YANHUI YANG

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EDUCATION

PhD Program in Physics University of California, Riverside Sep 2022–current
Concentration in Astronomy
Overall GPA: 4.00/4.00

BS in Astronomy University of Science and Technology of China July 2021
Wang Shouguan Talent Program in Astronomy
Thesis: *Hydrodynamic simulations of turbulent mixing layers of galactic winds*
Overall GPA: 3.74/4.30, Major GPA: 3.93/4.30 (Physics & Astronomy courses)

RESEARCH INTERESTS

Cosmology: large-scale-structure, dark matter, dark energy, cosmological emulation; Astrophysics: galaxy formation and evolution, circumgalactic medium, turbulent mixing layers

APPOINTMENTS

Graduate Student Researcher, Advisor: Simeon Bird (UCR) Fall 2023–current
Teaching assistant in *General Physics laboratory 2LC*, Coordinator: Jonathan Eldridge (UCR) Winter–Spring 2023
Research assistant, Advisor: Suoqing Ji (SHAO) Summer 2022

REFERENCES

Simeon Bird (sbird@ucr.edu)
Associate Professor, Department of Physics and Astronomy, University of California, Riverside

Suoqing Ji (sqji@fudan.edu.cn)
Associate Professor, Department of Physics, Fudan University

Philip F. Hopkins (phopkins@caltech.edu)
Professor, The Division of Physics, Mathematics and Astronomy, California Institute of Technology

Xiaobo Dong (xbdong@ynao.ac.cn)
Research Professor, Yunnan Observatories, Chinese Academy of Sciences

SKILLS

Programming languages	C (gsl), C++ (boost, CUDA), Python (torch, mpi4py, pymc, pandas, numpy, matplotlib, yt, bigfile, gpy, etc.), Bash, Fortran, HTML, CSS, Markdown, LaTeX
Simulation codes	MP-Gadget, CLASS, FLASH, GADGET-3, RAMSES, AREPO
Tools	Git, Mathematica, Origin, Gnuplot, IDL, ds9, VS Code

VISITS & ADDITIONAL TRAINING

TACC Open Hackathon, Texas Advanced Computing Center, UT Austin	Oct 2024
The 2023 Machine Learning Institute, TACC, UT Austin	June 2023
Shanghai Astronomical Observatory, Chinese Academy of Sciences	Jan. 2020
Five-hundred-meter Aperture Spherical Telescope (FAST)	July 2019

AWARDS & HONORS

Dean's Distinguished Fellowship (University of California, Riverside)	2022
NAOC Scholarship (National Astronomical Observatories, Chinese Academy of Sciences)	2020
National Encouragement Scholarship	2020
Outstanding Student Scholarship (Grade 3)	2019
Zhang Zongzhi Sci-Tech Scholarship	2018

PRESENTATIONS

Nonlinear Matter Power Spectrum Emulation beyond ΛCDM for Next-Generation Surveys (poster)
Cosmic Cartography with Roman 2025, STScI, Baltimore, MD — July 2025

10D emulation for the nonlinear matter power spectrum beyond ΛCDM based on Goku
Cosmology from Home 2025 — July 2025

Goku: A 10-parameter simulation suite for cosmological emulation
Physics and Astronomy Student Seminar, University of California, Riverside — March 2025
Frontera User Meeting 2024, TACC, University of Texas, Austin — Aug 2024

Radiative turbulent mixing layers at high Mach numbers
Shanghai Astronomical Observatory, Chinese Academy of Sciences — May 2022

OUTREACHES

Physics Fun Expedition: A Science Outreach Program for Township Middle Schools — July 2019

PUBLICATIONS

Yanhui Yang, Simeon Bird, Ming-Feng Ho, and Mahdi Qezlou. Ten-dimensional neural network emulator for the nonlinear matter power spectrum. *arXiv e-prints*, art. arXiv:2507.07177, July 2025a. doi: 10.48550/arXiv.2507.07177.

Yanhui Yang, Simeon Bird, Ming-Feng Ho, and Mahdi Qezlou. Design and optimization of neural networks for multifidelity cosmological emulation. *arXiv e-prints*, art. arXiv:2507.07184, July 2025b. doi: 10.48550/arXiv.2507.07184.

Yanhui Yang, Simeon Bird, and Ming-Feng Ho. Ten-parameter simulation suite for cosmological emulation beyond ΛCDM. *Phys. Rev. D*, 111(8):083529, April 2025c. doi: 10.1103/PhysRevD.111.083529.

Yanhui Yang and Suoqing Ji. Radiative turbulent mixing layers at high Mach numbers. *MNRAS*, 520(2):2148–2162, April 2023. doi: 10.1093/mnras/stad264.

Only lead-author papers are listed above. Please refer to NASA/ADS (orcid:0000-0001-6221-6024) for a complete list of my publications.