

Curriculum Vitae

Chang-Goo Kim

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CURRENT POSITION

Sep. 2016 – **Associate Research Scholar**
Department of Astrophysical Sciences · Princeton University · Princeton · NJ · USA

EDUCATION

Feb. 2011 **Ph.D. in Astronomy**
Department of Physics and Astronomy · Seoul National University · Seoul · Korea
Dissertation (Advised by Prof. Woong-Tae Kim): *Thermal and Dynamical Evolution of a Gaseous Medium and Star Formation in Disk Galaxies*

Feb. 2005 **B.S. in Astronomy**
Department of Physics and Astronomy · Seoul National University · Seoul · Korea

AWARDS

2011 – 2013 **CITA National Fellowship**
Prize postdoctoral fellowship by Canadian Institute for Theoretical Astrophysics

Feb. 2011 **Department Award for Excellent Thesis**
Awarded by Dept. of Physics and Astronomy · Seoul National University

Jan. 2009 **Excellent Presentation Award for BK21 workshop**

Feb. 2008 Awarded by Dept. of Physics and Astronomy · Seoul National University

2007 – 2009 **BK21 Short-term Travel Grants for Superior Students, 3 times (2 mo/yr)**
Awarded by Dept. of Physics and Astronomy · Seoul National University

2007 – 2008 **Lotte Scholarship**
Full Tuition awarded by the Lotte Foundation

2005 – 2006 **Graduate Student Instructor Fellowship**
Full Tuition awarded by Seoul National University

RESEARCH EXPERIENCE

Sep. 2013 – **Postdoctoral Research Associate**

Aug. 2016 Dept. of Astrophysical Sciences · Princeton University · Princeton · NJ · USA

Oct. 2011 – **CITA National Fellow**

Aug. 2013 Dept. of Physics and Astronomy · The Univ. of Western Ontario · London · ON · Canada

Mar. 2011 – **BK21 Postdoctoral Fellow**

Aug. 2011 Dept. of Physics and Astronomy · Seoul National University · Seoul · Korea

Mar. 2005 – **Research Assistant**

Feb. 2011 Dep.t of Physics and Astronomy · Seoul National University · Seoul · Korea

TEACHING EXPERIENCE

- 2005 – 2010 **Teaching Assistant** (Graduate Student Instructor)
Dept. of Physics and Astronomy · Seoul National University · Seoul · Korea
Solar System Astronomy and Lab., Astronomical Observation & Lab. I & II, Astronomy and Lab., Introduction to Astrophysics I & II, Stars and Stellar Systems, Man & the Universe
- 2014/Fall, **Research Advisor** (co-advised with Prof. Eve Ostriker)
2015/Summer Dept. of Astrophysical Sciences · Princeton University · Princeton · NJ · USA
Advised Roberta Raileanu for Junior Thesis, Undergraduate Summer Research Program
Project Title: *Supperbubbles in the Multi Phase ISM and the Loading of Galactic Winds*

COMPUTING TIME ALLOCATION

- 2016 **475,452 SBU**s (~6 million CPU hrs), **NASA Pleiades, Co-I** (PI: Eve Ostriker)

SERVICE

- 2012 – **Referee** for Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society
- 2016 – **Organizer of Star Formation/ISM Rendezvous Seminars**
Department of Astrophysical Sciences · Princeton University · Princeton · NJ · USA

MEMBERSHIP

International Astronomical Union, American Astronomical Society, Korean Astronomical Society

INVITED/CONTRIBUTED TALKS

- 2016 **Invited Conference Talk**, 7th East-Asian Numerical Astrophysics Meeting, Beijing · China
- 2016 **Poster**, KAS Fall Meeting, Daejeon · Korea
- 2016 **Invited Conference Talk**, How Galaxies form Stars, Stockholm · Sweden
- 2016 **Invited Conference Talk**, Computational Galaxy Formation, Ringberg Castle, Germany
- 2015 **Seminar Talk**, Informal Seminar, Institute for Advanced Study · Princeton · NJ · USA
- 2015 **Seminar Talk**, SFIR Seminar, Princeton University · Princeton · NJ · USA
- 2015 **Contributed Talk**, Magnetic Fields in the Universe V, Corsica · France
- 2015 **Contributed Talk**, IAU Symposium #315, Honolulu · HI · USA
- 2014 **Invited Conference Talk**, 6th East-Asian Numerical Astrophysics Meeting, Suwon · Korea
- 2014 **Colloquium**, Korea Astronomy & Space Science Institute · Daejeon · Korea
- 2014 **Colloquium**, Seoul National University · Seoul · Korea
- 2014 **Colloquium**, Korea Institute for Advanced Study · Seoul · Korea
- 2014 **Seminar Talk**, KITP Program – Gravity’s Loyal Opposition, Santa Barbara · CA · USA
- 2013 **Seminar Talk**, SFIR Seminar, Princeton University · Princeton · NJ · USA
- 2013 **Contributed Talk**, KAS Spring Meeting, Daecheon · Korea
- 2013 **Contributed Talk**, CITA National Fellow Meeting, CITA · Toronto · Canada
- 2013 **Contributed Talk**, AAS Meeting #221, Long Beach · CA · USA
- 2012 **Invited Conference Talk**, IAU General Assembly – SpS12, Beijing · China
- 2011 **Colloquium**, Yonsei University · Seoul · Korea

PAPERS in PREPARATION

1. *“Three-phase ISM in Galaxies Resolving Evolution with Star formation and Supernova Feedback (TIGRESS): Numerical Methods and Convergence”*
Kim, C.-G. and Ostriker, E. C., 2016 ApJ to be submitted (in Sep.)
2. *“Galactic Winds and Fountain in TIGRESS”*
Kim, C.-G. and Ostriker, E. C., 2016 in preparation
3. *“Star Formation Rates and ISM Pressures in TIGRESS”*
Kim, C.-G. and Ostriker, E. C., 2016 in preparation
4. *“Superbubbles in the Multiphase ISM and the Loading of Galactic Winds”*
Kim, C.-G., Ostriker, E. C., & Raileanu, R. 2016, ApJ to be submitted (in Sep.)
5. *“Chemistry and radiative shielding in star forming galactic disks”*
Safranek-Shrader, C., Krumholz, M. R., **Kim, C.-G.**, Ostriker, E. C., Klein, R. I., Li, S., McKee, C. F., and Stone, J. M. 2016, MNRAS submitted (arXiv:1605.07618)

REFEREED PUBLICATIONS

1. *“Vertical Equilibrium, Energetics, and Star Formation Rates in Magnetized Galactic Disks Regulated by Momentum Feedback from Supernovae”*
Kim, C.-G. & Ostriker, E. C. 2015, ApJ, 815, 67
2. *“Momentum Injection by Supernovae in the Interstellar Medium”*
Kim, C.-G. & Ostriker, E. C. 2015, ApJ, 802, 99
3. *“Three Dimensional Hydrodynamic Simulations of Multiphase Galactic Disks with Star Formation Feedback: II. Synthetic HI 21 cm Line Observations”*
Kim, C.-G., Ostriker, E. C., & Kim, W.-T. 2014, ApJ, 786, 64
4. *“Long-Term Evolution of Decaying Magnetohydrodynamic Turbulence in the Multiphase Interstellar Medium”*
Kim, C.-G. & Basu, S. 2013, ApJ, 778, 88
5. *“Three Dimensional Hydrodynamic Simulations of Multiphase Galactic Disks with Star Formation Feedback: I. Regulation of Star Formation Rates”*
Kim, G.-G., Ostriker, E. C., & Kim, W.-T. 2013, ApJ, 776, 1
6. *“Regulation of Star Formation Rates in Multiphase Galactic Disks: Numerical Tests of the Thermal/Dynamical Equilibrium Model”*
Kim, G.-G., Kim, W.-T., & Ostriker, E. C. 2011, ApJ, 743, 25
7. *“Galactic Spiral Shocks with Thermal Instability in Vertically Stratified Galactic Disks”*
Kim, G.-G., Kim, W.-T., & Ostriker, E. C. 2010, ApJ, 720, 1454
8. *“Galactic Spiral Shocks with Thermal Instability”*
Kim, G.-G., Kim, W.-T., & Ostriker, E. C. 2008, ApJ, 681, 1148
9. *“Interstellar Turbulence Driving by Galactic Spiral Shocks”*
Kim, G.-G., Kim, W.-T., & Ostriker, E. C. 2006, ApJ, 649, L13

CONFERENCE PROCEEDINGS

1. *“Feedback Regulated Turbulence, Magnetic Fields, and Star Formation Rates in Galactic Disks”*
Kim, C.-G. and Ostriker, E. C. 2015, IAU General Assembly, 22, 29559 (arXiv:1511.00018)
2. *“Numerical modeling of multiphase, turbulent galactic disks with star formation feedback”*
Kim, C.-G., Ostriker, E. C., and Kim, W.-T. 2015, Highlights of Astronomy, 16, 609 (arXiv:1211.5161)

OTHER SKILLS

- Extensive knowledge in programming languages including C, C++, Fortran77, IDL, python
- Extensive knowledge in data reduction and visualization of massive simulation outputs using IDL, python, VisIt, yt
- Extensive knowledge in parallel computing with MPI and OpenMP

REFERENCES

Prof. Woong-Tae Kim

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Seoul National University
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Prof. Snezana Stanimirovic

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Prof. Eve C. Ostriker

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