EPR Spectra of Some Cu²⁺-Doped Metal Carbonates and Disorder Phase Transition in $K_3H(CO_3)_2$

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 Cu^{2+} -doped K₃H(CO₃)₂, Rb₂CO₃, and Rb₂KH(CO₃)₂ single crystals were investigated by electron paramagnetic resonance (EPR) spectroscopy. The EPR spectrum of K₃H(CO₃)₂ indicates two different sites for Cu²⁺ at room and at low temperatures. But the signals for the two sites overlap at 318 K which is attributed to a disorder phase transition. Each of the other compounds exhibits one site. The Cu²⁺ ion seems to substitute the K⁺ and Rb⁺ ions and the charge compensations are fulfilled by the proton vacancies in K₃H(CO₃)₂, and another K⁺ and Rb⁺ in the other compounds. The spin Hamiltonian parameters **g** and **A** for each compound are determined and discussed.

Key words: Electron Paramagnetic Resonance; Carbonates; Disorder Phase Transition; Cu^{2+} Doping.