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О ПОВЕДЕНИИ МОДУЛИРОВАННОЙ СТРУКТУРЫ ПРИБАЙКАЛЬСКОГО ЛАЗУРИТА ПРИ ВЫСОКОТЕМПЕРАТУРНОМ ОТЖИГЕ

A. N. SAPOZHNIKOV, A. Ya. MEDVEDEV, V. G. IVANOV, V. L. TAUSON, L. N. MATVEEVA. ON THE BEHAVIOR OF BAIKAL LAZURITE MODULATED STRUCTURE UNDER ITS HIGH TEMPERATURE ANNEALING

Changes in the crystal structure modulation state of the cubic lazurite from Baikal region under its annealing at high temperature were studied by X-ray diffraction methods. The evolution of lazurite structure is going through the intermediate state where any superstructure disappears. The satellite reflections are located in a similar manner in both original (or) and annealed (an) samples, but the modulation parameters are different and equal to $n_{or} = 0.217$ and $n_{an} = 0.168$. The modulation parameters which determine the relative shift of satellites from fundamental reflections are calculated from the monocrystal X-ray diffraction patterns and improved by the powder diffraction data. Dependence of magnitude for initial and newly formed modulations on the 800 °C annealing time has been obtained. Similarity of modulation structures of annealed Baikal lazurite and lazurite from the South-West Pamirs indicates the higher temperature conditions of its formation there. Experiments on the thermal decolouration of lazurite and recovery of its colour are briefly described in the paper. Chemical composition of original and annealed lazurites are compared, as well as X-ray diffraction powder data.