

Curriculum Vitae

Name: Jie Zhang

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Professional Preparation:

- Post-Doc Naval Research Lab, 2000-2002
- Ph.D. Astrophysics, University of Maryland, 1999
- M.S. Astrophysics, Purple Mountain Obs., Chinese Academy of Science, 1993
- B.S. Astronomy, Nanjing University, China, 1990

Professional Experience:

- **2014 Sep – now:** Full professor, George Mason University
- **2009 Sep-2014 Aug:** Associate Professor, George Mason University
- **2006 Oct-2008 Oct:** Director, Space Weather Lab at George Mason University.
- **2005 Sep-2009 Aug:** Assistant Professor, George Mason University
- **2000 Jan-2005 Aug:** Assistant research scientist, George Mason University.
- **1997 Aug-1999 Dec:** Graduate research assistant, University of Maryland
- **1995 Sep-1997 Aug:** Graduate teaching assistant, University of Maryland.
- **1993 Jul-1995 Jul:** Research associate, Purple Mountain Observatory, Chinese Academy of Science.

Ph.D. Thesis

"A Study of the Sun's Corona Using EUV and Radio Observations", 1999, Supervisor:
Kundu, M.R., University of Maryland

Honors and Awards

- 2024: SCOSTP Distinguished Scientist Award
- 2013: George Mason University College of Science Publication Award
- 2012: Sigma Xi Honor Society
- 2011: Kavli Fellow
- 2008: National Science Foundation CAREER Award, USA
- 1999: Phi Kappa Phi honor Society

Professional Membership:

- International Astronomical Union
- American Astronomical Society, Solar Physics Division
- American Geophysics Union

Doctoral Graduate Students Directed: Oscar Olmedo (2011, PHD), Watanachak Poomvises (2011, PHD), Valbona Kunkel (2012, PHD), Georgios Chintzoglou (2016, PHD), Phillip Hess (2016, PHD), Nishu Karna (2016, PHD), PHD), Suman Dhakal (2021, PHD), Alejandro Alvarez (2022, PHD), Eleni Nikou (2024), Richard Hester (2025)

Publications:

Dr. Jie Zhang has authored and co-authored more than 130 refereed research papers. He also published two co-edited books, and served as a guest editor in six topical issues of scientific journals.

Professional Services:

- Vice Chair of COSPAR Commission D (2024-2028)
- CO-chair of SCOSTEP PRESTO program (2020-2025)
- Associate Director of PHaSER (2021-2026)
- Associate Chair of Research, Department of Physics and Astronomy at GMU (2020-)
- Vice Chair of COSPAR Sub-commission D2/E3 (2012-2020)
- Chair of SCOSTEP/VarSITI/ISEST program (2013-2018)
- Member of AAS/SPD Nomination Committee (2023-2025)
- Co-founded the Space Weather Lab (2004) and developed the space weather teaching and research program at GMU
- Organizing international scientific meetings in the role of SOC chair and/or committee member
- Organizing special sessions in many conferences in the role of the session chair.
- Guest editor of topic issues in journals
- Member of AAS/SPD Education and Public Outreach Committee, 2006-2010
- Served as a panel reviewer for numerous NSF, NASA and multiple international research programs, including NCAR Non-NSF Proposal Review Panel (2015-2018)
- Served as a referee for numerous articles in many scientific journals, including Nature Communications, ApJ, Solar physics, JGR, GRL and others.

Teaching Focus

Prof. Zhang teaches graduate-level courses in astrophysics, space weather, plasma physics, and solar physics. He also offers undergraduate astrophysics courses for physics and astronomy majors, as well as a university core astronomy course serving a large population of non-science majors.

Research Focus

Prof. Zhang's research spans solar physics, heliospheric physics, and space weather. His work centers on elucidating the physical processes driving solar eruptions, including solar flares and coronal mass ejections (CMEs). He also investigates the structure and evolution of magnetic fields in the photosphere and corona. In addition, he studies the morphology and propagation of CMEs through interplanetary space, as well as the linkage between CMEs near the Sun and in-situ interplanetary CMEs (ICMEs). Prof. Zhang has extensive expertise in analyzing observations from multiple spacecraft, including SOHO, SDO, STEREO, PSP, ACE, and WIND. His interests also extend to 3D reconstruction and visualization, virtual reality, artificial intelligence, and machine learning. His research aims to improve space-weather prediction and reduce its impacts on advanced technological systems both in space and on Earth.

Selected Publications

(refer to <https://scholar.google.com/citations?user=aeFDIT0AAAAJ&hl=en> for a full list)

- Zhang, J., Temmer, M., Gopalswamy, N. *et al.* Earth-affecting solar transients: a review of

progresses in solar cycle 24. *Prog Earth Planet Sci* **8**, 56, 2021

- Georgios Chintzoglou, Jie Zhang, Mark C.M. Cheung, and Maria Kazachenko: "The Origin of Major Solar Activity: Collisional Shearing Between Nonconjugated Polarities of Multiple Bipoles Emerging Within Active Regions", *Astrophysical Journal*, Vol. 871:67, 2019
- **Zhang, Jie**; Cheng, Xin; Ding, Ming-De.: "Observation of an evolving magnetic flux rope before and during a solar eruption", **Nature Communications**, Volume 3, pp. 747, 2012
- **Zhang, J.**, Richardson, I.G., Webb, D.F., Gopalswamy, N., Huttunen, E., Kasper, J., Nitta, N., Poomvises, W., Thompson, B.J., Wu, C.-C., Yashiro, S., and Zhukov, A., "Solar and interplanetary sources of major geomagnetic storms ($Dst \leq -100$ nT) During 1996 – 2005", **Journal of Geophysical Research**, Vol. 112, Issue A10, CitelD A10102, DOI: 10.1029/2007JA012321, 2007
- **Zhang, J.**, Dere, K.P.: "A Statistical Study of Main and Residual Acceleration of Coronal Mass Ejections", **The Astrophysical Journal**, Vol. 609, Issue 2, P. 1100, 2006
- **Zhang, J.**, Dere, K.P., Howard, R.A., Kundu, M.R., White, S.M., "On the Temporal Relationship Between Coronal Mass Ejections and Flares", **The Astrophysical Journal**, Vol. 559, P. 452-462, 2001