Jeong-Gyu Kim | Curriculum Vitae

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Education

Seoul National University **Seoul, Korea**
Ph.D. in Astronomy *08/2018*
Advisor: Prof. Woong-Tae Kim
Thesis Title: Disruption of Molecular Clouds by Radiative Feedback from Massive Stars

M.S. in Astronomy *02/2012*

B.S. in Astronomy, cum laude *02/2010*

Employment and Research Experience

Lyman Spitzer, Jr. Postdoctoral Fellow **Princeton, NJ, USA**
Department of Astrophysical Sciences, Princeton University *2018–present*

Visiting Student Research Collaborator **Princeton, NJ, USA**
Department of Astrophysical Sciences, Princeton University *2014–2016 (2mo/yr)*
Mentor: Prof. Eve Ostriker

Scholarships and Fellowships

Lyman Spitzer, Jr. Fellowship
Princeton University *2018–2021*

National Junior Research Fellowship (Grants obtained as PI: \$41,300/*yr*)
National Research Foundation of Korea *2014–2018*
Project name: *"Expansion of Dusty Magnetized H II Regions and Their Dynamic Impact on the Interstellar Medium"*

SNU Fellowship for the Next Generation of Basic Research
Seoul National University *2013*

Scholarship for Superior Academic Performance
Brain Korea 21 *2012*

Lotte Scholarship
Full tuition awarded by Lotte Foundation *2010–2011*

National Scholarship For Science and Engineering
Full tuition awarded by National Research Foundation of Korea *2003–2004, 2008–2009*

Publications

Refereed Publications

(ADS Link)

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

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 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*

Diffuse Ionized Gas in TIGRESS Simulations of the ISM
Kado Fong, E., **Kim, J.-G.**, Kim, C.-G., & Ostriker, E. C. *2019, in prep*

Selected Conferences and Talks

- 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 Instestellar 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**
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- **Prof. Bon-Chul Koo**
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- **Prof. Eve C. Ostriker**
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