

Allanit-(Ce) v horninách suity Tetčice (brněnský masiv)

Allanite-(Ce) in the rocks of the Tetčice suite (Brno Massif)

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Abstract

Allanite-(Ce) is a relatively rare accessory mineral in the Brno Massif, typically found associated with three contrasting rock types from the western part this unit (especially Tetčice and Hlína suites). This paper is focused on the rocks Tetčice suite: (1) amphibole-biotite granodiorites to tonalites, (2) pegmatites and (3) calc-silicate rock (xenoliths). In amphibole-biotite granodiorites to tonalities is allanite-(Ce) formed by processes of mixing and mingling of magmas. Some pegmatites reacts with the Ca-rich wall rocks (mainly calc-silicate rock and marbles) and this contamination is accompanied with the precipitation of allanite-(Ce), An-rich plagioclase (An_{30}), hastingsite and sometime diopside. The presence of the allanite-(Ce) in the calc-silicate rocks is intimately associated with metasomatic and/or metamorphic process during contact metamorphism or pegmatite emplacement. Chemical composition of allanite-(Ce) in pegmatites is similar as in the calc-silicate rocks, but slightly differs from grains in the amphibole-biotite granodiorites to tonalites. Most grains from the igneous and metamorphic rocks in the Brno Massif show oscillatory zonation especially in contents of Fe^{2+}_{total} (0.74 to 1.19 *apfu*), Al (1.47 to 2.05 *apfu*), Ca (0.98 to 1.29 *apfu*), La (0.17 to 0.33 *apfu*), Th (0.00 to 0.05 *apfu*). The contents of Mn, Mg, U are relatively low.

Key words: allanite-(Ce), microchemistry, pegmatite, calc-silicate rocks, granitoids, Brno Massif, Czech Republic

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