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Authors: Shao-cong Lai, Shao-wei Zhao



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Petrogenesis of the Zheduoshan Cenozoic granites in the eastern margin of Tibet: Constraints on the initial activity of Xianshuihe Fault

Shao-cong Lai^{*a}, Shao-wei Zhao^b

a State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China

b Ministry of Education, Key Laboratory of Western China's Mineral Resources and Geological Engineering, School of Earth Science & Resources, Chang'an University, Xi'an 710054, China

*Corresponding author. Tel.: +86 29 88307610

E-mail address: shaocong@nwu.edu.cn

Highlights

- (1) The large granitic batholith or pluton could be formed by incremental assembly.
- (2) Zheduoshan Miocene pluton is formed by three stages granites during activity of Xianshuihe Fault.
- (3) Tectonic mechanism is transition from compression to strike-slip extension during 18.0-14.0 Ma.
- (4) The time of initial activity of Xianshuihe Fault is before 14.4 Ma.
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Abstract

The Zheduoshan Miocene granitic pluton is exposed at the eastern margin of Tibet and along the strike-slip Xianshuihe Fault, and is the product of syn-tectonic magmatism closely related to this fault. This paper is focused on the petrogenesis of different granitic lithological units in the Zheduoshan composite intrusion, and the results of geochronology and lithology show that the Zheduoshan Miocene granitic

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