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Calculation of spin-lattice relaxation times

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Abstract

A general expression is found for the probability for a direct (single-phonon) relaxation transition for arbitrary symmetry of the surroundings of a paramagnetic ion having an effective spin of $S = 1/2$. The expression is compared with experiment for the case of tetragonal symmetry. Since certain approximations frequently used in the calculations are not used here, a markedly improved agreement is found with the experimental relaxation times. © 1972 Consultants Bureau.

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