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研究領域：

實驗高壓物理、地球物理、超快光學、實驗凝態物理

Research interests:

Experimental high pressure physics, Geophysics, Ultrafast optics,

Condensed matter physics

2011: 美國伊利諾大學香檳校區 物理博士

2005: 國立台灣大學 物理系碩士

2004: 國立台灣大學 物理系學士

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2022/09- 迄今 中央研究院 地球科學研究所 研究員

2023/01- 迄今 中央研究院 地球科學研究所 副所長

2023/02- 迄今 國立台灣大學 地質科學系 合聘教授

2022/12- 迄今 國立中央大學 地球科學系 兼任教授

2018/06-2022/09 中央研究院 地球科學研究所 副研究員

2013/10-2018/06 中央研究院 地球科學研究所 助研究員

2011/08-2013/10 美國史丹福大學及 SLAC 國家加速器實驗室 博士後研究員

2008/06-2011/07 美國伊利諾大學 研究助理

2007/08-2008/05 美國伊利諾大學 教學助理

[榮譽]

- 國科會國際年輕傑出學者研究計畫 International Outstanding Young Scholars Research Program, National Science and Technology Council, 2024-2027
- 中央研究院特優學術研究獎金 Academia Sinica Presidential Scholars Program, 2022-2025
- 中央研究院深耕計畫 Investigator Award, Academia Sinica, 2022-2026
- 科技部傑出研究獎 Outstanding Research Award, Ministry of Science and Technology, 2021
- 科技部優秀年輕學者研究計畫 Excellent Young Scholars Research Program, Ministry of Science and Technology, 2018-2021 and 2021-2024
- 科技部吳大猷先生紀念獎 Ta-You Wu Memorial Award, Ministry of Science and Technology, 2019
- 中央研究院年輕學者研究著作獎 Academia Sinica Research Award for Junior Research Investigators, 2018
- 傑出人才發展基金會第六屆年輕學者創新獎 Young Scholars' Creativity Award, Foundation for the Advancement of Outstanding Scholarship, 2018
- 中央研究院前瞻計畫 Career Development Award, Academia Sinica, 2017-2021
- 中央研究院重要研究成果 Significant Research Achievements of Academia Sinica, 2017, 2018, 2020, 2023
- Invited speaker, JpGU Meeting, 2023
- Invited speaker, The 5th Annual Meeting of Taiwan Earthquake Center, 2022
- Invited speaker, The 10th Asian Conference on High Pressure Research, 2021
- Invited speaker, EGU General Assembly, 2021
- Invited speaker, AGU Fall Meeting, 2020
- Invited speaker, the 4th International Conference on Matter and Radiation at Extremes, 2019
- Invited speaker, the 26th International Conference on High Pressure Science and Technology, 2017
- Invited speaker, the 1st Asia-Pacific workshop on lithosphere and mantle dynamics, 2016
- Ovshinsky Student Travel Award, APS Division of Materials Physics, 2011

- Taiwan Merit Scholarship, National Science Council, Taiwan, ROC, 2006
- Graduate Thesis Award, The Physical Society of the Republic of China, 2006
- Dean's Award for the Best Master Thesis, College of Science, NTU, 2005

[著作]

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2. Wei-Han Tsai, Cheng-Lung Chen*, Krishna Ranganayakulu Vankayala, Ying-Hsiang Lo, Wen-Pin Hsieh, Te Hsien Wang, Ssu-Yen Huang, and Yang-Yuan Chen*, “Enhancement of ZT in Bi_{0.5}Sb_{1.5}Te₃ thin film through lattice orientation management,” *Nanomaterials*, **14**, 747 (2024).
3. J. M. Guerrero*, Frédéric Deschamps*, Wen-Pin Hsieh, and Paul J. Tackley, “The combined effect of heterogeneous thermal conductivity, chemical density contrast, and heat-producing element enrichment on the stability of primordial reservoirs above the core-mantle boundary,” *Earth Planet. Sci. Lett.*, **637**, 118699 (2024).
4. Shah Faisal, S. Majid*, A. Ahad, F. Sofi, S. Mohanta, M. Gupta, P. Sahu, Wen-Pin Hsieh, H. Srivastava, M. Ikram, and D. Shukla, “Photocatalytic activity of BaAl₂O₄ for water purification,” *Langmuir*, **40**, 8418 (2024).
5. Wen-Pin Hsieh*, Frédéric Deschamps*, Yi-Chi Tsao[†], Takashi Yoshino, and Jung-Fu Lin, “A thermally conductive Martian core with implications for its dynamo cessation,” *Sci. Adv.*, **10**, eadk1087 (2024).
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6. Yu-Ping Hung[†], Yi-Chi Tsao[†], Chun-Hung Lin[†], and Wen-Pin Hsieh*, “Thermal conductivity of aluminous garnets in Earth’s deep interior,” *American Mineralogist*, **109**, 482 (2024).
7. Wen-Pin Hsieh*, Yun-Yuan Chang*[†], Yi-Chi Tsao[†], Chun-Hung Lin[†], and Kenny Vilella, “Exceptionally low thermal conduction of basaltic glasses and implications for the thermo-chemical evolution of the Earth’s primitive magma ocean,” *J. Geophys. Res. Solid Earth*, **129**, e2023JB027722 (2024).
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- at high pressure and high temperature: implications to giant planets,” *Geophys. Res. Lett.*, **50**, e2023GL103994 (2023).
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 10. J. M. Guerrero*, F. Deschamps*, Y. Li, Wen-Pin Hsieh, and P. J. Tackley, ”Influence of heterogeneous conductivity on the long-term evolution of the lower mantle thermo-chemical structure: implications for primordial reservoirs,” *Solid Earth*, **14**, 119 (2023).
 11. Wen-Pin Hsieh*, Yi-Chi Tsao[†], and Chun-Hung Lin[†], ”Thermal conductivity of helium and argon at high pressure and high temperature (*invited*),” *Materials*, **15**, 6681 (2022).
 12. Yongjian Zhou, Wen-Pin Hsieh, Chao-Chih Chen[†], Xianghai Meng, Fei Tian, Zhifeng Ren, Li Shi, Jung-Fu Lin, and Yaguo Wang*, ”Defect modulated thermal behavior of BAs under high pressure,” *Appl. Phys. Lett.*, **121**, 121902 (2022).
 13. Wen-Pin Hsieh*, Enrico Marzotto, Takayuki Ishii, Leonid Dubrovinsky, Alena A. Aslandukova, Giacomo Criniti, Yi-Chi Tsao[†], Chun-Hung Lin[†], Jun Tsuchiya, and Eiji Ohtani*, ”Low thermal conductivity of hydrous phase D leads to a self-preservation effect within a subducting slab,” *J. Geophys. Res. Solid Earth*, **127**, e2022JB024556 (2022).
 14. Cheng-Lung Chen, Te-Hsien Wang, Yu Zih-Gin, Yohanes Hutabalian, Ranganayakulu K. Vankayala, Chao-Chih Chen[†], Wen-Pin Hsieh, Horng-Tay Jeng, Da-Hua Wei, and Yang-Yuan Chen*, ”Modulation doping enables ultrahigh power factor and thermoelectric ZT in n-type Bi₂Te_{2.7}Se_{0.3},” *Adv. Sci.*, **9**, 2201353 (2022).
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18. Dylan W. Meyer^{†*}, Wen-Pin Hsieh, Han Hsu, Ching-Yi Kuo, and Jung-Fu Lin, “Thermal conductivity and compressional velocity of methane at high pressure: insights into thermal transport properties of icy planet interiors,” *J. Geophys. Res. Planets*, **127**, e2021JE007059 (2022).
19. Yu-Hsiang Chien^{†*}, Kai-Chi Wei[†], and Wen-Pin Hsieh^{*}, “Thermal conductivity of single-crystal brucite at high pressures with implications for thermal anomaly in the shallow lower mantle,” *American Mineralogist*, **107**, 790 (2022).
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23. Wen-Pin Hsieh^{*}, “High-pressure thermal conductivity and compressional velocity of NaCl in B1 and B2 phase,” *Sci. Rep.*, **11**, 21321 (2021).
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26. Enrico Marzotto^{†*}, Wen-Pin Hsieh^{*}, Takayuki Ishii, Keng-Hsien Chao[†], Gregor J. Golabek, Marcel Thielmann, and Eiji Ohtani^{*}, “Effect of water on lattice thermal conductivity in ringwoodite and its implications for the thermal evolution of descending

- slabs,” *Geophys. Res. Lett.*, **47**, e2020GL087607 (2020).
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 33. Frédéric Deschamps* and Wen-Pin Hsieh, ”Lowermost mantle thermal conductivity constrained from experimental data and tomographic models,” *Geophys. J. Int.* **219**, S115 (2019).
 34. Jihoon Jeong, Xianghai Meng, Ann Rockwell, Seth Bank, Wen-Pin Hsieh, Jung-Fu Lin*, and Yaguo Wang*, ”Picosecond transient thermoreflectance for thermal conductivity characterization,” *Nanoscale and Microscale Thermophysical Engineering* **23**, 211 (2019).
 35. Keng-Hsien Chao[†] and Wen-Pin Hsieh*, ”Thermal conductivity anomaly in (Fe_{0.78}Mg_{0.22})CO₃ siderite across spin transition of iron,” *J. Geophys. Res. Solid Earth*, **124**, 1388 (2019).

36. Wen-Pin Hsieh*, Frédéric Deschamps, Takuo Okuchi, and Jung-Fu Lin*, “Effects of iron on the lattice thermal conductivity of Earth’s deep mantle and implications for mantle dynamics,” *Proc. Natl. Acad. Sci. USA*, **115**, 4099 (2018).
37. Wen-Pin Hsieh*, Frédéric Deschamps, Takuo Okuchi, and Jung-Fu Lin*, “Reduced lattice thermal conductivity of Fe-bearing bridgmanite in Earth’s deep lower mantle,” *J. Geophys. Res. Solid Earth*, **122**, 4900 (2017). (*Selected as a featured article in JGR*)
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43. Wen-Pin Hsieh* and Yu-Hsiang Chien†, “High pressure Raman spectroscopy of H₂O-CH₃OH mixtures,” *Sci. Rep.* **5**, 8532 (2015).

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44. Wen-Pin Hsieh*, Mariano Trigo, David Reis, G. Artioli, Lorenzo Malavasi, and Wendy L. Mao, “Evidence for photo-induced monoclinic metallic VO₂ under high pressure,” *Appl. Phys. Lett.* **104**, 021917 (2014).

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46. Wen-Pin Hsieh*, Peter Zaldan, M. Wuttig, Aaron Lindenberg, and Wendy L. Mao, “High pressure Raman spectroscopy of phase change materials,” *Appl. Phys. Lett.* **103**, 191908(2013).
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53. Wen-Pin Hsieh and Y. L. Wang*, “Prolonged electron emission as a method to fabricate a stable and bright dual ion/electron point source,” *Appl. Phys. Lett.* **87**, 194107 (2005).
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