PHENOMENOLOGICAL THEORY OF RELAXATION IN TWO-SUBLATTICE FERRITE

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S u m m a r y

The dissipative function of a two-sublattice ferrite was constructed. The relaxation times for the acoustic and optical branches of spin waves are calculated, as well as the relaxation times for the magnetization and antiferromagnetism vectors. The process of antiferromagnetism vector relaxation is shown to be the quickest one. The corresponding relaxation time is governed by the exchange relaxation constant and, due to the exchange interactions between atoms in the sublattices, becomes shorter owing to the dynamics of the antiferromagnetism vector. The process of ferrite magnetization relaxation is the slowest one. In the exchange approximation, the magnetization relaxation time tends to infinity, as the length of magnetization non-uniformities grows. The results obtained are compared with the experimental data on the relaxation phenomenon in GdFeCo alloy of rare-earth and transition metals.