



## **Segmentation of the Hsuehshan Range, Central Taiwan and its Tectonic Implication Revealing by Low Temperature Thermochronology Data**

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Taiwan Orogeny to be the result of an oblique arc-continental collision between the Philippine Sea Plate and Eurasia Plate. According to kinematic modeling, the mountains started to build from the north and progressively propagated southward at a rate of 60-90 km/my. This results in NE trending and more than 200 km length of the Hsuehshan Range with the highest peak in Taiwan.

We used the zircon and apatite fission track, U-Th/He of zircon dating to study the exhumation history. In addition, we combine the structural and seismology data to reveal the segmentation characteristics along the Hsuehshan Range.

We found that the reset ages of zircon fission track are near the same ca. 4-5 Ma along the Hsuehshan Range that indicates the initial timing of the exhumation is the same and we do not observed the phenomena of southward propagation. However we found that the U-Th/ He of Zircon ages and apatite fission track ages shows variation from north to south and it can be separated into three segments. Both the north and south segments show younger ages with high exhumation rate and the central segment shows older ages with lower exhumation rate. These segmentation boundaries coincide with seismicity and neotectonic boundary in western foothill. We considered that the different fault system and subsurface fault geometries control the exhumation rate and segmentations along the Hsuehshan Range.