

# LA-ICP-MS U-Pb Geochronology of Detrital Zircon from the Lower Ordovician in the Western Yangtze Block and Its Geological Implications

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**Abstract:** The configuration of Southern China within Gondwana has been of considerable controversy. In order to constrain the paleoposition of Southern China during the Early Paleozoic, this paper presents a study on *in-situ* U-Pb geochronology of detrital zircon from Hongshiya Formation, the Lower Ordovician in the western margin of the Yangtze Block. Results show five major age peaks, ~524 Ma, ~590 Ma, ~830 Ma, ~977 Ma and ~2 480 Ma. The presence of Pan-African age populations suggests that Southern China had a strong affinity with Gondwana during the Early Ordovician. The age distribution of detrital zircons was obviously similar with that of Southern China, Tethyan Himalaya, Qiangtang, Western Australia, and Sibumasu, revealing that they might share a common source provenance and have adjacent relationships. Our results are consistent with the conclusion based on other geological data that South China had occupied a position on the Western Australia and been adjacent to Sibumasu during the Early Ordovician.

**Keywords:** Yangtze Block; Gondwana; Ordovician; Detrital zircon U-Pb age