HYEONGHAN KIM

+82 010-2885-6930

ahrtears54@yonsei.ac.kr

EDUCATION

PhD of Science, Astronomy | *Major: Astronomy*   Mar. 2018 –
Yonsei University; Supervisor: Prof. M. James Jee   Seoul, KR

Bachelor of Science, Astronomy | *Major: Astronomy*   Feb. 2018
Yonsei University   Seoul, KR

WORK EXPERIENCE

Korea Astronomy and Space science Institute (KASI) Student Researcher   January 2019 – August 2020
Supervisor: Dr. B. W. Sohn and Dr. M. Martinez-Paredes   Daejeon, KR
  - Martinez-Paredes, Gonzalez-Martin, HyeongHan et al. 2021, ApJ, 922, 157

Korean VLBI Network (KVN) System Assistant   July – August 2016
Yonsei University   Seoul, KR
  - KVN maintenance

REFEREED/UNDER-REVIEW PUBLICATIONS (15)

First author (4)

[4] **HyeongHan, K.**, Jee, M. J., W. Lee et al. *Direct Evidence of a Major Merger in the Perseus Cluster*. submitted. arXiv:2405.00115 (2024)

[3] **HyeongHan, K.**, Jee, M. J., Cha, S. et al. *Weak-Lensing Detection of Intracluster Filaments in the Coma Cluster*. Nature Astronomy, 8, 377 (Mar 2024)

[2] **HyeongHan, K.**, Cho, H., Jee, M. J. et al. *Weak-Lensing Analysis of the Complex Cluster Merger Abell 746 with Subaru/Hyper Suprime-Cam*. ApJ, 962, 100 (Feb 2024)

[1] **HyeongHan, K.**, Jee, M. J., Rudnick, L. et al. *Discovery of a Radio Relic in the Massive Merging Cluster SPT-CL J2023-5535 from the ASKAP-EMU Pilot Survey*. ApJ, 900, 127 (Sep 2020)

Second and third author (3)

[3] Cha, S., **HyeongHan, K.**, Scofield, Z. P. et al. *Precision* MARS *Mass Reconstruction of Abell 2744: Synergizing the Largest Strong Lensing and Densest Weak Lensing Datasets from JWST*. ApJ, 961, 186 (Feb 2024); Contribution: Weak-lensing analysis

[2] Martinez-Paredes, M., Gonzalez-Martin, O., **HyeongHan, K.** et al. *Modeling the Unresolved NIR-MIR SEDs of Local (z < 0.1) QSOs*. ApJ, 922, 157 (Dec 2021); Contribution: IR photometry and modeling

[1] Finner, K., **HyeongHan, K.**, Jee, M. J. et al. *Exemplary Merging Clusters: Weak-lensing and X-Ray Analysis of the Double Radio Relic, Merging Galaxy Clusters MACS J1752.0+4440 and ZWCL 1856.8+6616*. ApJ, 918, 72 (Sep 2021); Contribution: X-ray analysis

Contributing author (8)

[8] Finner, K. et al. (including **HyeongHan, K.**) *Weak-Lensing Characterization of the Dark Matter in 29 Merging Clusters that Exhibit Radio Relics*. submitted.

[7] Rajpurohit, K. et al. (including **HyeongHan, K.**) *Abell 746: A highly disturbed cluster undergoing multiple mergers.* ApJ, 966, 38 (May 2024)

[6] Lee, W. et al. (including **HyeongHan, K.**) *Discovery of a large-scale bent radio jet in the merging cluster Abell 514.* ApJL, 957, 4 (Nov 2023)

[5] Finner, K. et al. (including **HyeongHan, K.**) *Near-IR Weak-Lensing (NIRWL) Measurements in the CANDELS Fields I: Point-Spread Function Modeling and Systematics.* ApJ, 958, 33 (Nov 2023)

[4] Lee, W. et al. (including **HyeongHan, K.**) *Discovery of a Double Radio Relic in ZwCl1447.2+2619: A Rare Testbed for Shock-acceleration Models with a Peculiar Surface-brightness Ratio.* ApJ, 924, 18 (Jan 2022)

[3] Kim, J. et al. (including **HyeongHan, K.**) *Head-to-Toe Measurement of El Gordo: Improved Analysis of the Galaxy Cluster ACT-CL J0102-4915 with New Wide-field Hubble Space Telescope Imaging Data.* ApJ, 923, 101 (Dec 2021)

[2] Norris, R. et al. (including **HyeongHan, K.**) *The Evolutionary Map of the Universe pilot survey.* PASA, 38, 46 (Sep 2021)

[1] Di Mascolo, L. et al. (including **HyeongHan, K.**) *Multiwavelength view of SPT-CL J2106-5844. The radio galaxies and the thermal and relativistic plasmas in a massive galaxy cluster merger at $z \simeq 1.13$.*, A&A, 650, 153 (Jun 2021)

TALKS AND POSTERS

Contributed Talks

ASKAP-EMU Virtual Meeting (Jul 2020)
EMU-CCW Virtual Meeting (Sep 2020)
103th Korean Astronomical Society Meeting (Apr 2021)
240th American Astronomical Society at Pasadena, US (Jun 2022)
International Astronomical Union General Assembly 2022 at Busan, South Korea (Aug 2022)
108th Korean Astronomical Society Meeting (Oct 2023)
243th American Astronomical Society at New Orleans, US (Jan 2023)
109th Korean Astronomical Society Meeting (Apr 2024)
2024 European Astronomical Society Meeting @ Padova (July 2024)

Posters

KAS (Oct 2020), KIAS (Korean Institute for Advanced Study; Nov 2020),
GCF (Galaxy Cluster Formation; Jun 2021), EAS (2024)

HONORS AND AWARDS

Yonsei Merit Academic Paper Award	2020
Yonsei Merit Academic Student Award	2021
BLEU Fellowship (Brain Korea)	2023

ACCEPTED PROPOSALS

5 successful PI proposals
XMM-Newton AO20 (125 ks), AO21 (125 ks), AO23 (160 ks), ATCA 2020OCT (23.5 hrs), Subaru/HSC 24B (5 hrs)

14 successful Co-I proposals
JWST, Chandra, XMM-Newton, Gemini-N, GMRT, ALMA, MMT, MeerKAT, Subaru

TEACHING EXPERIENCE

Understanding of space	2018, 2020
TA; Yonsei University	Seoul, KR

PUBLIC OUTREACH

YTN Science 2024
Link: https://youtu.be/xfwcomfaOaQ?si=gQ25wE7e3H629QGN

Sciencewithpeople 2024
Link: https://youtu.be/49fXbZZPGx0?si=yTWZp6MbLB2gnkdF

SKILLS

Languages: Korean (Native), English (Fluent)
Programming Languages: Python (Native), C (Intermediate), IDL (Basic)
Miscellaneous: Photoshop, In-design, Blender

OTHERS

9th Korea-Japan Workshop on Dark Energy LOC Nov 2022
https://sites.google.com/view/9kjwde/home?authuser=0

Yonsei Merging Cluster Workshop 2023 LOC Dec 2023
https://yhep-indico.yonsei.ac.kr/event/549/