



## **Detrital zircon U-Pb geochronology from the Tananao schist of Taiwan: implications for the Mesozoic convergent margin tectonics of South China Block**

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Taiwan is located at the Eurasian (or South China Block) continental margin since the Mesozoic period which has experienced at least two stages of orogeny (metamorphism) during late Mesozoic and late Tertiary. The Mesozoic Nanao orogeny formed greenschist-facies metamorphism which occurred rock association of pelitic schist, chlorite schist, siliceous schist, metachert, amphibolite, metabasite, marble, and gneiss (or weakly foliated granite). The meta-magmatic rocks of amphibolite and gneiss could be obtained radiometric dating of 86-90 Ma by U-Pb zircon geochronology. The schist however was no radiometric dating data to determine the formation age and yield the age of metamorphism. Hence the detritus zircon U-Pb geochronology could be constrained the schist formation age because the youngest peak age could be close to the depositional age (the maximum depositional age). The study focuses here on using U/Pb zircon geochronology to constrain the schist formation age which is important to the understanding of its complex geological evolution.

Detrital zircon U/Pb ages of more thirty schist samples (chlorite and siliceous schists) analysis with the age spectrum of the main peaks of 110-120 Ma, 160-165 Ma, and 175-185 Ma. The characteristic of age spectrum from schist formation shows four clusters of Cretaceous and Jurassic periods that are due to be exhumed from volcanic rocks of the Cathaysia Block. The younger cluster of 110-120 Ma represents the younger volcanics added to the sediments (schist formation) during its deposition. In addition, a folded granitic vein was obtained U/Pb age at  $80 \pm 4$  Ma, suggesting that the metamorphism (the Nanao Orogeny) occurred after its age.