

Electron spin resonance with $g_{\text{eff}} \approx 4.2$ in $\text{YBa}_2\text{Cu}_3\text{O}_{6.35}$. model of chain copper-oxygen fragments

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Abstract

Systematic measurements are made of ESR spectra with $g \approx 4.2$ in $\text{YBa}_2\text{Cu}_3\text{O}_{6+y}$ compounds with various doping indices y . Temperature dependences of the spectrum intensity show that the ground states of the centers are singlet and the energies of the excited states $M_S = \pm 1$ correspond to 8-11 K. In general, the intensity of the ESR spectra varies with time and depends on the sample preparation technology. The most probable models for the paramagnetic centers studied are considered to be chain fragments of copper ions of variable valence. General laws governing the energy structure of these centers are described. © 2000 MAIK "Nauka/Interperiodica".
