Erratum: Vortex depinning frequency in $YBa_2Cu_3O_{7-x}$ superconducting thin films: Anisotropy and temperature dependence [Phys. Rev. B 50, 470 (1994)]

M. Golosovsky, M. Tsindlekht, H. Chayet, and D. Davidov

In Eq. (10) α should be replaced by $\alpha_{\max}$. Equation (11) should read

$$\omega_0 = \frac{\beta(t)\rho_n}{16\pi\mu_0\lambda^2} \approx \frac{\beta(t)n_s(t)}{16\pi\tau(t)n_0} . \tag{11}$$

The factor 2 is omitted in Eq. (6b). As a consequence, the factor 2 is extraneous in Eq. (7a). The corrected equations should read

$$Q^{-1} = 2\,\mathrm{Im}\left[\frac{\lambda}{s}\coth\left[\frac{d}{\lambda}\right]\right] , \tag{6b}$$

$$R_s = \pi\mu_0 s f Q^{-1} , \tag{7a}$$

$$X_s = 2\pi\mu_0 s \Delta f . \tag{7b}$$

Accordingly, the following changes should be made in the paper. The values of X_s in Fig. 3(a) should be multiplied by 2 and the values of $\mathrm{Im}(\lambda^2)$ in Fig. 4(a) should be multiplied by 0.5. In Fig. 5(a) the values of ω_0 should be multiplied by 2, the values of α should be multiplied by 1.33, and the values of η should be multiplied by 0.67. Figure 6 is replotted accordingly. None of the physical consequences change.

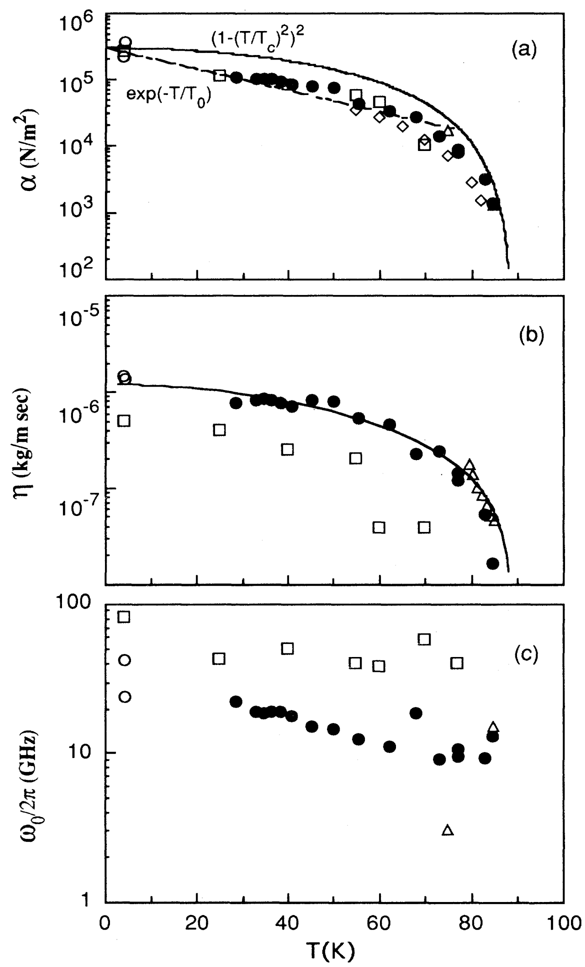

FIG. 6. Temperature dependence of the (a) pinning constant α, (b) viscosity η, and (c) depinning frequency ω_0 for $YBa_2Cu_3O_{7-x}$ and $H \| c$. ●—present experiment (thin films, $f = 5.5$ GHz, $0.1\ \mathrm{T} < H < 0.8$ T), □—Pambianchi *et al.* (Ref. 11) (thick films, $f = 11$ GHz, $H \leq 0.35$ T), ◇—Hebard *et al.* (Ref. 13) (thin films, $f = 1.25$ kHz, $1\ \mathrm{T} < H < 14$ T), △—Owliaei *et al.* (Ref. 8) (thin films, $f = 10$ GHz, $H < 8$ T), ○—Revenaz *et al.* (Ref. 12) (stripline, $f = 1$–20 GHz, $H < 5$ T). The solid curved line in (a) demonstrates the approximation $\alpha(t) = 3\times10^5[1-(T/T_c)^2]^2$ (N/m²) with $T_c = 89$ K, while the dashed straight line demonstrates the exponential dependence $\alpha(t) = 3\times10^5\exp(-T/T_0)$ (N/m²) with $T_0 = 27$ K. The solid line in (b) demonstrates the approximation $\eta(t) = 1.2\times10^{-6}(1-t^2)/(1+t^2)$ (kg/m sec), where $t = T/T_c$ and $T_c = 89$ K.

0163-1829/95/51(17)/12062(1)/$06.00