

Qunfeng Jiang – Curriculum Vitae

Current Position:

Research Assistant

Division of Geological and Planetary Sciences
California Institute of Technology, Pasadena, CA

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Education: June 2023

BS (Physics) Fudan University, Shanghai, China

Research Interests:

Atmosphere of planets in and out of the solar system. Evolution of planetary atmospheres. Observations and modeling of atmospheric properties. Habitability and comparison study of planets with the earth.

Research Experience:

July 2023 – present

Research Assistant, California Institute of Technology, Pasadena, CA
Topic: Atmospheric Methane Growth and Global Warming Hiatus
Supervisor: Prof. Yuk L. Yung

Oct 2023 – Nov 2023

Visiting Research Student, Stanford University, Palo Alto, CA
Topic: The Impact of Wildfires on Atmospheric Aerosol Optical Depth Using Linear Regression Models
Supervisor: Prof. Yuan Wang

July 2022 – Sept 2022

SURF Fellow, California Institute of Technology, Pasadena, CA
Topic: The Mismatch of Inclinations in the Black Hole X-ray Binary H 1743–322
Supervisor: Prof. Javier Garcia

July 2021 – Sept 2021

Research Assistant, National Astronomical Observatories, CAS, China
Topic: Geometry of Corona in the Black Hole MAXI J1348-630
Supervisor: Prof. Roberto Soria

July 2020 – June 2021

Research Assistant, Fudan University, China
Topic: Testing General Relativity Using X-ray Reflection Spectroscopy with the Black Hole EXO 1846-031
Supervisor: Prof. Cosimo Bambi

Honors and Awards:

2023

Chun-Tsung Scholar, the Hui-Chun Chin and Tsung-Dao Lee Chinese Undergraduate Research Endowment (CURE)

2022

Caltech Summer Undergraduate Research Fellowship (SURF), \$6,840

2021

Xiyuan Scholar, Fudan University

2021

First Prize at Fudan University, National College Student Curricular Academic Works Competition

2020

Rising Star Scholar, Fudan University

Publications:

Google Scholar Profile: <https://scholar.google.com/citations?user=fuP6b2kAAAAJ>

GS Profile lists: **3** peer-reviewed publications, **1** conference paper, and **1** conference abstract

1. Wang, Xuejun, et al. (including **Jiang, Qunfeng**) "A closed-loop catalytic nanoreactor system on a transistor." **Sci. Adv.** 9, eadj0839 (2023). DOI: 10.1126/sciadv.adj0839. (My contribution: Developed a random walk algorithm code to simulate molecular motion trajectories.)
2. Yu, Zhibo, **Jiang, Qunfeng**, et al. "Constraining the Konoplya-Rezzolla-Zhidenko deformation parameters. II. Limits from stellar-mass black hole x-ray data." **Phys. Rev. D** 104.8 (2021): 084035. (My contribution: Involved in core work including data analysis and writing of the paper.)

3. Wang, Xuejun, et al. (including **Jiang, Qunfeng**) "Rapid SARS-CoV-2 nucleic acid testing and pooled assay by tetrahedral DNA nanostructure transistor." **Nano Lett.** 21.22 (2021): 9450-9457. (My contribution: Conducted COMSOL multiphysics simulations to study device voltage distribution and ion movement.)
4. **Jiang, Qunfeng**, et al. "The Mismatch between the Inner-disk and the Orbital Inclination in the Black Hole X-ray Binary H 1743-322." **Am. Astron. Soc. Meet. Abstr.** 55.2 (2023).
5. Gou, Q., et al. (including **Jiang, Qunfeng**) "Observation of Horizontal Air Showers with LHAASO-KM2A." **37th Int. Cosmic Ray Conf.**, 12-23 July 2021, Berlin (2022). (My contribution: Participated in data analysis and simulation.)

Public Talk:

Dec 2023	Poster Presentation, the American Geophysical Union Annual Meeting 2023
Jan 2023	Research Contributed Talk, the 241st Meeting of the American Astronomical Society
Aug 2022	Poster Presentation, the Caltech SURF Seminar
Apr 2022	Invited Outreach talk on X-ray astronomy, Fudan Liberal Arts Society

Teaching Experience:

Fall 2023	Supervised a high school student in China in a project on 'Visualizing Global Warming with Time Series of Temperature Anomalies using Python'
Fall 2022	Teaching Assistant in College Physics A: Mechanics, Fudan University

Leadership, Outreach, and Community Service:

2022 – 2023	Organizer	Fudan University Western Political History Reading Club Fudan University History of Scientific Thought Reading Club
2022 – 2023	Core Member	Fudan Liberal Arts Society
Nov 2021	Campus Coordinator	the Asia Office of Astronomy for Development of the International Astronomical Union (IAU)
July 2021 – Sept 2021	Outreach Intern	Scientific American (Chinese Version, Huanqiu Kexue)
July 2020	Core Organizer	Tianwen Summer Camp (a 7-day volunteer summer camp on astronomy for 50 students in impoverished rural areas in China)
2020 – 2021	Director	Outreach Department, Fudan Astronomy Society

Skills:

Languages & Machine Learning Software	Python, Keras, Tensorflow, C++, Linux Bash, LaTeX
Facilities	XSPEC, PyXPEC, Wolfram Mathematica, MATLAB, CORSIKA, Arduino, COMSOL Multiphysics, Origin, Git
	NuSTAR, RXTE, XMM-Newton, Insight-HXMT

Hobbies:

Reading	I enjoy reading books in the field of history of thought, particularly in Western political thought and the history of scientific thought. I have organized several reading club activities at Fudan University, inviting some renowned Chinese scholars and professors in these fields to lead reading sessions for students. Over 200 individuals have participated in these events.
Sports	I'm a jogging enthusiast and am preparing to participate in a half marathon in 2024.