

# Dependence of the intensities of ultrasonic sidebands in the Mössbauer spectrum on the statistics of the acoustic field

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## Abstract

The acoustic modulation of  $\gamma$  quanta is analyzed with regard for dissipation of the energy of the excited mode through resonance (having the acoustic frequency) modes. Given definite assumptions, the Rayleigh-Rice distribution function previously introduced phenomenologically is obtained for the oscillation amplitudes. It is proposed that the intensities of the ultrasonic sidebands be expressed in terms of the parameters  $m$  and  $\sigma$ , which are valid for any degree of sound coherence. The results of numerical computations are given. © 1980 Plenum Publishing Corporation.

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