Curriculum Vitae of Xin Cui

Ph.D. Candidate in Geophysics

Laboratory for Seismology and Physics of Earth's interior
School of Earth and Space Sciences
University of Science and Technology of China (USTC)
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Research Interests

- Machine Learning in Seismology: ML applications to event clustering and new seismological discoveries.
- Earthquake Physics: Evolution and properties of foreshocks, aftershocks, and mainshocks.
- Earthquake Cycle: Simulation of coseismic and postseismic deformation.

Education

- 2024/9-current, Visiting Student
  Université Côte d'Azur, Geoazur Laboratory, Nice, France
  Advisor: Prof. Jean-Paul Ampuero
- 2020/9-current, Ph.D. Candidate in Geophysics
  University of Science and Technology of China (USTC), Hefei, China
  Advisor: Prof. Zefeng Li
- 2019/6-2019/9, Visiting Student in Geophysics
  California Institute of Technology (Caltech), Pasadena, USA
  Advisor: Prof. Robert Clayton
- 2016/9-2020/6, B.S. in Geophysics
  University of Science and Technology of China (USTC), Hefei, China
  Advisor: Prof. Zefeng Li and Prof. Yan Hu

Awards & Honors

2023	Outstanding Student Presentation Award, 2023 Annual Meeting of American Geophysical Union, USA
2023	Best Student Presentation Award, Third Prize, 2023 Annual Meeting of AI for Seismology Conference, Hefei, China
2023	Best Poster Award, Third Prize, 2023 Annual Meeting of International Professionals for the Advancement of Chinese Earth Sciences, Hefei, China
2023	National Scholarship Graduate, University of Science and Technology of China, China
2022	National Scholarship Graduate, University of Science and Technology of China, China
2020–2023	Outstanding Student Scholarships, University of Science and Technology of China, China

Peer-reviewed Publications

*corresponding author

5. **Cui, X.** Li, Z.*, Han, X. & Yuan, R. (2024). Spurious sound-speed changes on Mars caused by turbulence-induced pressure frequency variations. *Geophysical Research Letters*, under review.
4. Liu, Y. **Cui, X.** Hu, Y.*, Zhang, J. & Chen, Y. (2024). Integrated investigation on heterogeneous lower crust rheology in Kyushu and afterslip behavior following the 2016 Mw7.1 Kumamoto earthquake. *Geophysical Research Letters*, *51*, e2023GL107606. doi:10.1029/2023GL107606
3. **Cui, X.** Hu, Y. Ma, S. Li, Z.*, Liu, G. & Huang, H. (2024). Bridging supervised and unsupervised learning to build volcano-seismicity classifiers in Kilauea, Hawaii. *Seismological Research Letters*, *95*(3), 1849-1857 doi:10.1785/0220230251
2. **Cui, X.** Li, Z.*& Hu, Y. (2023). Similar seismic moment release process for shallow and deep earthquakes. *Nature Geoscience*, *16*, 454-460 doi:10.1038/s41561-023-01176-5
1. **Cui, X.** Li, Z.*& Huang, H. (2021). Subdivision of seismicity beneath the summit region of Kilauea volcano: Implications for the preparation process of the 2018 eruption. *Geophysical Research Letters*, *48*, e2021GL094698. doi:10.1029/2021GL094698

Manuscripts in Preparation

*corresponding author

2. **Cui, X.** & Li, Z.*. On the Physical Mechanism of Foreshock Sequences in South California, in preparation.
1. **Cui, X.** & Li, Z.*. Exploring the Predictability of Fault Seismicity with Machine Learning.

Select Presentations

5. **Cui, X.** Li, Z. & Ma, S. (2024). Moho depth controls earthquake stress drop in Southern California 2024 IPACES Annual Meeting, Beijing, China.
4. **Cui, X.** & Li, Z. (2023). On the Physical Mechanism of Foreshock Sequences in South California. 2023 AGU Fall Meeting, San Fransisco, CA, USA. ID: DI23A-06.
3. **Cui, X.** & Li, Z. (2023). Exploring the Predictability of Fault Seismicity with Machine Learning. 2023 IPACES Annual Meeting, Hefei, China.
2. **Cui, X.** & Li, Z. (2021). Are shallow, intermediate-depth, deep-focus EQs distinguishable from source time functions? 2021 AOGS Annual Meeting, Online.
1. **Cui, X.** Li, Z. & Huang, H. (2021). Subdivision of seismicity beneath the summit region ofKilauea volcano: Implications for the preparation process of the 2018 eruption. 2021 Annual Meeting of AI for Seismology Conference, Qingdao, China

Field Experience

- 2021/07/28–2021/08/10, Field Observation Internship in the Tibetan Plateau, China