
| <i>Sep 2020-Mar 2021</i> | <i>The Effect of Magnetic Field on Ram-pressure Stripping</i> |

	<ul style="list-style-type: none"> - Bachelor thesis at Chiba University, JAPAN - Supervisor: Prof. Ryoji Matsumoto
Nov 2019-Aug 2020	<p><i>MCMC Fitting of X-ray Light Curve</i></p> <ul style="list-style-type: none"> - Undergrad research at University of Wisconsin Milwaukee (study abroad in the US) - Supervisors: Prof. Sarah J. Vigeland, Dr. Tingting Liu

TALKS, POSTERS, AND SEMINARS

Mar 21, 2025 (IPMU)	<p><i>Space Plasma Particle Acceleration Workshop</i> (Invited, 20-min talk)</p> <p>“High-Resolution Soft X-ray Spectroscopic Diagnostics of Hot Plasmas in Stellar Coronae”</p>
Feb 26, 2025 (Arizona, US)	<p><i>XRISM Science Meeting 7</i> (20-min talk)</p> <p>“Demonstration of high-temperature plasma diagnostics in stellar coronae using Fe XXIV-XXVI K-shell lines with XRISM”</p>
Feb 19, 2025 (ISAS)	<p><i>Japan Solar Physics Community Symposium</i> (20-min talk)</p> <p>“High-temperature plasma diagnostics for stellar coronae using XRISM”</p>
Nov 27, 2024 (Tokyo, Japan)	<p><i>MAXI 15 year Workshop for the Time Domain Astronomy</i> (20-min talk)</p> <p>“X-ray study of non-thermal plasma in stellar flares triggered by MAXI”</p>
Nov 27, 2024 (NIPR)	<p><i>SGEPSS annual meeting</i> (15-min talk)</p> <p>“X-ray Investigation of non-thermal plasma in ‘X10,000,000-class’ flare of the RS CVn binary star”</p>
Oct 11, 2024 (UC Berkeley)	<p><i>Special SSL seminar</i> (1-hour seminar)</p> <p>“High-resolution X-ray spectral observations and modeling of non-thermal plasma in stars”</p>
Oct 7, 2024 (Uni. of Hawaii)	<p><i>Special IfA seminar</i> (1-hour seminar)</p> <p>“High-resolution X-ray spectral observations and modeling of non-thermal plasma in stars”</p>
Sep 27, 2024 (TMU)	<p><i>XRISM c2c workshop for young researchers</i> (poster)</p> <p>“Investigating stellar flares with XRISM <i>Resolve</i>: GT Mus and EBIT initial results”</p>
Sep 24-26, 2024 (TMU)	<p><i>XRISM SM6</i> (poster)</p> <p>“<i>Resolve</i> observation of the RS CVn star GT Mus”</p>
Sep 11-13, 2024 (KGU)	<p><i>ASJ 2024 autumn annual meeting</i> (poster)</p> <p>“Investigating Stellar Superflares with XRISM <i>Resolve</i>: AO1 proposal & HR1099 initial results”</p>
Feb 28-29, 2024 (Kyoto U)	<p><i>Stellar Magnetic Activity Workshop</i> (INVITED, 20-min talk)</p> <p>“Introduction of XRISM mission”</p>
Feb 16-18, 2024 (ISAS/JAXA)	<p><i>Binary and variable stars workshop</i> (LOC, 25-min talk)</p> <p>“Investigation of non-thermal ionization process with NICER during a flare in UX Ari”</p>

Sep 25-29, 2023 (Niigata, Japan)	Hinode-16 / IRIS-13 meeting (poster) “X-ray Investigation of non-thermal plasma in “X10,000,000-class” flare of the RS CVn binary star”
Sep 20-22, 2023 (Nagoya U)	ASJ 2023 autumn annual meeting (12-min talk) “Investigation of non-thermal ionization process with NICER during a flare in UX Ari”
Sep 16-19, 2023 (Tohoku U)	JPS 2023 autumn annual meeting (INVITED 30-min talk) “Investigation of the electromagnetic interference for the cryogenic detector onboard XRISM”
Sep 13-15, 2022 (Niigata U)	ASJ 2022 autumn annual meeting (12-min talk) “Investigation of the electromagnetic interference for the cryogenic detector onboard XRISM”
Jul 17-23, 2022 (Montreal, Canada)	SPIE Astronomical Telescopes + Instrumentation 2022 (poster) “Ground test results of the electromagnetic interference for the x-ray microcalorimeter onboard XRISM”
Sep 13-15, 2021 (online)	ASJ 2021 autumn annual meeting (12-min talk) “MAXI/GSC, Swift/BAT light curve similarity analysis for black hole X-ray binary outbursts”

PUBLICATIONS

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- [1] M. Kurihara, M. Tsujimoto, M. Eckart, et al. “Ground test results of the electromagnetic interference in the x-ray microcalorimeter onboard XRISM”. In: *Space Telescopes and Instrumentation 2022: Ultraviolet to Gamma Ray*. Vol. 12181. SPIE. 2022, pp. 1445–1458.
 - [2] M. Kurihara, M. Tsujimoto, M. E. Eckart, et al. “Ground test results of the electromagnetic interference for the x-ray microcalorimeter onboard XRISM”. In: *Journal of Astronomical Telescopes, Instruments, and Systems* 9.1 (2023), p. 018004.
 - [3] M. Kurihara, W. B. Iwakiri, M. Tsujimoto, et al. “Investigation of Nonequilibrium Ionization Plasma during a Giant Flare of UX Arietis Triggered with MAXI and Observed with NICER”. In: *The Astrophysical Journal* 965.2 (2024), p. 135.
 - [4] M. Kurihara, M. Tsujimoto, M. Audard, et al. “Spectroscopic diagnostics of high-temperature plasma in stellar corona using FeXXIV–XXVI K-shell lines with XRISM”. In: *Publications of the Astronomical Society of Japan* (Accepted).

THESIS

Master, 2023	<i>“Investigation of the electromagnetic interference for the cryogenic detector onboard XRISM”</i> - https://www.isas.jaxa.jp/home/ebisawalab/ja/publications/theses/Mthesis_2023_Kurihara0404.pdf (Japanese only)
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AWARDS

Jul, 2023	<i>Outstanding Contribution Award for XRISM ground testing</i> - by XRISM project Resolve instrument team
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Apr, 2023	Outstanding Master's Thesis Award in Instrumentation Technology Development - https://itdc.kek.jp/awards/index.html (Japanese only) - by KEK Institute of Particle and Nuclear Studies, Instrumentation Technology Development Center
Oct, 2022	Outstanding Contribution Award for Resolve instrument level testing - by XRISM project Resolve instrument team

PRESS RELEASE & INTERVIEW

May, 2024	ISAS GATE article "A Giant Stellar Flare Captured by Two X-ray Instruments onboard the ISS: Investigation of the Non-Equilibrium Ionization Process" - English: https://www.isas.jaxa.jp/home/research-portal/en/gateway/2024/0523/ - Japanese: https://www.isas.jaxa.jp/home/research-portal/gateway/2024/0523/
Mar 21, 2024	NICER / ISS Science Nugget "Capturing the Rising Phase of a Giant Stellar Flare" - https://heasarc.gsfc.nasa.gov/docs/nicer/science_nuggets/20240321.html
Jun, 2023	ISAS GATE interview "Outstanding Master's Thesis Award in Instrumentation Technology Development" - https://www.isas.jaxa.jp/home/research-portal/people/2023/0626/ - Japanese only
Jul 21, 2022	From Fujitsu Limited: "Fujitsu conducts successful large-scale electromagnetic wave simulations for space industry, urban transport use cases with solution for HPC cloud" - https://onl.bz/sxq546w

WORK & OUTREACH

Apr 2025-	JSPS Research Fellow (DC2) - Awarded to excellent young researchers in Japan
Nov 2024-Jan 2025	Professional internship at Fujitsu (2 days/week for 3 months) - "Enhancing Space Weather Prediction Models Using Fujitsu AI Technology" - Supervisor: Dr. Yuta Kato
Oct 2021-present	Research Assistant of IGPEES - "International Graduate Program for Excellence in Earth-Space Science" - Secondary Supervisor: Prof. Kazuyoshi Endo
Nov 3, 4 2023	ISAS Open House FY2023 - create interview video of the day - YouTube link (Japanese only) -> https://www.youtube.com/watch?v=Ur02tsnGHvw&list=PL-XJoa_8IG1LwLxIuR7SvoiAu0PDakep4&index=27&pp=iAQB
Apr 2021-Mar 2023	Student staff of Kimission - Kimission is a one-week hands-on program for high school students - plan and organize the event
Apr 2021-Mar 2023	Summer internship at MEXT (2 weeks)

	<ul style="list-style-type: none"> - International Affair Division, Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology-Japan - Supervisor: Ms. Honoka Sugimura
Mar 25, 26 2022	ISAS Open House FY2021 <ul style="list-style-type: none"> - online for FY2021 - create 15 min program for teenagers with friends - YouTube link (Japanese only) -> https://www.youtube.com/watch?v=orBqSCRWXIk
Oct 2021-Mar 2022	Teaching Assistant at UTokyo <ul style="list-style-type: none"> - physics for junior students in astronomy department
Apr 2021-Mar 2022	Research Assistant of JAXA Hayabusa2 Project <ul style="list-style-type: none"> - support spacecraft operation of Hayabusa2
Apr 2018-Aug 2019	Curator at the Science Gallery of Chiba University <ul style="list-style-type: none"> - guide visitors and explain the exhibitions - plan and organize some public events

NATURAL LANGUAGES

JAPANESE	Mother tongue
ENGLISH	Fluent

ARTIFICIAL LANGUAGES

Python	3 year-ish experience for my research (data analysis).
Fortran	For my bachelor thesis.
C	In-class experience.
html/CSS	In-class experience.
WordPress	In-class experience.
Shell	bash, zsh.