

## 中国塔里木板块南华纪成冰事件及其地层对比

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中文摘要:“雪球地球”假说为全球新元古代冰碛岩研究注入了新的活力。各国地质学家根据新元古代冰碛岩全球各大洲发育的特点,并依据同位素年龄、 $\delta^{13}\text{C}/\delta^{18}\text{O}$ 和Sr的比值和化学蚀变指数(CIA)为全球的新元古界划分出4个冰期,但国际上的4个冰期的限定,是各大洲不同剖面冰期的集合。新元古代冰期事件周期变化视为早期生物复苏和早期动物分异的起点。由于国际埃迪卡拉系底界(GSSP)年龄,即成冰系顶界年龄确定后,使成冰系底界年龄成为当前研究的重点。中国新疆塔里木板块库鲁克塔格地区新元古代冰碛岩是目前世界各大陆中发育有4套连续的新元古代冰碛岩和多期火成岩事件的唯一剖面,它的进一步深入研究,可以备考全球冰期的同步性,以期建立全球新元古代冰碛岩标准剖面。本文报道了来自塔里木西南缘南华系波龙组的碎屑锆石年龄,有助于我们对塔里木板块西南缘南华系时代的限定。

中文关键词:成冰系 南华系 冰碛岩 塔里木板块 碎屑锆石

## Nanhuan Glaciation Event and Its Stratigraphic Correlation in Tarim Plate, China

**Abstract:**The hypothesis of the “Snow Earth” pours new vitality into the study of the global Neoproterozoic glaciations. According to the development of glaciations in different continents, isotopic dating, ratios of  $\delta^{13}\text{C}/\delta^{18}\text{O}$  and CIA, four glaciations have been recognized in the whole globe along different sections in different continents. The change of the circle of Neoproterozoic glaciations is regarded as the start of the early biota or division. Because the top GSSP of the Crytersian has been defined, the bottom of GSSA has become a problem in the study of glaciations. Now, the Kuruk Tag section in Tarim Plate of Xinjiang is the only section with four Neoproterozoic glaciations and different volcanic rocks. The further study of the Nanhuan glaciations in Tarim is useful work for the stratigraphic correlation with the global Neoproterozoic glaciations. The authors put forward for the first time the upper limit line of the deposition of the Bolong Formation based on the distributional pattern of debris zircon ages from the Bolong Formation, Nanhuan System. The main distributional pattern of debris zircon ages comprises 2.5 Ga, 2.2 Ga and 1.8 Ga, with the youngest age being 756 Ma, suggesting that the depositional age is younger than 756 Ma. According to the distributional pattern of debris zircon ages of the Bolong Formation, they must have had different rock sources in relation to Tarim Plate.


**keywords:**[Cryogenian](#) [Nanhuan glaciation](#) [Tarim Plate](#) [debris zircon dating](#)

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