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DEVELOPMENT OF A METHODOLOGY FOR THE CHEMICAL QUANTIFICATION OF MONAZITES BY MEANS OF EPMA.

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ABSTRACT

In this work the problem of determining the chemical composition of monazite grains through the electron probe microanalysis (EPMA) technique is studied, by using a scanning electron microscope (SEM) with a wavelength dispersive spectrometer (WDS).

A careful qualitative analysis is performed with the purpose to determine all the elements present in the samples, the lines to be used in the quantifications trying to minimize interferences, the angular positions and the acquisition times for the measurement of peak and background intensities and the crystals to be used.

Quantitative determinations of the chemical composition of monazites included in Cordierite from migmatic rocks of the Sierra de Comechingones are performed, optimizing the experimental conditions on the base of the qualitative analysis.

Finally, the influence of the experimental conditions on the accuracy of the results is discussed, and a protocol for the systematic analysis of this kind of samples is proposed.

Keywords: EPMA; Quantitative analysis; Monazite.

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