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Erratum: "On the Relaxation of the Order Parameter in the BCS Model," Pis'ma Zh. Éksp. Teor. Fiz. 83, 414 (2006) [JETP Lett. 83, 355 (2006)]

S. V. Iordanskiĭ and R. B. Saptsov

Landau Institute for Theoretical Physics, Russian Academy of Sciences, ul Kosygina 2, Moscow, 117334 Russia

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Final Eq. (19) describing the relaxation of the order parameter near the critical temperature T_c was derived on the basis of an incorrect expression (on page 358, right column) for the superconducting electron density n_s in Cooper pairs. The following correct expression for the superconducting electron density in the pairs:

$$n_s = \frac{|\Delta|^2}{T_c} m p_F \sqrt{\frac{7\zeta(3)}{16\pi^2}} \tag{1}$$

leads to the following relaxation equation for the order parameter:

$$\frac{\partial|\Delta|^2}{\partial t} = -\frac{\pi}{2}\frac{|\Delta|}{\tau_{ph}}\frac{\Delta^2 - \Delta_{eq}^2}{T_c}. \tag{2}$$

Here, Δ_{eq} is the equilibrium gap value and

$$\frac{1}{\tau_{ph}} = \frac{\pi m p_F g^2 T^3}{2\pi^2\hbar^4 (c p_F)^2}\int_0^\infty \frac{\xi^2}{\sinh(\xi)} d\xi = \frac{2\eta T^3}{\hbar\omega_D^2}\int_0^\infty \frac{\xi^2}{\sinh(\xi)} d\xi \tag{3}$$

is the rate of electron energy relaxation due to the interaction with phonons. A detailed paper will be published in Zh. Éxp. Teor. Fiz. [JETP].

Translated by R. Tyapaev