Errata: Analytical approach to the wave function of a decaying quantum system [Phys. Rev. C 65, 024608 (2002)]

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We apologize for some unfortunate errors in transcribing formulae. Equation (63) should read

$$k\cot(ka+\eta)=\frac{q\cot qb-p\tan pc}{(q/p)\cot qb\tan pc+1}. \tag{63}$$

The sentence below Eq. (63) should be "In the limits of $c\to 0$, $Hc\to\lambda/a$, and $D\to 0$, we have $q\to k$, $q/p\to 0$ and $p\tan pc\to-\lambda/a$, so that Eq. (63) reduces to Eq. (30)." Equations (64) to (66) should read

$$h(k,r>a)=\frac{(-1)^{n-1}in\sqrt{2b}ka}{(q^2b^2-n^2\pi^2)F(k)}, \tag{64}$$

$$F(k)=\frac{qa}{p}\cot qb(p\cos pc-ik\sin pc)-a(p\sin pc+ik\cos pc) \tag{65}$$

and

$$c_\nu=\frac{(-1)^{n-1}2n\pi\sqrt{2b}\,k_\nu a}{(q_\nu^2b^2-n^2\pi^2)dF(k_\nu)/dk}. \tag{66}$$

Equation (71) should be

$$\begin{aligned}\psi(b>r,t)=\frac{1}{4}\sum_\nu c_\nu\Bigg[&\left(1+\frac{k_\nu}{p_\nu}\right)\left(1+\frac{p_\nu}{q_\nu}\right)e^{-i[p_\nu c+q_\nu(b-r)-k_\nu(a-r)]}\mathcal{M}(k_\nu,r-a,t)\\&+\left(1-\frac{k_\nu}{p_\nu}\right)\left(1+\frac{p_\nu}{q_\nu}\right)e^{i[p_\nu c+q_\nu(b-r)-k_\nu(a-r)]}\mathcal{M}(k_\nu,a-r,t)\\&+\left(1+\frac{k_\nu}{p_\nu}\right)\left(1-\frac{p_\nu}{q_\nu}\right)e^{i[-p_\nu c+q_\nu(b-r)+k_\nu(a-2b+r)]}\mathcal{M}(k_\nu,2b-a-r,t)\\&+\left(1-\frac{k_\nu}{p_\nu}\right)\left(1-\frac{p_\nu}{q_\nu}\right)e^{i[p_\nu c-q_\nu(b-r)-k_\nu(a-2b+r)]}\mathcal{M}(k_\nu,r+a-2b,t)\Bigg]+C_\kappa e^{i\kappa^2t}u_\kappa(r).\end{aligned} \tag{71}$$

For the numerical evaluation of the wave function, the correct expressions were actually used. The figures are therefore correct.

In addition the last paragraph on p. 12 erroneously indicates that Eq. (15) is satisfied when $r<a$ in example I. The equation is satisfied only when $r>a$ for all three examples. The discussion regarding the convergence of the sum relates to all examples. Since this paragraph is unclear in other ways as well, it should be replaced by the following:

"Simplifying Eq. (14) for example I to exclude the $1/k_\nu$ terms when $r>a$, we also obtain Fig. 1. When we do so we need approximately 100 times the number of terms than are needed when the $1/k_\nu$ terms are included in order to obtain the same precision. Clearly the rate of convergence is much improved by retaining the $1/k_\nu$ terms. When $r<a$, the $1/k_\nu$ terms must be included since Eq. (15) does not hold in this case. The same remark applies to examples II and III."

