Erratum

Erratum: Quantum beats from nuclei excited by synchrotron pulses [Phys. Rev. B 18, 165 (1978)]

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As a result of composition, paper, and printing problems several equations did not print clearly. They are listed below together with Eqs. (15), (16), and (A2) in which minor typographical errors are corrected.

$$C_{nm}(\tau) = +\frac{i}{\hbar} e^{-i\epsilon_{ne}\tau} \int_0^\tau \langle en | \vec{\mu} | gm \rangle e^{+i\omega_{nm}t} \cdot \vec{\mathrm{F}}(t)\, dt \ , \tag{1}$$

$$C_{nm}(\tau) \approx \frac{i}{\hbar} e^{-i\epsilon_e\tau} \int_0^\tau \langle en | \vec{\mu} | gm \rangle\, e^{i\omega_0 t} \cdot \vec{\mathrm{F}}(t)\, dt \ . \tag{2}$$

$$|\psi_e\rangle = \frac{i}{\hbar} \sum_n \vec{\mu}_{nm} \cdot \vec{\mathrm{F}}_{\omega_0} e^{-i(\epsilon_{ne} - i\Gamma/2)t} |en\rangle, \quad t > \tau \tag{3}$$

$$\vec{\mathrm{F}}_{\omega_0} = \int_{-\infty}^{+\infty} \vec{\mathrm{F}}(t) e^{i\omega_0 t} dt \ .$$

$$C_{nf,mo}(\tau) = \frac{i}{\hbar} e^{-i(\epsilon_{ne} + E_f)\tau} \vec{\mu}_{nm} \cdot \int_0^\tau e^{i(\omega_{nm} + E_f - E_0)t} \langle \chi_f | \vec{\mathrm{F}} \left(t - \frac{\hat{n}_0 \cdot \vec{r}}{c} \right) | \chi_0 \rangle\, dt$$

$$\approx \frac{i}{\hbar} e^{i(\epsilon_{ne} + E_f)\tau} \vec{\mu}_{nm} \cdot \vec{\mathrm{F}}_{\omega_0} \langle \chi_f | e^{i\vec{k}_0 \cdot \vec{r}} | \chi_0 \rangle \ , \tag{4}$$

$$|\psi_e\rangle = \frac{i}{\hbar} \left(\sum_n \vec{\mu}_{nm} \cdot \vec{\mathrm{F}}_{\omega_0} e^{-i(\epsilon_n - i\Gamma/2)t} |en\rangle \right) \sum_f \langle \chi_f | e^{i\vec{k}_0 \cdot \vec{r}} | \chi_0 \rangle e^{-iE_f t} | \chi_f \rangle 1(t) \ , \tag{5}$$

$$\frac{dP_{m'm}}{d\Omega\, dt} = \frac{1}{2\pi} \frac{k_0^3}{\hbar^3} \left| \sum_n \vec{\mu}^{\perp}_{m'n} \vec{\mu}_{nm} \cdot \vec{\mathrm{F}}_{\omega_0} e^{-i(\omega_{nm'} - i\Gamma/2)t} \right|^2 \sum_{f'} \left| \sum_f \langle \chi_{f'} | e^{-i\vec{k}_f \cdot \vec{r}} | \chi_f \rangle \langle \chi_f | e^{i\vec{k}_0 \cdot \vec{r}} | \chi_0 \rangle e^{-iE_f t} \right|^2 \ ,$$

$$= \frac{1}{2\pi} \frac{k_0^3}{\hbar_3} e^{-\Gamma t} \left| \sum_n \vec{\mu}^{\perp}_{m'n} \vec{\mu}_{nm} \cdot \vec{\mathrm{F}}_{\omega_0} e^{-i(\omega_{nm'})t} \right|^2 \ , \tag{6}$$

$$\frac{dP_{m'm}}{d\Omega\, dt} = \frac{9}{32\pi} \frac{\Gamma_\gamma^2}{\hbar^3 k_0^3} e^{-\Gamma t} \left| \sum_{p=-1} \hat{e}^{\perp}_{p+m-m'} C(j_0 1 j_1; m', p+m-m')\, \hat{e}_p{}^* \cdot \vec{\mathrm{F}}_{\omega_0} C(j_0 1 j_1; mp)\, e^{-i\omega_{m+p,m'}t} \right|^2 \ , \tag{8}$$

$$\vec{\mathrm{M}}^{\perp}_{\mathrm{coh}} = \frac{i}{\hbar} \frac{3}{4} \frac{\Gamma_\gamma}{k_0^3} \frac{Cf}{2j_0 + 1} e^{-\Gamma t/2} \sum_{p,m} \hat{e}^{\perp}_p \hat{e}_p{}^* \cdot \vec{\mathrm{F}}_{\omega_0} C^2(j_o 1 j_1; mp) e^{-i\omega_{m+p,m}t} \ , \tag{15}$$

$$\vec{\mathrm{M}}_{\mathrm{coh}} = A \left[\tfrac{1}{2}(\hat{x} + i\hat{y}) (e^{-i\omega_{3/2,1/2}t} + \tfrac{1}{3} e^{-i\omega_{1/2,-1/2}t}) (\hat{x} - i\hat{y}) + \tfrac{1}{2}(\hat{x} - i\hat{y}) (e^{-i\omega_{-3/2,-1/2}t} + \tfrac{1}{3} e^{-i\omega_{-1/2,1/2}t}) (\hat{x} + i\hat{y}) \right.$$
$$\left. + \tfrac{2}{3} \hat{z} (e^{-i\omega_{1/2,1/2}t} + e^{-i\omega_{-1/2,-1/2}t}) \hat{z} \right] \cdot \vec{\mathrm{F}}_{\omega_0} \ . \tag{16}$$

$$D_{\mu\nu}^{(0)}(z,x) = -4\pi g_{\mu\nu} \int \frac{d^4k}{(2\pi)^4} (k_4^2 - k^2 + i\epsilon)^{-1} \exp i[\vec{k}\cdot(\vec{z}-\vec{x}) - k_4(t_z - t_x)] \ , \tag{A2}$$

$$\vec{A}_\perp(R,t) = \frac{1}{R} 1\left(t^* + \frac{\hat{n}_f \cdot \vec{R}_l}{c} - \frac{\hat{n}_0 \cdot \vec{R}_l}{c}\right) \sum_f \sum_{n_l} e^{-i(\omega_{n_l m_l'} - i\Gamma/2)t^*} e^{-i(\vec{k}_f' - \vec{k}_0')\cdot \vec{R}_l}$$

$$\times c^{-1} \langle g m_l' | \int dx\, j_\perp^{(l)}(\vec{x}) e^{-i\vec{k}_f'\cdot\vec{x}} | e n_l \rangle \frac{i}{\hbar} \vec{\mu}_{n_l m_l} \cdot \vec{F}_{\omega_0} e^{-i\Delta E_{ff'}t^*} \langle \chi_{f'} | e^{-i\vec{k}_f'\cdot\vec{r}_l} | \chi_f \rangle \langle \chi_f | e^{i\vec{k}_0'\cdot\vec{r}_l} | \chi_f \rangle$$

$$= \frac{1}{R} 1\left(t^* + \frac{\hat{n}_f - \hat{n}_0}{c} \cdot \vec{R}_l\right) \sum_f e^{-i(\vec{k}_f' - \vec{k}_0')\cdot\vec{R}_l} (e^{-i\Delta E_{ff'}t^*} \langle \chi_{f'} | e^{-i\vec{k}_f'\cdot\vec{r}_l} | \chi_f \rangle \langle \chi_f | e^{i\vec{k}_0'\cdot\vec{r}_l} | \chi_0 \rangle)$$

$$\times \left(\frac{\omega_0}{\hbar c} \sum_{n_l} e^{-i(\omega_{n_l m_l'} - i\Gamma/2)t^*} \vec{\mu}_{m_l' n_l}^{\perp} \vec{\mu}_{n_l m_l} \cdot \vec{F}_{\omega_0} \right) . \tag{A5}$$

Complete and clear copies of the paper are available upon request from the authors.