Huili Zhang

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Education

Ph.D., Geology, Nanjing University **09/2020–09/2024**

- The properties of the mantle source of Cenozoic basaltic rocks
- Volatile (CO_2, F, and Cl) cycle between the deep mantle and crust

Supervisor: Gang Zeng, Jin-Hai Yu

Rocking Mantle Group (http://rockingmantle.com/)

M.S., Petrology, Nanjing University **09/2018– 06/2020**

- The properties of the mantle source of Cenozoic basaltic rocks **Supervisor:** Gang Zeng

Rocking Mantle Group (http://rockingmantle.com/)

B.S., Resources Exploration Engineering, China University of Petroleum **09/2014– 07/2018**

Project/Grants

Improvement of a method for in-situ F-Cl-Nb-P analysis in melt inclusions (10,000￥; 2022.3-2023.3, **PI**).

Experience and skills

- **Skilled in EPMA:**
  Developed the method of trace F-Cl-Nb-P analysis in melt inclusions (MI) by EPMA;
  Skilled in the major- and minor- elemental analysis of minerals and glasses;
  Completed the EPMA training course (JEOL, Japan) and got their certification.
- **Familiar with a wide range of computational and analytical tools:**
  Petrolog3, MELTS, Office, Illustrator, SigmaPlot, Python, C++, CorelDRAW, origin;
  SEM (gain high-resolution images);
  LA-ICP-MS (trace element in minerals and melt inclusions (MI), Pb isotope in MI);
  Rama spectrometry (identify the types of minerals and volatiles in melt inclusions);
  Conventional box furnace (synthesize reference materials).
- **Experience as the assistant for the "Petrology" course in Nanjing University and the assistant in State Key Laboratory of EPMA.**

Publications

Zhang, H.-L., Zeng, G., Zhang, C., Zhang, W.-L., Chen, L.-H., and Yu, J.-H., **2022**, Electron Probe Microanalysis measurement of F-Cl-Nb-P for Geological Glasses: **Geostandards and Geoanalytical Research**, v. 46, no. 4, p. 851-864.

Zhang, H.-L., Zeng, G., Liu, J.-Q., Chen, L.-H., Yu, J.-H., Wu, B., Wang, X.-J., Xu, X.-S., and Liu, X.-W., **2023**, Carbonated eclogitic component beneath eastern China revealed by olivine phenocrysts in nephelinites: **Chemical Geology**, v. 640, p. 121744.

Zhang, H.-L., Zeng, G., Chen, L.-H., Liu, J.-Q., Yu, J.-H., Xu, X.-S., 2024. Evaluation of CO_2 concentration in a carbonated eclogite mantle source: A new attempt based on the compositions of olivine phenocrysts. **Lithos**, v. 482-483, p. 107669.

Zeng, G., **Zhang, H.L.**, Liu, J.Q., Chen, L.H. Deep cycling of fluorine and chlorine traced by melt inclusions trapped in olivine phenocrysts from the Hainan Island basalts. **Bulletin of Mineralogy, Petrology and Geochemistry**, 2023,42(06):1248-1259+1210. https://doi.org/10.19658/j.issn.1007- 2802.2023.42.103.

Shi, J.H., Zeng, G., Chen, L.H., Wang, X.J., Liu, J.Q., Xie,L.W., Yang, Y.H., **Zhang, H.L., 2023**. Lithology of EM1 reservoir revealed by Fe isotopes of continental potassic basalts. **Journal of Geophysical Research: Solid Earth**,128(1): e2022JB025133. https://doi.org/10.1029/2022JB025133.

Liu, J.Q., Chen, L.H., Wang, X.J., **Zhang, H.L.**, Zeng, G., Saskia, E., Zhang, L., Ren, Z.Y. **2022**. Olivine and melt inclusion chemical constraints on the nature and origin of the common mantle component beneath eastern Asia. **Contributions to Mineralogy and Petrology**. 177:116(2022) https://doi.org/10.1007/s00410-022-01981-y.

Liu J. Q., Erdmann, S., Chen L. H., **Zhang H.L.**, Wu B., Zeng G., Wang X. J., Lei Z. L., & Yu X. (**2021**). Petrological evidence for magma recharge and mixing beneath the Ma'anshan monogenetic volcano of Xiaogulihe in Northeast China. **Lithos**. 382-383. https://doi.org/10.1016/j.lithos.2020.105928.

Presentations

Extremely carbon-rich mantle beneath eastern China revealed by olivine phenocrysts within nephelinite; Oral presentation on "*Goldschmidt 2023*"; Lyon, France; July 2023.

Electron Probe Microanalysis measurement of F-Cl-Nb-P for Geological Glasses; Oral presentation on "The 8th Youth Science Forum"; Wuhan, China; May 2023.

Electron Probe Microanalysis measurement of F-Cl-Nb-P for Geological Glasses; Oral presentation on "The Third National Geoscience Graduate Forum in 2022"; Online, December 2022.

Tracing the CO_2-rich mantle using the olivine phenocrysts and their melt inclusions; Oral presentation on "The 7th Youth Science Forum"; Guiyang, China; July 2021.

Honors, Awards (reverse chronological order)

Excellent graduate in 2024	2024
Excellent graduate student in 2023	2023
Industrial bank scholarship in 2023	2023
Second Prize of the Meritocracy Scholarship in 2022	2022
Excellent report award in "The Third National Geoscience Graduate Forum in 2022"	2022
First-class scholarship for graduate study	2019
The first prize of excellent scholarship for learning	2016-2017
National Encouragement Scholarship	2015-2016
The third prize of excellent scholarship for learning	2014-2015