

THE NECESSITY OF REVISION OF THE
TEMPORALY CHARACTERISTICS OF
NUCLEI-CHRONOMETERS

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S u m m a r y

The quantum-mechanical method, which was proposed earlier for the theoretical description of resonance scattering of γ -quanta is generalized with regard for the Doppler effect. A new algorithm is elaborated, and equations for definition of the characteristic function for the energy distribution, decay probability, and decay functions are obtained. It gives a possibility to more precisely estimate temporal characteristics of nuclei-chronometers and to define the number of steps of γ -absorption and γ -emission in the decay process. The calculations are performed in the case of the decay of excited Fe^{57} nuclei at room temperature by taking into account the Doppler specific effect and without it.