EPR Spectra of VO$^{2+}$ Doped Ammonium Oxalate Monohydrate Single Crystals

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The EPR spectra of VO$^{2+}$ ions in ammonium oxalate monohydrate, [$(\text{NH}_4)_2\text{C}_2\text{O}_4\cdot\text{H}_2\text{O}$], single crystals have been studied at room temperature and at 113 K in mutually three perpendicular planes. The spin Hamiltonian parameters are determined using a numerical technique together with a trial and error procedure to resolve the single crystal spectra. The parallel and perpendicular components of axially symmetric $g$ and hyperfine tensors for VO$^{2+}$ ion in ammonium oxalate monohydrate single crystal are determined, and the results are discussed.

Key words: EPR; $(\text{NH}_4)_2\text{C}_2\text{O}_4\cdot\text{H}_2\text{O}$; VO$^{2+}$; Ammonium Oxalate Monohydrate.