HEAT FLOW PATTERN OF CRATONIC BASIN AND INTERIOR RIFT IN CHINA--CASE HISTORIES FROM TARIM BASIN AND NORTH CHINA BASIN

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Both Tarim and North China Basin are developed on the so-called Paleo-China Craton of Archean age. However, since Mesozoicera, the development of these two basins appears quite different. While Tarim Basin retains stable development during that time, North China Basin had undergone a interior rifting stage due to the dramatic change in tectonics of West Pacific. Heat flow measurements revealed that Tarim Basin is characterized by low heat flow with a range of 44.1mW/m^2 varying from 37.3 to 72.4mW/m^2. On the contrary, North China Basin is characterized by relatively high heat flow with a range of 62+-13mW/m^2. Furthermore, recent studies exhibit that North China Basin demonstrates a thermal structure of lithosphere with hot mantle and cold crust, which is typical for continental interior rift. In opposite, a thermal structure of lithosphere with cold mantle and cold crust is inherent for Tarim Basin, a typical cratonic basin in China retains stable