

Variety of authomorph quartz crystals from the Qohrud, south Kashan, instance for diverse crystallization conditions of magmatic and hydrothermal liquids

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Abstract: The Miocene Qohrud granitoid intrusion consists of granite, granodiorite and tonalite and is located in the Urmia-Dokhtar magmatic belt. Intrusion of magmatic rocks into the various sedimentary rocks including shale, sandstone, limestone and marl, with Jurassic to Eocene age, has caused contact metamorphism of the surrounded rocks. Variety of hornfelses and skarns are formed in this regards. Hydrothermal activities, following magma intrusion, were affected more actively. Large automorph quartz crystals, having variety of structures, have formed within factures of different host rocks. Some of the detected structures for the Qohrud authomorph quartz crystals are including of normal or prismatic, hexagonal, trigonal, Muzo, Tessin, Dauphine, needle, Phantom and stalagmite, parallel-reverse and parallel-aggregate crystal growths, left/right quartz, Japanese twinning law forms. Various structures and morphologies of the Qohrud authomorph quartz crystals can be attributed to various factors such as different lithologies of the host rocks, hydrothermal liquids following granitoid intrusion and late stage intrusion of dykes.

Keywords: *Granitoid; authomorph quartz; crystal structure; Qohrud; Kashan.*

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