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Detrital U-Pb Zircon Dating of the Cenozoic Metamorphic Terrain in Taiwan Orogenic Belt and its Tectonic Implication

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Taiwan orogeny resulted from the collision between the Philippine Sea plate and Eurasia plate since 6.5 Ma that is associated with the prehnite-pumpellyite facies to amphibole facies metamorphic terrain in the interior mountain belt. In the Cenozoic metamorphic terrain is lack of fossils to identify the deposit age and also hard to correlate each other. Dettital zircon U-Pb age is a good tool to reveal province of deposition and the youngest zircon U-Pb age can help to constraint the deposit age. In this study we analysis of more than 3000 grains of detrital U-Pb zircon ages from Miocene to Eocene metamorphic terrain. The Miocene strata shows two major groups 250- 90Ma (30%) and 2500-1000Ma (30%) and the Eocene strata are concentrate on three major groups 200 - 90Ma (40%), 250 - 200Ma (20%), and 450 - 400Ma (25%). The different age spectrum between the Eocene and Miocene reflect the different deposit source. Instead of Mesozoic to Proterozoic ages we found several groups of Cenozoic U-Pb zircon age, $\sim$39 Ma, $\sim$ 44Ma, $\sim$50 Ma in Eocene strata and 22$\sim$25 Ma in Miocene strata which are related with Cenozoic magmatism events in continental margin of Eurasia Plate. This young U-Pb zircon ages indicates the strata age should be younger or similar with these ages.