

THE WAVE FUNCTION
OF ANTIFERROMAGNETICALLY
ORDERING SPINS. CONDITIONS FOR THE
FORMATION OF MAGNETIC SUBLATTICES

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S u m m a r y

The exact wavefunction Φ for a two-sublattice antiferromagnetic is calculated under the following conditions: 1. Antiferromagnetism is described by the Hamiltonian $H = V_{ex} + V_a$. 2. The radii of the exchange interaction V_{ex} and the magnetic anisotropy V_a are infinite. The wave function Φ describes the antiferromagnetic state corresponding to the hypothesis on the existence of magnetic sublattices, if the inequality $N (K/J)^{1/2} \gg 1$ is realized, where K is the anisotropy constant, J is the exchange parameter, and N is the number of spins in one sublattice. According to this inequality, the hypothesis is wrong, if the magnetic anisotropy is absent or the number of spins N is small.