

FTIR SPECTROMETRY OF SOME PHOSPHATIC MINERALS FROM THE DIVINO DAS LARANJEIRAS PEGMATITIC SWARMS, MINAS GERAIS, BRAZIL.

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The pegmatites from Divino das Laranjeiras region, east of Minas Gerais, Brazil, are famous for their phosphatic minerals. Fourier transform infrared spectrometry (FTIR) was used to characterize the minerals and their substitutions. The eosforite-childrenite series shows, by FTIR, two absorption bands of OH⁻ anions. All the analyzed specimens showed an intense transmittance band between 3445cm⁻¹ and 3451cm⁻¹. For members richer in MnO, the transmittance is intense at 3303cm⁻¹, and for FeO richer members, it suffers a displacement to 3382cm⁻¹, with decreasing of its intensity. The presence of stretch scissoring due to H-O-H is marked in the range of 1622cm⁻¹ - 1630cm⁻¹. The ambligonite-montebrasite series show two bands at the intervals 3391.6cm⁻¹ - 3393.9cm⁻¹ and 809.4cm⁻¹ - 811,1cm⁻¹, characteristics to the OH⁻ anion. The apatites represent the most variable group. The presence of CO₂, by the transmittance at the intervals 870, 2340 and 2360cm⁻¹, was observed in most samples. These compositions point towards strong substitution and differentiation of bodies containing the phosphates.