

Paper Number: 5132

**How did the North China craton meet the Amuria block in Permian**

Zhang, S.H., Miao, X.J., Ren, Q., Li, H.Y., Wu, H.C., Yang, T.S., Xiao, Q.S. and Liang, Z.K.

State Key Laboratory of Biogeology and Environmental Geology, China University of Geosciences, Beijing 100083.  
Email: shzhang@cugb.edu.cn

---

The Amuria block occupies a large area of the eastern central Asian orogenic belt. It is bounded on the north by the Siberia Craton and on the south by the North China Craton (NCC). The Silurian fossils of the Tuvaella fauna may suggest that the Amuria block then were located in a high paleolatitudinal region in the north hemisphere and were likely close to the Baikal side of Siberia, which faced north in that time. During the late Paleozoic, the Amuria block seemingly moved slowly toward south and collided with the NCC, which moved toward north then. The collision finally closed the Paleo-Asian Ocean and formed the Solonker suture. But debate about the time and location of the collision still remains. Our new paleomagnetic and geochronological studies determined two high quality poles from the ~300 Ma rocks in each side of the Solonker suture. The data, together with those high quality poles published, indicate that there was no significant paleolatitudinal difference between the Amuria block and the NCC at ~300 Ma, but a small relative rotation took place by the Late Permian, when the two blocks united as one. During the collision, the Amuria block and the NCC were located in a low paleolatitudinal region, mostly within the tropic zone. A deep seismic reflection profile across the Solonker suture revealed that considerable crust shortenings must have taken place during some time after Permian (Zhang et al., 2014). Whether these shortenings are not large enough to be detected by paleomagnetism or they have been more or less compensated for by younger crustal extension occurred in this area need more research.

*References:*

[1] Zhang S et al. (2014) Tectonophysics 612-613: 26-39

