Erratum: Magnetic Quantum Oscillations in Nanowires [Phys. Rev. Lett. 95, 076601 (2005)]

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There is a typo in the definition of the characteristic "size" frequency ω_s. The numerical coefficient $1/2$ has been omitted. The correct expression is $\omega_s = \pi v_F/(2R)$, and the wire cross-section area, $S = \pi R^2$, is expressed via the Fermi-surface cross-section area, S_F, as $S = \pi^2 S_F \hbar^2 c^2/(\gamma e^2 B^2)$. The expression for ω_s can also be verified using the confluent hypergeometric function $F(-a, |m| + 1, \rho) \propto \cos[\pi(|m| + 1)/2 - \pi/4 - \sqrt{2(|m| + 1)\rho + 4a\rho}]$ for the large energy (or for a weak magnetic field, $B = cm^*\omega_c/e$), $a = [E - \hbar^2 k^2/(2m^*)]/(\hbar\omega_c) - (m + |m|)/2 - 1/2 \gg 1$ (here $\rho = R^2 m^* \omega_c/2\hbar$) [1]. This function describes an electron in the external magnetic field with the energy E and the polar coordinate R [2]. In the weak magnetic field zeros of $F(-a, |m| + 1, \rho)$, found using the asymptotic cosine behavior, give the linearized energy spectrum as in this Letter. If $\omega_c \ll \omega_s$, the magnetic field dependences of the oscillation frequencies, $F \propto B^3$ and $F^{\pm} \propto B^2$, are the same as found earlier [3] in the weak-field limit. However, we emphasize that different from [3] our theory describes magnetic quantum oscillations in *any* field predicting "magic" resonances in high fields. The typo changes none of our results.

[1] *Handbook of Mathematical Functions*, edited by M. Abramowitz and I. A. Stegun (Dover, New York, 1965), p. 508, Eq. (13.5.14).

[2] L. D. Landau and E. M. Lifshitz, *Quantum Mechanics* (Pergamon Press, Oxford, 1977), p. 459.

[3] V. G. Peschanskii and V. V. Sinolitskii, Pis'ma Zh. Eksp. Teor. Fiz. **16**, 484 (1972) [JETP Lett. **16**, 344 (1972)]; N. B. Brandt, D. V. Gitsu, A. A. Nikolaeva, and Y. G. Ponomarev, Pis'ma Zh. Eksp. Teor. Fiz. **24**, 304 (1976) [JETP Lett. **24**, 272 (1976)]; S. S. Nedorezov and M. S. Avadalla, Pis'ma Zh. Eksp. Teor. Fiz. **33**, 226 (1981) [JETP Lett. **33**, 215 (1981)], and references therein.

