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Author Correction: Attosecond coherent control of free-electron wave functions using semi-infinite light fields

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The authors became aware of a mistake in the original version of this Article. Specifically, an extra factor γ was incorrectly included in a number of mathematical equations and expressions. As a result of this, the following changes have been made to the originally published version of this Article:

Equation 1 originally incorrectly read:

$$\beta = (e\gamma/\hbar\omega)\int dz\, \mathcal{E}_z(z)e^{-i\omega z/v}.$$

The correct form of Equation 1 is:

$$\beta = (e/\hbar\omega)\int dz\, \mathcal{E}_z(z)e^{-i\omega z/v}.$$

Equation 3 originally incorrectly read:

$$\beta \approx (ie\gamma/\hbar\omega)\left[\frac{\mathcal{E}_z^{i}}{\omega/v - k_z^{i}} + \frac{\mathcal{E}_z^{r}}{\omega/v + k_z^{r}}\right].$$

The correct form of Equation 3 is:

$$\beta \approx (ie/\hbar\omega)\left[\frac{\mathcal{E}_z^{i}}{\omega/v - k_z^{i}} + \frac{\mathcal{E}_z^{r}}{\omega/v + k_z^{r}}\right].$$

The seventh sentence of the 'Theory of ultrafast electron–light interaction' section of the Methods originally incorrectly read 'Putting these elements together, the Schrödinger equation reduces to $(\mathbf{v}.\nabla + \partial/\partial t)\phi = \frac{-ie\gamma\mathbf{v}}{\hbar c}.\mathbf{A}\,\phi$, where $\gamma = 1/\sqrt{1-v^2/c^2}$, which admits the rigorous solution $\phi(\mathbf{r},t) = \phi_0(\mathbf{r}-\mathbf{v}t)\exp\left[\frac{-ie\gamma\mathbf{v}}{\hbar c}.\int_{-\infty}^{t} dt'\mathbf{A}\left(\mathbf{r}+\mathbf{v}t'-\mathbf{v}t,\, t'\right)\right]$.' The corrected version states instead 'Putting these

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elements together, the Schrödinger equation reduces to $(\mathbf{v}.\nabla + \partial/\partial t)\phi = \frac{-ie\mathbf{v}}{\hbar c}.\mathbf{A}\,\phi$, which admits the rigorous solution $\phi(\mathbf{r},t) = \phi_0(\mathbf{r}-\mathbf{v}t)\exp\left[\frac{-ie\mathbf{v}}{\hbar c}.\int_{-\infty}^{t} dt'\mathbf{A}\left(\mathbf{r}+\mathbf{v}t'-\mathbf{v}t,\,t'\right)\right]$.'

The tenth sentence of the same paragraph originally read 'Inserting this expression into Eq. (4), we find the solution $\phi(\mathbf{r},t) = \phi_0(\mathbf{r}-\mathbf{v}t)e^{-\mathcal{B}+\mathcal{B}*}$, where $\mathcal{B}(\mathbf{r},t) = \frac{e\gamma\mathbf{v}}{\hbar\omega}.\int_{-\infty}^{t} dt'\,\vec{\mathcal{E}_0}\left(\mathbf{r}+\mathbf{v}t'-\mathbf{v}t,\,t'\right)\mathrm{e}^{-\mathrm{i}\omega t'}$.' The corrected version states instead states that '$\mathcal{B}(\mathbf{r},t) = \frac{e\mathbf{v}}{\hbar\omega}.\int_{-\infty}^{t} dt'\,\vec{\mathcal{E}_0}\left(\mathbf{r}+\mathbf{v}t'-\mathbf{v}t,\,t'\right)\mathrm{e}^{-\mathrm{i}\omega t'}$'

Equation 5 originally incorrectly read:

$$\beta(\mathbf{r}) = \frac{e\gamma}{\hbar\omega}\int_{-\infty}^{z} dz'\,\mathcal{E}_{0z}\left(x,\,y,\,z'\right)\mathrm{e}^{-\mathrm{i}\omega z'/v}.$$

The correct form of Equation 5 is:

$$\beta(\mathbf{r}) = \frac{e}{\hbar\omega}\int_{-\infty}^{z} dz'\,\mathcal{E}_{0z}\left(x,\,y,\,z'\right)\mathrm{e}^{-\mathrm{i}\omega z'/v}.$$

Finally, in the Supplementary Information, supplementary Equation 1 originally incorrectly read:

$$\beta \approx \frac{iev\gamma\mathcal{E}_0}{\hbar\omega^2}\left[\frac{sin\delta}{1-(v/c)cos\delta} + \frac{\sin(\delta-2\alpha)}{1+(v/c)cos(\delta-2\alpha)}\right].$$

The correct form of supplementary Equation 1 is:

$$\beta \approx \frac{iev\mathcal{E}_0}{\hbar\omega^2}\left[\frac{sin\delta}{1-(v/c)cos\delta} + \frac{\sin(\delta-2\alpha)}{1+(v/c)cos(\delta-2\alpha)}\right].$$

This has been corrected in both the PDF and the HTML versions of the Article. The error does not affect the results or conclusions of the paper. All figures with theoretical data are normalised and are thus unaltered by this factor of $\gamma \approx 1.39$. Therefore the figures did not require correcting.

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