HyeongHan Kim

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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

First author (3)

[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)

[2] **HyeongHan, K.**, Jee, M. J., Cha, S. et al. *Weak-Lensing Detection of Intracluster Filaments in the Coma Cluster*. accepted by NatAs; arXiv:2310.03073

[3] **HyeongHan, K.**, Cho, H., Jee, M. J. et al. *Weak-Lensing Analysis of the Complex Cluster Merger Abell 746 with Subaru/Hyper Suprime-Cam*. submitted to ApJ; arXiv:2311.00643

Second and third author (3)

[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

[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

[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*. submitted to ApJ; arXiv:2308.14805; Contribution: Weak-lensing analysis

Contributing author (6)

[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 ≃ 1.13.*, A&A, 650, 153 (Jun 2021)

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

[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)

[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)

[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.* accepted to ApJ

[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)

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)

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

HONORS AND AWARDS

Yonsei Merit Academic Paper Award   2020

Yonsei Merit Academic Student Award   2021

ACCEPTED PROPOSALS

4 successful PI proposals
XMM-Newton AO20 (125 ks), AO21 (125 ks), AO23 (160 ks), ATCA 2020OCT (23.5 hrs)

12 successful Co-I proposals
Chandra (>350 ks), XMM-Newton (250 ks), Gemini-N (10 hrs), GMRT (> 14 hrs), ALMA (6 hrs), MMT, MeerKAT (11.5 hrs)

TEACHING EXPERIENCE

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

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/