

## THE TYPES AND THE MAIN EPOCHS OF GRANITE FORMATION IN THE TIEN-SHAN (CENTRAL ASIA)

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The granitoid magmatism in Tien-Shan is known from Late Archaean till Permian. In Pre-Cambrian there intended the following main stages of formation of granitoid complexes (in billion years): 2.5-2.6, 1.9-2.1, 1.3-1.4, 1.0-1.1, 0.83-0.85, 0.65-0.70, 0.57-0.59 and in Paleozoic: Late Cambrian-Early Ordovician, Late Ordovician, Late Silurian, Devonian, Middle Carboniferous and Late Carboniferous-Early Permian. The types of the granitoid complexes may be reduced to two main associations: volcanic and plutonic. The granitoids of the first association spread in active continental margins. They are closely connected with volcanites and have been formed in conditions of hypabyssal or mesoabyssal facies. The Fe/Mg ratios in femic minerals are middle and low ( $f = 0,3-0,55$ ). Among accessory minerals there dominate titanomagnetite. Cohenite and moissanite occasionally occur there. The granitoids of the plutonic association more spread in zones of continental collision and have been formed in abyssal and mesoabyssal facies. Their composition is well correlated with the composition of surrounding metamorphic rocks. Femic minerals are high in Fe-content ( $f_{0,6}$ ). Magnetite is spread a little and cordierite, garnet sometimes occur in them. The distinguishing S-, I-, A- and M-types of granites demonstrate a diversity of geodynamical conditions of granitic magmatism and associated gold and rare-metal mineralization in Tien-Shan.