

## The Lomagundi-Jatulian Event Record in North China Craton

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The North China Craton (NCC), widely developed paleoproterozoic strata but previous studies had rarely been focus on the Lomagundi–Jatuli Event (LJE, one of symbol events of the Great Oxidation Event). Here four low metamorphism paleoproterozoic successions, NCC were studied on the LJE, including: i) the 2.47-1.85Ga North Liaohe Gp.; ii) the 2.4-1.96Ga Hutuo Gp.; iii) the 2.49-1.78Ga Songshan Gp.; and iv) the 2.48-1.90Ga Fenzishan Gp..

The C-O isotope results as following: (i)  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  of the 2.3-1.85Ga Guanmenshan Fm., North Liaohe Gp. are +4.6 to +5.9‰, 21.0-24.8‰, respectively; (ii) our newly research indicated that most  $\delta^{13}\text{C}$  values of the 2.12-2.09Ga lower Dashiling Fm., Hutuo Gp. are higher than +3‰, even upto 5.55‰. We also noticed that the negative  $\delta^{13}\text{C}$  anomalies of the 2.01-1.96Ga Huaiyin Fm., Hutuo Gp. might record the 2.09-1.98Ga “Shunga-Francevillian” excursion Event (SFE); (iii) the  $\delta^{13}\text{C}_{\text{carb}}$  of the 2.35-1.96Ga lower Wuzhiling Fm., Songshan Gp. is a range from +2.1 to +4.1‰. A negative  $\delta^{13}\text{C}$  anomaly (< -4‰) accured in the lowest 1.96-1.78Ga Huayu Fm., Songshan Gp.; (iv) the  $\delta^{13}\text{C}_{\text{carb}}$  value of the 2.24-1.90Ga Zhanggezhuang Fm., Fenzishan Gp. is range from -0.49 to +2.31‰. Consequently: i) the consistent and remarkable  $\delta^{13}\text{C}_{\text{carb}}$  positive anomamies from the Guanmenshan, Dashiling, and lower Wuzhiling Fms. pronounced that they all responded to the LJE in NCC and should be contemporaneous; ii) there would be found further evidences to the SFE from the Huaiyin Fm., Hutuo Gp. and the upmost Wuzhiling and lowest Huayu Fms., Songshan Gp.; iii) the other strata between the Dashiling Fm. and the Huayu Fm. can correlate with the Zhanggezhuang Fm., Fenzishan Gp. and the middle Wuzhiling Fm., Songshan Gp.. They recorded geochemistry information from the LJE to the SFE.