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Mechanism of Paleo-Mesoproterozoic rifts related to breakup of Columbia supercontinent: a paleostress field modeling

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Highlights

- Numerical modeling of breakup between the NCC and Indian Craton is performed.
- Mechanism of Zhongtiao aulacogen and initial breakup of Columbia are revealed.
- Coupling of mantle plume and plate tectonic forces contributes to the mechanism.

Abstract

The Paleo-Mesoproterozoic Zhongtiao aulacogen in the North China craton and Cuddapah basin in the Indian craton, have both been interpreted as intra-continental rift formed by a mantle plume that led to the breakup of Columbia supercontinent, but the mechanism has not been completely deciphered. In this paper, the mechanism of the Zhongtiao aulacogen and Cuddapah basin related to initial breakup of Columbia has been evaluated with 2D elastic finite element

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