XIANTONG WANG

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EDUCATION

- **University of Michigan - Ann Arbor** 2022.8
  Ph.D., Climate and Space Sciences and Engineering & Scientific Computing
  Advisor: Gábor Tóth, Ph.D.
  Dissertation: *First-Principle Modeling and Machine Learning for Space Weather Forecasting*
  doi:10.7302/6328
- **University of Michigan - Ann Arbor** 2019.8
  M.S., Climate and Space Sciences and Engineering
- **University of Science and Technology of China (USTC)** 2017.6
  B.S., Geophysics
  Advisor: Quanming Lu, Ph.D.
  Thesis: *Electron temperature anisotropy in asymmetric magnetic reconnection*

EMPLOYMENT

- *Research Fellow*, University of Michigan - Ann Arbor 2022.6 - now
- *Graduate Student Research Assistant*, University of Michigan - Ann Arbor 2017.9 - 2022.5

PUBLICATIONS

Google Scholar

Peer Reviewed:

1. **Wang, X.**, Chen, Y., & Tóth, G. (2022). Global Magnetohydrodynamic Magnetosphere Simulation With an Adaptively Embedded Particle-In-Cell Model. *Journal of Geophysical Research: Space Physics, 127,* e2021JA030091. doi:10.1029/2021JA030091
2. Whitman, K., Egeland, R., Richardson, I. G., . . . , **Wang, X.**, . . . , Titov, V., Zhang, M., & Hosseinzadeh, P. (2022). Review of Solar Energetic Particle Models. *Advances in Space Research.* doi:10.1016/j.asr.2022.08.006
3. **Wang, X.**, Chen, Y., & Tóth, G. (2022). Simulation of Magnetospheric Sawtooth Oscillations: the Role of Kinetic Reconnection in the Magnetotail. *Geophysical Research Letters, 49,* e2022GL099638. doi:10.1029/2022GL099638
4. Sun, Z., Bobra, M. G., **Wang, X.**, Wang, Y., Sun, H., Gombosi, T., Chen, Y., & Hero, A. (2022). Predicting Solar Flares Using CNN and LSTM on Two Solar Cycles of Active Region Data. *The Astrophysical Journal,* 931(2):163. doi:10.3847/1538-4357/ac64a6
5. Kasapis, S., Zhao, L., Chen, Y., **Wang, X.**, Bobra, M., & Gombosi, T. (2022). Interpretable Machine Learning to Forecast SEP Events for Solar Cycle 23. *Space Weather,* 20(2):e2021SW002842. doi:10.1029/2021SW002842
6. **Wang, X.**, Chen, Y., Tóth, G., Manchester, W. B., Gombosi, T. I., Hero, A. O., Jiao, Z., Sun, H., Jin, M., & Liu. Y. (2020). Predicting Solar Flares with Machine Learning: Investigating Solar Cycle Dependence. *The Astrophysical Journal,* 895(1):3. doi:10.3847/1538-4357/ab89ac

7. Jiao, Z., Sun, H., **Wang, X.**, Manchester, W., Gombosi, T., Hero, A., & Chen, Y. (2020). Solar Flare Intensity Prediction With Machine Learning Models. *Space Weather,* 18(7):e2020SW002440. doi:10.1029/2020SW002440

8. Chen, Y., Manchester, W. B., Hero, A. O., Tóth, G., DuFumier, B., Zhou, T., **Wang, X.**, Zhu, H., Sun, Z., & Gombosi, T. I. (2019). Identifying Solar Flare Precursors Using Time Series of SDO/HMI Images and SHARP Parameters. *Space Weather,* 17(10):1404–1426. doi:10.1029/2019SW002214

Preprint:

1. (submitted to *Computer Physics Communications*) Chen, Y., Tóth, G., Zhou, H., & **Wang, X.** (2022). FLEKS: A flexible particle-in-cell code for multi-scale plasma simulations. doi:10.1002/essoar.10508070.3

PRESENTATIONS

1. Magnetospheric storm and substorm simulations using a global MHD with embedded kinetic model, *GEM Workshop* 2022
2. Geomagnetic storm event simulation using a global MHD with adaptively embedded particle-in-cell (MHD-AEPIC) model, *GEM Workshop, AGU Fall Meeting* 2021
3. Geomagnetic simulation using MHD with Adaptively Embedded PIC model, *AGU Fall Meeting* 2020
4. (**Oral**) Predicting Solar Flares using Time Sequence Based Machine Learning Models, *AGU Fall Meeting* 2019
5. Parametric study of magnetospheric sawtooth events using a kinetic tail reconnection model embedded into a global MHD simulation, *AGU Fall Meeting* 2018

AWARDS AND SCHOLARSHIPS

1. Departmental Assistantship, Department of Climate and Space Sciences and Engineering, U of M 2017
2. Outstanding Graduate Scholarship, USTC 2017
3. Zhaojiuzhang Scholarship, USTC 2016
4. Laurel Scholarship, USTC 2015
5. Outstanding Student Scholarship (Grade 2), USTC 2014