

JONGWON PARK

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University of Maryland, College Park

Department of Astronomy, College Park, Maryland 20740, United States

RESEARCH INTEREST

- **Formation of Population III Stars on Small Scale**
 - Initial Mass Function
 - Migration of Stars
 - Radiative Transfer in Protostellar Disks
- **Formation of the Population III Stars on Cosmological Scale**
 - Effect of X-ray Radiation Background
 - Cosmological Radiative Transfer
 - Number Density of Population III Stars and Pair-Instability Supernovae
- **Galaxy Formation**
 - Formation of Dwarf Galaxies
 - Formation of the First Galaxies

POSITION

- **Yonsei University**
 - Department of Astronomy, 2024 - present

Postdoctoral researcher with Prof. Taysun Kimm and Prof. Sukeyoung Yi

EDUCATION

- **University of Maryland, College Park**
 - Ph.D., Astronomy, 2018 - 2024

Thesis: The Formation of Metal-free Population III Stars in X-ray and Lyman-Werner Radiation Background

Supervisor: Prof. Massimo Ricotti
- **Yonsei University**
 - M.S., Astronomy, 2015 - 2017

Thesis: Star Formation of Merging Disk Galaxies with AGN Feedback Effects

Supervisor: Prof. Sukeyoung Yi

 - B.S., Astronomy, Physics (double major), 2008 - 2015

AWARDS & SCHOLARSHIP

- Brain Korea 21 Plus Scholarship (Fall 2015)
- University Scholarship (Spring 2012 - Fall 2014)

- Yonsei Alumni Scholarship (Fall 2011)

TEACHING EXPERIENCE

- Spring 2024: Grader, Cosmology / Grader, Origin of the Universe
- Fall 2023: Grader, Introductory Astrophysics
- Summer 2023: Teaching Assistant (Lab & Grader), General Astronomy
- Spring 2023: Teaching Assistant (Discussion & Grader), Introductory Astrophysics
- Fall 2022: Teaching Assistant (Discussion), Introductory Astrophysics
- Summer 2022: Teaching Assistant (Lab & Grader), General Astronomy
- Spring 2022: Teaching Assistant (Discussion & Grader), Introductory Astrophysics
- Fall 2021: Teaching Assistant (Discussion), Introductory Astrophysics
- Summer 2021: Teaching Assistant (Lab & Grader), General Astronomy
- Spring 2021: Teaching Assistant (Discussion & Grader), Introductory Astrophysics
- Fall 2020: Teaching Assistant (Discussion), Introductory Astrophysics
- Summer 2020: Teaching Assistant (Lab & Grader), General Astronomy
- Spring 2020: Teaching Assistant (Lab & Discussion), General Astronomy
- Fall 2019: Teaching Assistant (Lab & Discussion), General Astronomy
- Spring 2019: Teaching Assistant (Lab & Discussion), General Astronomy
- Fall 2018: Grader, Solar System Astronomy / Grader, Origin of the Universe
- Spring 2018: Tutoring an undergraduate student (mock image manipulation)
- Spring 2017, Fall 2017: Tutoring an undergraduate student (formation of tidal dwarf galaxies)
- Spring 2016: Teaching Assistant, Understanding of Space
- Fall 2015: Teaching Assistant, Cosmology
- Spring 2015: Teaching Assistant, Galaxies and the Universe II

OTHER EXPERIENCE

- Aug 2008 - Oct 2010: Military Service (Republic of Korea Air Force)

REFEREED PUBLICATIONS AS FIRST AUTHOR

6. **Jongwon Park**, Massimo Ricotti, & Kazuyuki Sugimura, *On the origin of outward migration of Population III stars*, MNRAS, 528, 6895 [5 citation]
5. **Jongwon Park**, Massimo Ricotti, & Kazuyuki Sugimura, *Population III star formation in an X-ray background: III. Periodic radiative feedback and luminosity induced by elliptical orbits*, MNRAS, 521, 2023 [14 citations]
4. **Jongwon Park**, Massimo Ricotti, & Kazuyuki Sugimura, *Population III star formation in an X-ray background: II. Protostellar discs, multiplicity, and mass function of the stars*, MNRAS, 508, 4, 2021 [18 citations]

3. **Jongwon Park**, Massimo Ricotti, & Kazuyuki Sugimura, *Population III star formation in an X-ray background: I. Critical halo mass of formation and total mass in stars*, MNRAS, 508, 4, 2021 [29 citations]
2. **Jongwon Park**, Rory Smith, & Suhyoung K. Yi, *Star Formation of Merging Disk Galaxies with AGN Feedback Effects*, ApJ, Volume 845, Issue 2, article id. 128, 13 pp, August 2017 [7 citations]
1. **Jongwon Park**, Hyunjin Jeong, & Suhyoung K. Yi, *Outflows in Sodium Excess Objects*, ApJ, 809, 1, 2015 [10 citations]

REFEREED PUBLICATIONS AS CO-AUTHOR

2. Fred Angelo Batan Garcia, Massimo Ricotti, Kazuyuki Sugimura, & **Jongwon Park**, *Star cluster formation and survival in the first galaxies*, MNRAS, 522, 2, 2023 [13 citations]
1. Hong-geun Khim, **Jongwon Park**, Seong-Woo Seo, Jaehyun Lee, Rory Smith, & Suhyoung K. Yi, *Demographics of Isolated Galaxies along the Hubble Sequence*, ApJS, 220, 1, 2015 [18 citations]

NON-REFEREED PAPERS

1. Kazuyuki Sugimura, Massimo Ricotti, **Jongwon Park**, Fred Angelo Batan Garcia, & Hidenobu Yajima, *Violent starbursts and quiescence induced by FUV radiation feedback in metal-poor galaxies at high-redshift*, arXiv:2403.04824 [5 citation]

PRESENTATIONS

- Jun 2023 - Roman Science Inspired by Emerging JWST Results, Space Telescope Science Institute, “Population III Protostar Variability in an Elliptical Orbit”
- Jan 2018 - AAS Meeting #231, Oxon Hill, Maryland, “Star Formation of Merging Disk Galaxies with AGN Feedback Effects”
- Apr 2017 - Korea Astronomical Society Meeting, Changwon, “Star Formation of Merging Disk Galaxies with AGN Feedback Effects”
- Oct 2016 - RAMSES User Meeting, Institut Astrophysique de Paris, “Effects of AGN Feedback on Star Formation of Merging Disk Galaxies”
- Jan 2016 - AAS Meeting #227, Kissimmee, Florida, “Outflows in Sodium Excess Objects”
- Oct 2015 - International Workshop on Galaxy Clusters and Galaxy Formation, Yonsei University, “Study of Merging Galaxies Using RAMSES”
- Sep 2015 - RAMSES User Meeting, University of Oxford, “Study of Merging Galaxies Using RAMSES”
- Apr 2015 - Korea Astronomical Society Meeting, Seoul National University, “Outflows in Sodium Excess Objects”

SKILLS

- Programming: Fortran, IDL, MPI, Python
- Simulation Codes: ATHENA, CHOLLA, GADGET2, RAMSES, SKIRT
- Visualization: Paraview
- Web: HTML, PM Wiki