

Local Compressibility of Cr^{3+} -centered Octahedron of Spinel Crystal

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The local (or polyhedron) compressibility of the Cr^{3+} -centered octahedron in spinel crystal is studied from the pressure-induced R-line shift. The result suggests that the local compressibility is about 0.6 of the compressibility of the host spinel crystal. This local compressibility is also consistent with that obtained from the pressure-induced shift of the ${}^4\text{T}_2$ band and can be regarded as reasonable.

Key words: Optical Spectra; Local Compressibility;
Crystal-field Theory; Cr^{3+} ; Spinel.