

ZONED TOURMALINE FROM PEGMATITE BODIES OF ROMANIA

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Abstract

Microprobe analyses have been used in order to make a geochemical characterization of zoned tourmaline crystals from pegmatites of Carpathian Province (Romania); the analyses have been carried out on both core and rim of tourmaline grains. The geochemical approach shows that tourmaline belong to schorl-dravite solid solution series, with a higher amount of schorl molecule in the core of the grain. The chemical evolution from the core toward the rim of the tourmaline reveals three types of reactions in the process of tourmaline crystallization: deprotonation, uvite exchange and the reaction that generates an alkali-deficiency. The amount of Na (especially) and Ca in the fluid from which tourmaline crystallized controls the degree of occupancy of R1 structural positions. Tourmaline grains have the chemical features of tourmalines from Li-poor granitoids and associated pegmatites and aplites.

Key words: zoned tourmaline, major elements, pegmatite, microprobe, Romania

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