

CRYSTALLOGENESIS OF TOPAZ OF CHAMBER PEGMATITES OF KOROSTEN' PLUTONE (UKRAINE)

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1. Topaz of chamber pegmatites is crystallomorphologically and genetically individualized mineral characterized by richness of simple forms, variety of cut, habitus and contour. 2. On the heads of crystals from chambers faces of 18 simple forms are detected. Most individuals are featured with faces {011}, {111}, {112}, {001}, {021}, {101}. Il'men' and Adun-Chilon types (with intermediate types) are distinguished among them after the development of pinakoid {001}. 3. Crystals from leaching zone possess comparatively smaller sizes and simpler cut. Faces {011}, {021}, {111}, {112}, {113}, {001}, {101}, {023} are detected, among them only {011} is habitus. Faces {021}, {101}, {023} and {001} appear more rarely, and {111}, {112}, {113} after the spread have secondary value. 4. On the heads of crystals from metasomatically changed rocks only faces {011} are developed. 5. The analysis of peculiarities of crystallic structure (computations of reticular density of flat grids, value of infinite plane symmetry, PBC-vectors) showed that the most important faces on the topaz crystals are: {110}, {120}, {011}, {001}, {010}, {111}, {112}. The deviations from this series are caused by influence of crystallization conditions on crystal form. The individuals in the chambers and leaching zones crystallized in the second acid period of postinversion stage of pegmatite process from heterogeneous solutions at the temperatures about 400°C, in the metasomatically changed rocks - at the temperatures 180-200°C and below from the low-concentration solutions.