

Texture and crystal structure of analcime

Toshiharu Tanaka [1], Mizuhiko Akizuki [2], Yasuhiro Kudoh [3]

[1] Inst Min, Pet, Econ Geology, Tohoku Univ, [2] Inst. Mineral. Petrology & Economic Geol. Fac. Sci., Tohoku Univ., [3] Tohoku Univ

It has been known that some analcime show birefringence. Mazzi and Galli (1978) refined the crystal structure of analcime, and reported tetragonal and orthorhombic symmetry as well as isometric symmetry. They suggested that this difference of symmetries was caused by ordering of Al and Si. Akizuki (1981) studied thin section of analcime and found optical anomaly, and suggested that this optical anomaly was caused by ordering of Al and Si during crystal growth.

In this study, we refined the crystal structures of sector, which is lower than cubic symmetry. It is shown that ordering of Al and Si is different among the sectors, corresponding to the difference of the symmetry. This difference of degree of ordering in Al and Si arrangements is explained by crystal growth kinetics.