GC2024-PERM002

Paleomagnetism of the Phanerozoic Sequences of the Central Part of the Central Asian Fold Belt

Dmitry V. Kovalenko[1] , Vladimir V. Yarmolyuk[1] , Alexander M. Kozlovsky[1] , Margarita V. Buzina[1]

[1] Institute of geology of ore deposits, petrography, mineralogy and geochemistry Russian academy of sciences (IGEM RAS)

kovmit@yandex.ru

A generalization of paleomagnetic data for Tuva, Mongolia and Eastern China was carried out, which showed that in the central part of the Central Asian Fold Belt (CAFB) there are areas with different paleomagnetic characteristics. These are areas located north of the Mongol-Okhotsk mobile belt, the Mongol-Okhotsk mobile belt belt, areas of the western part of Southern Mongolia and areas of the eastern part of Southern Mongolia and north-eastern China. The areas located north of the Mongol-Okhotsk mobile belt were part of the structure of the Siberian continent from the Ordovician and experienced movement similar to the Siberian continent. The regions of the western part of Southern Mongolia have been part of the structure of the Siberian continent since the late Carboniferous. The geological complexes of the eastern part of Southern Mongolia and the blocks of north-eastern China in the Middle Paleozoic and Early Mesozoic were located in a latitudinal interval close to the North China block and experienced similar latitudinal movements and similar rotations.

The large difference between the paleolatitudes of coeval strata in the west and east of Mongolia and Eastern China south of the Mongol-Okhotsk mobile belt suggests the existence of a tectonic boundary that divided blocks formed at paleolatitudes close to Siberia and Northern China along the 107° longitude meridian. To the west of the 107° meridian, the paleolatitudes of formation of the Late Carboniferous–Permian strata are close to the paleolatitudes of Siberia, and to the east of the meridian – to the paleolatitudes of Northern China. The width of the Mongol-OkhotskOcean in the late Paleozoic-early Mesozoic was 30-40° in latitude, which is ~ 3000-4000 km. The southern limit of the Mongol-OkhotskOcean was segmented and consisted of terranes of various genesis and structure. The closure of segments of the Mongol-OkhotskOcean occurred as a result of the collision of terranes with the Siberian continent during the period from the Late Carboniferous (in the west) to the Jurassic (in the east). The work was carried out within the framework of the IGEM RAS, topic No. 121041500224-8 and with the financial support of the Russian Science Foundation, project No. 22-17-00033.