# KUNG-YI SU

Department of Astronomy ⋄ Columbia University
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## EDUCATION

**California Institute of Technology (Caltech), Pasadena** *June 2019*
Ph.D. in physics
Advisor: Prof. Philip F. Hopkins

**National Taiwan University (NTU), Taipei** *June 2010*
B.S. in physics
Advisor: Prof. Pisin Chen

## EMPLOYMENT

**Department of Astronomy** August 2020 - present
*Posdoctoral Fellow* *Columbia University*

**Center for Computational Astrophysics, Flatiron Institute** August 2019 - August 2020
*Flatiron Fellow* *Simons Foundation*

**Department of Physics** September 2011 - August 2019
*Teaching Assistant/ Graduate Research Assistant* *Caltech*

**Lecospa** December 2008 - July 2010
*Undergraduate Researcher* *NTU*

## PUBLICATIONS

**First Author**

1. K. Su, P.F. Hopkins, G.L. Bryan, R.S. Sommerville, C.C. Hayward et al., "Which AGN Jets Quench Star Formation in Massive Galaxies?",arXiv:2102.02206 (2021)
2. K. Su, P.F. Hopkins, C.C. Hayward et al., "Cosmic rays or turbulence can suppress cooling flows (where thermal heating or momentum injection fail)",MNRAS 491, 1190–1212 (2020)
3. K. Su, P.F. Hopkins, C.C. Hayward et al., "The failure of stellar feedback, magnetic fields, conduction, and morphological quenching in maintaining red galaxies", MNRAS 487, 4393–4408 (2019)
4. K. Su, C.C. Hayward, P.F. Hopkins et al., "Stellar feedback strongly alters the amplification and morphology of galactic magnetic fields", MNRAS 473, L111-L115 (2018)
5. K. Su, P.F. Hopkins, C.C. Hayward et al., "Discrete effects in stellar feedback: Individual Supernovae, Hypernovae, and IMF Sampling in Dwarf Galaxies", MNRAS 480, 1666-1675 (2018)
6. K. Su, P.F. Hopkins, C.C. Hayward et al., "Feedback first: the surprisingly weak effects of magnetic fields, viscosity, conduction and metal diffusion on sub-L* galaxy formation", MNRAS 471, 144-166 (2017)
7. K. Su, P. Chen, "Solving the cusp-core problem with a novel scalar field dark matter", JCAP, 08, 016 (2011)
8. K. Su, P. Chen, "Comments on"Remarks on the spherical scalar field halo in galaxies"", arXiv1009.0869S (2010)
9. K. Su, P. Chen, "Comment on "Modeling galaxy halos using dark matter with pressure"", PRD, 79, 128301 (2009)

**Other Publications**

1. P. F. Hopkins, T. K. Chan, S. Garrison-Kimmel, S. Ji, K. Su et al.,"But what about...: cosmic rays, magnetic fields, conduction, and viscosity in galaxy formation", MNRAS 492, 3465–3498 (2020)
2. M. E. Orr, C.C. Hayward, A. M. Medling, P. F. Hopkins, N. Murray, J. L. Pineda, C. C. Faucher-Giguère, D. Kereš, and K. Su,"Swirls of FIRE: Spatially Resolved Gas Velocity Dispersions and Star Formation Rates in FIRE-2 Disk Environments", arXiv:1911.00020 (2019)
3. T. K. Chan, D. Kereš, P. F. Hopkins, E. Quataert, K. Su, C.C. Hayward, C. Faucher-Giguère,"Cosmic ray feedback in the FIRE simulations: constraining cosmic ray propagation with GeV gamma ray emission", MNRAS 488, 3716–3744 (2019)
4. P. F. Hopkins, A. Wetzel, D. Kereš, C. Faucher-Giguère, E. Quataert, M. Boylan-Kolchin, N. Murray, C.C. Hayward, S. Garrison-Kimmel, C. Hummels, R. Feldmann, P. Torrey, X. Ma, D. Anglés-Alcázar, K. Su, et al. "FIRE-2 simulations: physics versus numerics in galaxy formation", MNRAS 480, 800-863 (2018)
5. D. B. Fielding, S. Tonnesen, D. DeFelippis, M. Li, K. Su et al. "First results from SMAUG: Uncovering the Origin of the Multiphase Circumgalactic Medium with a Comparative Analysis of Idealized and Cosmological Simulations", The Astrophysical Journal, Volume 903, Issue 1, id.32, 22 pp (2020)

## SERVICE

- Referee, MNRAS (2018–)
- Writing workshop – Co-organizer (May 2017)

## OUTREACH

- Forum for undergraduate/master students at ASIAA in Taiwan – "Studying galaxy evolution as an international student in Caltech" – Speaker (Dec. 2018 )
- Stargazing and Lecture Series – Telescope volunteer (May 2016; Aug. 2016)
- NTU Physics Camp (for high school students) – Co-organizer (2007;2008)

## SKILL

Python, IDL, C, MPI

## AWARD

- Burke Graduate Fellowship (2018-2019 spring)
- Groce travel funding (Dec. 2018)
- NTU President Award (2006); Dean Award (2010)
- Lecospa Outstanding Student Research Award (2009)