Study on the Absorption Spectra of Ga_2Se_3:Co^{2+} Single Crystals

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Introducing the average covalent factor N and considering the interaction of the cubic crystal field, the spin-orbit coupling and Tree's correction effects, the crystal field parameter D_q was calculated. Also the varying tendency of D_q with the bond length R was investigated. Using the complete diagonalizing method the energy levels of the fine structure of Ga_2Se_3:Co^{2+} single crystal were calculated and assigned. The calculated and assigned results are consistent with the experimental data.

Key words: Ga_2Se_3:Co^{2+} Crystal; Fine Structure; Average Covalent Factor; Spin-Orbit Coupling
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