

# Jeong-Gyu Kim | List of Publications

## Publications

---

### Journal Publications – ADS Search.....

# Led by a student under direct supervision

22. *Metallicity Dependence of Pressure-Regulated Feedback-Modulated Star Formation in the TIGRESS-NCR Simulation Suite*  
Kim, C.-G., Ostriker, E. C., **Kim, J.-G.**, Gong, M., & LtU collaboration 2024, *ApJ* accepted
21. *Geometry, Dissipation, Cooling, and the Dynamical Evolution of Wind-Blown Bubbles*  
Lancaster, L., Ostriker, E. C., Kim, C.-G., **Kim, J.-G.**, & Bryan, G. 2024, *ApJ*, 970, 18
20. *Implementation of Chemistry in the Athena++ Code*  
Gong, M. et al. (incl. **JGK**), 2023, *ApJS*, 268, 42
19. *Physical Modeling of Dust Polarization from Magnetically Enhanced Radiative Torque (MRAT) Alignment in Protostellar Cores with POLARIS*  
Giang, N. C., Hoang, T., **Kim, J.-G.**, & Tram, L. N. 2023, *MNRAS*, 520, 3788
18. *Introducing TIGRESS-NCR: I. Co-regulation of Multiphase ISM and Star Formation Rates*  
Kim, C.-G., **Kim, J.-G.**, Gong, M., & Ostriker, E. C. 2023, *ApJ*, 946, 3
17. *Photochemistry and Heating/Cooling of the Multiphase Interstellar Medium with UV Radiative Transfer in Magnetohydrodynamic Simulations*  
**Kim, J.-G.**, Gong, M., Kim, C.-G., & Ostriker, E. C. 2023, *ApJS*, 264, 10
16. *Slow Star Formation in the Milky Way: Theory Meets Observations*  
Evans, Neal J., II, **Kim, J.-G.**, & Ostriker, E. C. 2022, *ApJL*, 929L, 18E
15. *Star Formation Regulation and Self-Pollution by Stellar Wind Feedback*  
Lancaster, L., Ostriker, E. C., **Kim, J.-G.**, & Kim, C.-G. 2021, *ApJL*, 922L, 3L
14. *Efficiently Cooled Stellar Wind Bubbles in Turbulent Clouds: II. Validation of Theory with Hydrodynamic Simulations*  
Lancaster, L., Ostriker, E. C., **Kim, J.-G.**, & Kim, C.-G. 2021, *ApJ*, 914, 90L
13. *Efficiently Cooled Stellar Wind Bubbles in Turbulent Clouds: I. Fractal Theory and Application to Star-Forming Clouds*  
Lancaster, L., Ostriker, E. C., **Kim, J.-G.**, & Kim, C.-G., 2021, *ApJ*, 914, 89L
12. *Star Formation Efficiency and Dispersal of Giant Molecular Clouds with UV Radiation Feedback: Dependence on Gravitational Boundedness and Magnetic Fields*  
**Kim, J.-G.**, Ostriker, E. C., & Filippova, N. 2021, *ApJ*, 911, 128K
11. *The environmental dependence of the  $X_{\text{CO}}$  conversion factor*  
Gong, M., Ostriker, E. C., Kim, C.-G., & **Kim, J.-G.** 2020, *ApJ*, 903, 142

10. *Factories of CO-dark gas: molecular clouds with limited star formation efficiencies by far-ultraviolet feedback*  
Inoguchi, M., Hosokawa, T., Mineshige, S., & **Kim, J.-G.** 2020, MNRAS, 497, 5061I
9. *# Diffuse Ionized Gas in Simulations of Multiphase, Star-forming Galactic Disks*  
Kado-Fong, E., **Kim, J.-G.**, Ostriker, E. C., & Kim, C.-G. 2020, ApJ, 897, 143
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, 883, 102
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.....

*Structure and Dynamics of Density-Bounded H II Regions with Photoevaporative Outflows*  
**Kim, J.-G.**, Ostriker, E. C., Lancaster, L., & Kim, C.-G. 2024, in preparation

*Ultraviolet Radiation Fields in Star-Forming Disk Galaxies: Numerical Simulations with TIGRESS-NCR*

Linzer, N., **Kim, J.-G.**, Kim, C.-G., & Ostriker, E. C. 2024, ApJ submitted