



# 中央研究院 地球科學研究所

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**極端條件實驗室**(中央研究院地球所)主要研究興趣為了解地球內部礦物於極端條件下(極高壓力-up to 150 GPa、極高/低溫度-few to thousands of Kelvin、極高磁場-few Tesla 以及極短時間-picosecond to nanosecond)之物理性質。我們計畫利用超快光學結合高壓鑽石砧以及雷射加熱系統等技術以模擬地球內部的極端環境並研究主要礦物如(Mg,Fe)SiO<sub>3</sub> bridgmanite、(Mg,Fe)O ferropericlaese 及(Mg,Fe)<sub>2</sub>SiO<sub>4</sub> olivine 於相關高溫高壓條件下的熱傳導、聲速、分子振動光譜及電子自旋等特性。此研究將大幅提高目前世界上所能量測相關物理量的壓力、溫度、磁場及時間範圍，並且提供全新的實驗數據。預期將會對研究地球內部熱演化及地球動力學等議題帶來重要的進展，也可從礦物物理的角度幫助解釋地震波觀測上的相關問題。

## Position opening 歡迎加入我們的研究團隊！

**實驗室：**極端條件實驗室 (謝文斌 博士)

**需求職稱：**博士後研究員、碩士級專任研究助理、博士班/碩士班研究生、大學部專題生等數名

**需求說明：**具地球科學/物理/化學 相關背景

**研究主題：**結合超快光學、高壓鑽石砧、雷射加熱系統等技術探索地球內部礦物特性及動力學

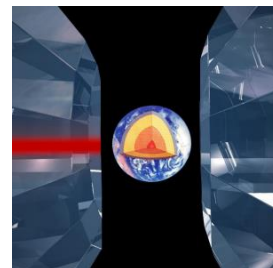
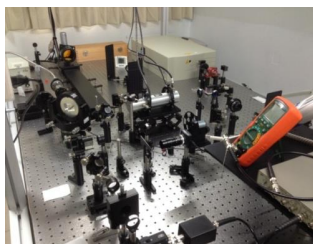
**具備條件：**好奇心、研究熱忱、熟悉雷射/光學、高壓技術、程式等尤佳

**工作地點：**中央研究院 地球科學研究所 台北市南港區研究院路二段 128 號

**工作待遇：**依原科技部之標準或更高

有意者請聯絡謝文斌博士 [wphsieh@earth.sinica.edu.tw](mailto:wphsieh@earth.sinica.edu.tw), 02-27839910 ext. 509

<https://sites.google.com/site/whsieh2>



The research interests of the **Extreme Conditions Laboratory (ECL)** at the Institute of Earth Sciences, Academia Sinica, focus on exploring physical properties of minerals under extreme conditions, e.g., extremely high pressure (up to 150 GPa), high/low temperature (tens to thousands of Kelvin), high magnetic field (few Tesla) and short time scale (picoseconds to nanoseconds). Our current researches include using ultrafast optics combined with extreme pressure and temperature techniques to simulate the environments in the Earth and planetary interior, and to study thermal conductivity, sound velocity, Raman spectroscopy and magnetism of important minerals (Mg,Fe)SiO<sub>3</sub> bridgmanite, (Mg,Fe)O ferropericlase, and (Mg,Fe)<sub>2</sub>SiO<sub>4</sub> olivine, etc. Our ultimate goals are to understand various geodynamic phenomena and their dynamic processes in the Earth and planetary interior, and to help explain enigmatic seismic wave observations.

**We are looking for highly motivated members, welcome to join us!**

**Position title:** Postdoc researchers, full-time research assistants with MS degree, PhD/master students, and undergraduates. Candidates who are familiar with laser/optics, high pressure technique, and programming are highly preferred.

**Research project:** Using ultrafast optics combined with high pressure/temperature techniques to study physical properties (thermal conductivity and elastic/vibrational properties) of minerals and related geodynamics of Earth and planetary interiors

**Working place:** Institute of Earth Sciences, Academia Sinica, Nankang, Taipei

**Salary:** In accordance with or higher than MOST's standard

If you are interested in joining us, please contact Dr. Wen-Pin Hsieh

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