

Electron Paramagnetic Resonance of Cu^{2+} in KHCO_3 Single Crystals

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The electron paramagnetic resonance spectra of Cu^{2+} doped KHCO_3 single crystals were studied at room temperature. The results indicate a substitutional entrance of the Cu^{2+} ions in place of the magnetically inequivalent K^+ sites. The charge compensation is supposed to be fulfilled by proton vacancies. The hyperfine lines were well resolved and the ^{65}Cu hyperfine coupling tensors were also found. The ground state of Cu^{2+} indicates the dominance of the $d_{x^2-y^2}$ orbital and, therefore, elongation of the polyhedron, similar to a lengthened octahedron.

Key words: EPR; Cu^{2+} ; Potassium Bicarbonate; Crystal Field; Substitution; Impurity.