

I 以碎屑白雲母氬氬定年探討沉積物源與年代方法之建立

Establishment of detrital mica $40\text{Ar}/39\text{Ar}$ dating approach for provenance depositional age analysis

白雲母可成長於廣域的溫壓變質條件，且抗風化。是良好的氬氬定年對象。藉由單顆礦物的雷射燒熔定年法可獲得沈積物中碎屑白雲母的年代頻譜，進而獲得控制沈積年代之上界。本研究將需純化沈積物或沈積層中之白雲母礦物，將礦物經由中子照射後進行雷射燒溶分析。以獲得碎屑白雲母之年代頻譜。藉由執行本計畫學生將會學到前人文獻閱讀，採樣，顯微分析，礦物純化，氬氬定年分析，結果討論與撰寫論文。

Detrital thermochronology can be used as a tool to quantitatively constrain the source provenance of sediments and the timing of deposition. Muscovite can withstand from erosion and can grow through wide temperature range. Making it suitable for geochronology markers. This project requires students to collect samples, mineral purification, and conduct laser ablation within the argon dating lab.