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Erratum: Radiated power and radiation reaction forces of coherently oscillating charged particles in classical electrodynamics [Phys. Rev. D 91, 096006 (2015)]

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This paper was published online on 20 May 2015 with some errors/unit inconsistencies in the constants in front of a few equations and a subsequent scaling error in one figure which we want to correct. The changes do not alter the results and conclusion of the paper.

(1) Equations (1) and (2) should be corrected to

$$-\int_A^B dt \frac{d}{dt}\int \frac{1}{8\pi}[E^2+H^2]dV = \int_A^B dt\left[\int \frac{c}{4\pi}\mathbf{E}\times\mathbf{H}d\mathbf{a} + \int \mathbf{E}\cdot\mathbf{j}dV\right], \tag{1}$$

$$\int_A^B dt \frac{d}{dt}\int \frac{1}{8\pi}[E^2+H^2]dV = 0 \Rightarrow \int_A^B dt \int \frac{c}{4\pi}\mathbf{E}\times\mathbf{H}d\mathbf{a} = -\int_A^B dt \int \mathbf{E}\cdot\mathbf{j}dV. \tag{2}$$

(2) The equation embedded in the text just before Eq. (3) should be corrected to read $P = \frac{c}{4\pi}\int \mathbf{E}\times\mathbf{H}\cdot d\mathbf{a}$.

(3) Figure 3 and its caption should be corrected to:

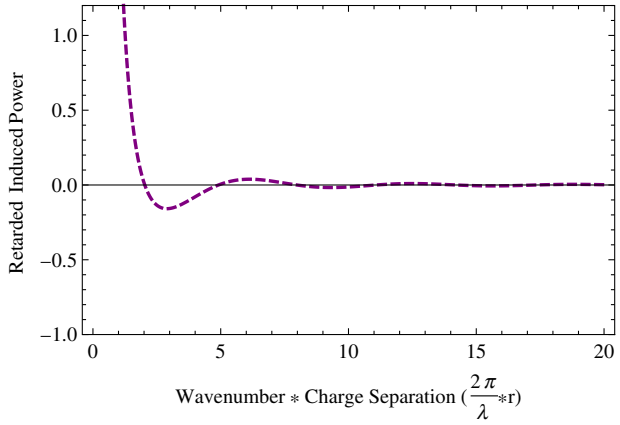

FIG. 3 (color online). This figure shows the volume integral of $\mathbf{E}\cdot\mathbf{j}$ described by Eq. (B11) and attributable to the component of the retarded induction field generated by one charge and oscillating in phase with the velocity of the other charge. The plot is normalized to $\frac{2e^2\ddot{x}_0^2}{3c^3}$. This result diverges as $1/r^2$ at small separations and does not match the nondivergent time-averaged surface integral of the Poynting vector.

(4) Equation (B11) should be corrected to read

$$P_{\text{ind,ret}} = \frac{e^2\omega x_o^2}{r^2}\left[-\frac{\omega}{c}\cos\left(\frac{\omega r}{c}\right) - \frac{1}{r}\sin\left(\frac{\omega r}{c}\right)\right]. \tag{B11}$$

(5) Equation (C4) should be corrected to read

$$P_{\text{ind,adv}} = \frac{e^2\omega x_o^2}{r^2}\left[\frac{\omega}{c}\cos\left(\frac{\omega r}{c}\right) + \frac{1}{r}\sin\left(\frac{\omega r}{c}\right)\right]. \tag{C4}$$

