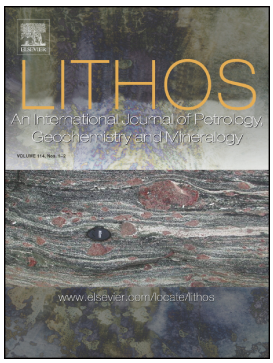


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PII: S0024-4937(18)30332-3
DOI: doi:10.1016/j.lithos.2018.09.011
Reference: LITHOS 4791

To appear in: *LITHOS*

Received date: 16 March 2018
Accepted date: 8 September 2018

Please cite this article as: Zheng-Wei Liang, Shan Gao, Chris J. Hawkesworth, Yuan-Bao Wu, Craig D. Storey, Lian Zhou, Ming Li, Zhao-Chu Hu, Yong-Sheng Liu, Xiao-Ming Liu , Step-like growth of the continental crust in South China: evidence from detrital zircons in Yangtze River sediments. Lithos (2018), doi:10.1016/j.lithos.2018.09.011

# Step-like growth of the continental crust in South China: evidence from detrital zircons in Yangtze River sediments

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**ABSTRACT**

Detrital zircons from nine river sand samples from the upper, middle and lower streams of the Yangtze River (the world's third largest river) and its two largest tributaries, the Han and Jialing rivers have been analyzed for U–Pb–Lu–Hf–O isotope compositions. Zircons from the upper Yangtze River cluster in age groups at 0–100, 200–300, 400–500, 700–1000, 1800–1900 and 2300–2500 Ma, with a marked peak at 41 Ma diagnostic of magmatism on the Tibetan Plateau. Zircons from the middle and lower Yangtze River and its tributaries exhibit broadly similar age groups at 100–300, 400–500, 700–900, 1800–2000 and 2300–2700 Ma, except for the lack of Cenozoic ages.

The Yangtze River catchment is covered by thick Phanerozoic sedimentary rocks and so Archean-aged zircons are likely to be under-represented in modern river sands. We therefore applied the approach of Dhuime et al. (2012) to calculate a crustal growth curve for