

Jeong-Gyu Kim | Curriculum Vitae

Department of Astrophysical Sciences, 4 Ivy Lane
Princeton University, Princeton – NJ 08544, USA
☎ +1 (609) 933 8470 • ✉ kimjg@astro.princeton.edu
📄 jeonggyukim.github.io

Education

Seoul National University	Seoul, Korea
<i>Ph.D. in Astronomy</i>	08/2018
<i>Advisor:</i> Prof. Woong-Tae Kim	
<i>Thesis Title:</i> Disruption of Molecular Clouds by Radiative Feedback from Massive Stars	
<i>M.S. in Astronomy</i>	02/2012
<i>B.S. in Astronomy, cum laude</i>	02/2010

Employment and Research Experience

Lyman Spitzer, Jr. Postdoctoral Fellow	Princeton, NJ, USA
<i>Department of Astrophysical Sciences, Princeton University</i>	2018–present
Visiting Student Research Collaborator	Princeton, NJ, USA
<i>Department of Astrophysical Sciences, Princeton University</i>	2014–2016 (2mo/yr)
<i>Mentor:</i> Prof. Eve Ostriker	

Scholarships and Fellowships

Lyman Spitzer, Jr. Fellowship	
<i>Princeton University</i>	2018–2021
National Junior Research Fellowship (Grants obtained as PI: \$41,300/yr)	
<i>National Research Foundation of Korea</i>	2014–2018
<i>Project name:</i> “Expansion of Dusty Magnetized H II Regions and Their Dynamic Impact on the Interstellar Medium”	
SNU Fellowship for the Next Generation of Basic Research	
<i>Seoul National University</i>	2013
Scholarship for Superior Academic Performance	
<i>Brain Korea 21</i>	2012
Lotte Scholarship	
<i>Full tuition awarded by Lotte Foundation</i>	2010–2011
National Scholarship For Science and Engineering	
<i>Full tuition awarded by National Research Foundation of Korea</i>	2003–2004, 2008–2009

Publications

Refereed Publications – ADS Search.....

8. *Modeling UV Radiative Feedback from Massive Stars: III. Escape of Radiation from Star-Forming Giant Molecular Clouds*
Kim, J.-G., Kim, W.-T., & Ostriker, E. C. 2019, *ApJ* accepted
7. *Modeling UV Radiative Feedback from Massive Stars: II. Dispersal of Star-Forming Giant Molecular Clouds by Photoionization and Radiation Pressure*
Kim, J.-G., Kim, W.-T., & Ostriker, E. C. 2018, *ApJ*, 859, 68
6. *Modeling UV Radiative Feedback from Massive Stars: I. Implementation of Adaptive Ray Tracing Method and Tests*
Kim, J.-G., Kim, W.-T., Ostriker, E. C., & Skinner A. M. 2017, *ApJ*, 851, 93
5. *Disruption of Molecular Clouds by Expansion of Dusty H II Regions*
Kim, J.-G., Kim, W.-T., & Ostriker, E. C. 2016, *ApJ*, 819, 137
4. *Instability of Magnetized Ionization Fronts Surrounding H II regions*
Kim, J.-G., Kim, W.-T. 2014, *ApJ*, 797, 135
3. *Nature of Wiggle Instability of Galactic Spiral Shocks*
Kim, W.-T., Kim, Y., & **Kim, J.-G.** 2014, *ApJ*, 789, 68
2. *Instability of Evaporation Fronts in the Interstellar Medium*
Kim, J.-G., Kim, W.-T. 2013, *ApJ*, 779, 48
1. *Gravitational Instability of Rotating, Pressure-Confined, Polytropic Gas Disks with Vertical Stratification*
Kim, J.-G., Kim, W.-T., Seo Y. M., & Hong, S. S. 2012, *ApJ*, 761, 131

Papers in Preparation.....

Diffuse Ionized Gas in TIGRESS Simulations of the ISM

Kado-Fong, E., **Kim, J.-G.**, Kim, C.-G., & Ostriker, E. C. 2019, *to be submitted*

Recovery of Cloud-Scale Star Formation Rate Based on Ionizing Luminosity: Calibration for Escape of Radiation

Kim, J.-G. & Ostriker, E. C. 2019, *in prep*

TIGRESS-RT: Implementation New Heating/Cooling Module with Adaptive Ray Tracing

Kim, J.-G., Gong, M., Kim, C.-G., & Ostriker, E. C.

Selected Conferences and Talks

- Special Seminar, *Modeling UV Radiation Feedback from Massive Stars*
Max Planck Institute for Radio Astronomy, Bonn, Germany, Jul 3, 2019
- Contributed Talk, *Diffuse Ionized Gas in TIGRESS Simulations of the ISM*
European Week of Astronomy & Space Science 2019, Lyon, France, Jun 27, 2019
- Contributed Talk, *Adaptive Ray Tracing in Athena*
Athena++ Workshop 2019, Las Vegas, USA, Mar 18–22, 2019

- Poster, *Modeling UV Radiation Feedback from Massive Stars: Dispersal of GMCs and Escape of Radiation*
van de Hulst Centennial Symposium: The interstellar Medium of Galaxies: Status and Future Perspectives, Leiden, the Netherlands, Nov 5–9, 2018
- Poster, *Dispersal of Giant Molecular Clouds by UV Radiation Feedback from Massive Stars*
15th Potsdam Thinkshop: The role of feedback in galaxy formation: from small-scale winds to large-scale outflows, Potsdam, Germany, Sep 3–7, 2018
- Poster, *Dispersal of Giant Molecular Clouds by Photoionization and Radiation Pressure*
231st AAS Meeting, Washington D.C., USA, Jan 11, 2018
- Colloquium, *Dispersal of Giant Molecular Clouds by Photoionization and Radiation Pressure*
Osaka University, Japan, Dec 21, 2017
- Contributed Talk, *Dispersal of Molecular Clouds by Photoionization and Radiation Pressure*
Star Formation in Different Environments, Quy Nhon, Vietnam, Aug 7, 2017
- Contributed Talk, *Dispersal of Molecular Clouds by UV Radiation Feedback from Massive Stars*
2017 Korean Astronomical Society Spring Meeting, Seoul, Korea, Apr 13, 2017
- Seminar Talk, *Modeling Radiative Feedback from Massive Stars*
Star Formation/ISM Rendezvous, Princeton University, USA, Nov 28, 2016
- Poster, *Disruption of Molecular Clouds by Radiative Feedback from Massive Stars*
Star Formation 2016, Exeter, UK, Aug 22–26, 2016
- Talk, *Modeling Radiative Feedback from Massive Stars: Implementation of Adaptive Ray Tracing Method into the Athena Code*
ASTRONUM 2016: 11th Annual International Conference on Numerical Modeling of Space Plasma Flows, Monterey, USA, Jun 8, 2016
- Seminar Talk, *Disruption of Molecular Clouds by Expansion of Dusty HII Regions*
Star Formation/ISM Rendezvous, Princeton University, USA, Oct 28, 2015

Competitively-Obtained Computing Time

Co-I, 1.6 M CPU-hrs from KISTI on Tachyon2,

“Galactic Star Formation and Outflows Regulated by UV Radiation and Supernova Feedback”, 2017

Co-I, 1.2 M CPU-hrs from KISTI on Tachyon2,

“Expansion of Dusty H II Regions and Its Dynamical Impact on the Interstellar Medium”, 2016

Computer Skills

Programming Language: C/C++, MPI, Python, IDL

Visualization/Software: yt, VisIt, ParaView, Git, GDB

Simulation Code: Athena/Athena++

Teaching Experience

- *Man and the Universe* (non-major course), Teaching Assistant for Prof. Jonghak Woo, Fall 2012
- *Observational Astronomy*, Teaching Assistant for Prof. Jonghak Woo, Spring 2012

Other Experience

Military Service: Served as a weather observer in the Republic of Korea Air Force, 2005-2007

Departmental Service:

- SNU Astronomy Journal Club Coordinator, 2011–2013
- Part-time lecturer for a short course on *An Introduction to IDL Programming for Undergraduates*, Feb 2014
- Lead editor of *A quick guide to SNU astro graduate students.*, 2014
- Volunteered multiple times for Astronomy Open House, 2010–2014

Academic References

- | | |
|--|---|
| ◦ Prof. Woong-Tae Kim
wkim@astro.snu.ac.kr
Department of Physics and Astronomy
Seoul National University
+82-2-880-6769 | ◦ Prof. Eve C. Ostriker
eco@astro.princeton.edu
Department of Astrophysical Sciences
Princeton University
+1-609-258-7240 |
| ◦ Prof. Bon-Chul Koo
koo@astro.snu.ac.kr
Department of Physics and Astronomy
Seoul National University
+82-2-880-6623 | |