Investigation of the EPR Parameters and Defect Structure of Ni$^{2+}$ Ions in RbMgF$_3$ Crystals

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By means of the complete energy matrix diagonalization procedure of 3$d^2$/$3d^8$ ions in trigonal symmetry and using the superposition model, the electron paramagnetic resonance (EPR) parameters for Ni$^{2+}$ ions in RbMgF$_3$ crystals with $C_{3v}$ and $D_{3d}$ symmetry are studied. From the investigation, the defect structures of these paramagnetic impurity centers are obtained and the EPR parameters are explained reasonably. – PACS numbers: 76.30.Fc, 61.72.Bb, 71.70.Ch

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