

## **Geophysical Fields of the Aldan-Stanovik Cratonic Area (Siberian Platform) as a Indicators of the Geodynamic Situations**

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The Aldan-Stanovik cratonic area includes the Archean Olekma and Batomga cratons, Early Proterozoic Aldan and Mesozoic Stanovik mobile belts. It reflect as a regional (1100x400 km) gravity minimum with amplitude 50 mGl. The thickness of the Earth's crust make up 40-50 km and velocity P waves on the Moho border make up  $7.6 \pm 0.4$  km/c. The Olekma and Batomga cratons are composed mainly trondhjemitic and tonalitic gneisses. Greenstone belts contain metabasites and quartzites with ferrimagnetic minerals are reflected as linear positive gravity (up 10 mGl) and magnetic anomalies. The granite-gneiss domes (from about 30 to 70 km) are reflected as negative Bouguer anomalies with amplitude up 15 mGl. Olekma and Batomga cratons separate by Tyrkanda fault which is reflected as linear (up to 400 km) minimum with amplitude 4-6 mGl. The Aldan mobile belt with vertical thickness about 7 km is formed in the condition of the Olekma and Batomga cratons compression strengthening. It was the reason of the squeezing out the tectonic blocks and sheets of moderate pressure granulites ( $T=540-700^{\circ}\text{C}$ ,  $P=5-7$  kbar) to the upper part of the Earth's crust in the zone of the Tyrkanda fault. The Stanovik mobile belt was formed in the collision zone of the Eurasian and Amur continental plates. This mobile belt consists mainly Early Precambrian Stanovoy complex ( $\sigma=2.75\text{ g/cm}^3$ ) metamorphosed in conditions of amphibolite phasis. A characteristic feature of the Stanovic mobile belt are two sublatitudinal belts of blocks high pressure granulites ( $T=900-1000^{\circ}\text{C}$ ,  $P=9-11$  kbar) which have high density ( $\sigma=2.90\text{ g/cm}^3$ ) and reflected as positive Bourge anomalies with amplitude up 15 mGl. The geophysical evident of the geodynamic situations of the Aldan-Stanovik cratonic area was used as a indicators for creating tectonic scheme of the Early Precambrian basement east part Eurasian plate.