

**Erratum: Electron interaction with confined acoustic phonons
in quantum wires subjected to a magnetic field
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Certain equations in this paper were in error. Equation (25) should be Fermi's golden rule

$$S(E_\nu, E'_{\nu'}, \pm \omega_{n,\gamma}) = \frac{2\pi}{\hbar} |M(E_\nu, E'_{\nu'}, \omega_{n,\gamma})|^2 (N + 1/2 \mp 1/2) \delta(E_\nu - E'_{\nu'} \pm \hbar \omega_{n,\gamma}), \quad (25)$$

where $\omega_{n,\gamma}$ is the frequency of a confined acoustic phonon in the n th transverse mode (branch) having a longitudinal wave vector γ .

Equation (26) should read

$$M(E_\nu, E'_{\nu'}, \hbar \omega_\gamma) = E_a \delta_{k' - k, \pm \gamma} \cdot \begin{cases} \frac{1}{a} \left\langle \cos\left(\frac{\pi x}{2a}\right) \left| \frac{\partial u}{\partial x} + \frac{\pi}{2d} v + i \gamma \omega \right| \cos\left(\frac{\pi x}{2a}\right) \right\rangle \langle \phi^*(y, E'_{\nu'}) | \cos\left(\frac{\pi y}{2d}\right) | \phi(y, E_\nu) \rangle, & \text{for thickness mode} \\ \langle \phi^*(y, E'_{\nu'}) | \frac{\partial v}{\partial y} + i \gamma \omega | \phi(y, E_\nu) \rangle, & \text{for width mode} \end{cases} \quad (26)$$

where the δ is a Krönicker delta. The normal mode amplitudes of the phonon field u , v , and w are functions of $\omega_{n,\gamma}$.

Equations (27) should read

$$\begin{aligned} S(E_\nu) &= \sum_n \int_0^\infty \int_0^\infty dE'_{\nu'} d\omega_{n,\gamma} \mathcal{D}(E'_{\nu'}) \mathcal{D}(\omega_{n,\gamma}) S(E_\nu, E'_{\nu'}, \pm \omega_{n,\gamma}) \\ &= \frac{2L}{\pi} \sum_n \int_0^\infty \int_0^\infty dE'_{\nu'} d\gamma S(E_\nu, E'_{\nu'}, \pm \omega_{n,\gamma}) \mathcal{D}(E'_{\nu'}) \\ &= \frac{1}{\hbar} \sum_n \sum_m D^\pm(E_\nu, E_\nu \pm \hbar \omega_{\pm \gamma_{m,n}}) |M(E_\nu, E_\nu \pm \hbar \omega_{\pm \gamma_{m,n}}, \omega_{n,\gamma_{m,n}})|^2 (N + 1/2 \mp 1/2), \end{aligned} \quad (27)$$

where L is the normalizing length that is unity in our case since the normal mode amplitudes of the phonon field are normalized to unit density, $\gamma_{m,n}$ is the m th root of the function $f = E_\nu - E'_{\nu'} \pm \hbar \omega_{n,\gamma}$, the quantity $\mathcal{D}(\omega_{n,\gamma})$ is the density of phonon states in the n th branch, $\mathcal{D}(E'_{\nu'})$ is the density of final electron states, and $D^\pm(E_\nu, E'_{\nu'}, \omega_\gamma)$ is the joint electron-phonon density of states defined by the next equation.

Equation (28) should read

$$D^\pm(E_\nu, E'_{\nu'}, \gamma_{m,n}) = \frac{4L}{|\partial(E_\nu - E'_{\nu'} \pm \hbar \omega_{n,\gamma}) / \partial \gamma|} \delta_{\gamma - \gamma_{m,n}}, \quad (28)$$

where the δ function is a Krönicker delta.

All scattering rates in this paper were overestimated by a factor of $\pi/2$. To obtain the correct magnitude of the scattering rate at any energy, divide the rate by the factor $\pi/2$.

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