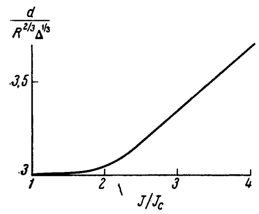


FIG. 1

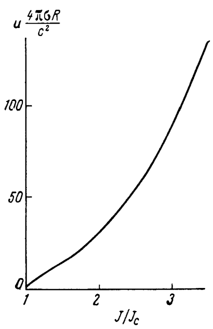


FIG. 2

where

$$I_2(\alpha) = \frac{1}{3\alpha^2}[(1+\alpha^2)^{3/2} - 1].$$

The energy in the region $r_0 < r < R$, which is occupied by the normal phase, is

$$\tilde{\mathcal{F}}_0 = \int_{r_0}^{R} \frac{r\,dr}{4}(H_c^2 - \overline{H}^2). \qquad (10)$$

Substituting Eqs. (6) and (7) here, integrating, and then adding the expressions (8) and (9) to the result, we get the magnetic energy. Assuming that $d \ll r_0$, we have

$$\tilde{\mathcal{F}} = \frac{H_c^2 R^2}{8}\left(K + L\frac{1}{x} + Mx^2\right), \qquad (11)$$

where

$$x = d / r_0\sqrt{6(1+\alpha^2)}, \qquad (12)$$

$$K = \frac{1}{2}\frac{\beta^2}{8} - \frac{3}{8\beta^2} - \frac{\ln\beta}{2\beta^2}, \quad \beta = \frac{R}{r_0},$$

$$L = \frac{4\Delta I_2(\alpha)}{R\beta\sqrt{6(1+\alpha^2)}}, \quad M = \frac{2}{\beta^2}[W + (1+\alpha^2)I_1(\alpha)],$$

$$W = \frac{\beta^2}{8} + \frac{\beta^2\ln\beta}{2(\beta^2-1)} - \frac{3}{8}. \qquad (13)$$

Minimizing Eq. (11) in x, we get

$$x_{min} = (L / 2M)^{1/3}. \qquad (14)$$

The value of the potential (11) at the point of the minimum is

$$\tilde{\mathcal{F}} = \frac{H_c^2 R^2}{8}\left(K + \frac{3}{2^{2/3}}L^{2/3}M^{1/3}\right).$$

Minimizing this expression with respect to $\alpha$ for different values of $\beta$, we get the curve $\alpha_{min} = \alpha_{min}(\beta)$ or, assuming that

$$\beta = \left\{\left(\frac{J}{J_c}\right) - \left[\left(\frac{J}{J_c}\right)^2 - 1\right]^{1/2}\right\}^{-1},$$

we obtain the curve $\alpha_{min} = \alpha_{min}(J/J_c)$. From this and (14), (12) and (1), with account of (13), we obtain the curves $d = d(J/J_c)$ and $u = u(J/J_c)$, which are plotted in Figs. 1 and 2. For $J/J_c \gg 1$, we can write the formulas

$$\alpha_{min} \approx \frac{4}{\pi}\left(\frac{J}{J_c}\right)^2, \quad d \approx \frac{4}{\pi}\left(\frac{J}{J_c}\right)^{2/3} R^{2/3}\Delta^{1/3},$$

$$u \approx \frac{c^2}{4\pi\sigma R}\frac{8}{\pi}\left(\frac{J}{J_c}\right)^3.$$

I express my gratitude to A. F. Andreev for suggesting the theme and for his interest in the research.

[1] F. London, Superfluids, 1, New York—London, 1950.
[2] C. J. Gorter, Physica 23, 45 (1957).
[3] Yu. V. Sharvin, Works (Trudy) of the 10th International Conference on Low Temperature Physics, 2B, All-union Inst. Sci. Tech. Information, p. 323.
[4] A. F. Andreev and Yu. B. Sharvin, Zh. Eksp. Teor. Fiz. 53, 1499 (1967) [Soviet Phys.-JETP 26, 865 (1968)].
[5] A. F. Andreev, Zh. Eksp. Teor. Fiz. 54, 1510 (1968) [Soviet Phys.-JETP 27, 809 (1968)].

Translated by R. T. Beyer
120

## ERRATUM

Formula (19) of the translation of the article by R. A. Zhitnikov, P. P. Kuleshov, A. I. Okunevich, and B. N. Sevast'yanov (Sov. Phys.-JETP 31, No. 3, 1970, p. 448), should read

$$\Delta(\Phi) = \begin{cases} 1 \text{ for } \Phi = \Phi_{max} \text{ and a right-polarized RF field,} \\ 1 \text{ for } \Phi = \Phi_{min} \text{ and a left-polarized RF field,} \\ 0 \text{ for all remaining cases.} \end{cases}$$

The translation editor regrets this error.