Erratum: Renormalization of the spin-wave spectrum in three-dimensional ferromagnets with dipolar interaction [Phys. Rev. B 74, 014435 (2006)]

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The last term in Eq. (26) should read

$$\left(Dk^2+\frac{S\omega_0}{2}\sin^2\theta_{\mathbf{k}}\right)\left(\frac{S\omega_0^2T}{2^7D\sqrt{SD\omega_0}}+\frac{1}{\mathfrak{N}}\sum_{\mathbf{q}}\frac{|B_{\mathbf{q}}|^2}{S\epsilon_{\mathbf{q}}}(1+2N_{\mathbf{q}})\right). \tag{1}$$

Equation (37) should read

$$\Omega(\omega,\mathbf{k})=-(Dk^2)^2\frac{2}{S}W(T)-Dk^2\omega_0\left(\sin^2\theta_{\mathbf{k}}[W(T)+V(T)]-\frac{1}{2^7}\frac{T}{D}\sqrt{\frac{S\omega_0}{D}}\right)+\frac{S^2\omega_0^3T}{2^8D\sqrt{SD\omega_0}}\sin^2\theta_{\mathbf{k}}. \tag{2}$$

Thus, a new temperature-dependent term appears in Eqs. (26) and (37) originating from the term in Eq. (23) containing $Q^{xx}_{\mathbf{q}}-Q^{zz}_{\mathbf{k}-\mathbf{q}}$. In contrast, terms in Eqs. (26) and (37) containing demagnetizing factor $\mathcal{N}_z$ have been discarded by the following reason. These terms stem from that in Eq. (23) containing $Q^{zz}_{\mathbf{0}}=\omega_0(\frac{1}{3}-\mathcal{N}_z)$. It can be shown using Eqs. (2), (7), (12), and (17) that this term leads to the following simple and quite natural renormalization of the bare value of the demagnetizing field $4\pi g\mu S\mathcal{N}_z$ [see Eq. (12)]: the spin value S in this expression is replaced by the spin value reduced by quantum and thermal fluctuations $\langle S_i^z\rangle=S-\langle a_i^\dagger a_i\rangle$ for which one has within the first order in $1/S$

$$\langle S_i^z\rangle=S-\frac{1}{\mathfrak{N}}\sum_{\mathbf{q}}\frac{E_{\mathbf{q}}(1+2N_{\mathbf{q}})-\epsilon_{\mathbf{q}}}{2\epsilon_{\mathbf{q}}}. \tag{3}$$

Thus, $1/S$ corrections to $\Omega(\omega,\mathbf{k})$ containing $\mathcal{N}_z$ do not contribute to renormalization of the spin-wave spectrum. Notice also that the spin-wave gap depends on T at $T\gg\sqrt{SD\omega_0}$.

I wish to emphasize that none of the final conclusions presented in my paper are affected by this change except for that about dependence of the spectrum on demagnetizing factor.

