Erratum: Suppressed Molecular Ionization for a Class of Diatomics in Intense Femtosecond Laser Fields [Phys. Rev. Lett. 85, 002280 (2000)]

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In Eq. (1) of our original Letter the highest occupied molecular orbital (HOMO) is written in the convenient LCAO-MO form using the molecular fixed coordinate system. In this coordinate system the coefficients a_i and b_i have in general the form $a_i = (-1)^{l_i} b_i$ for a molecular orbital of gerade symmetry and $a_i = (-1)^{l_i+1} b_i$ for an orbital of ungerade symmetry, where l_i is the angular momentum quantum number of the ith atomic orbital ϕ_i. Accordingly, the rate for ionization of a homonuclear diatomic molecule having a HOMO of gerade symmetry reads

$$\Gamma^+ = 2\pi N_e \sum_{N=N_0}^{\infty} C_{\mathrm{coul}} k_N (U_p - N\omega)^2 \int d\hat{\boldsymbol{k}}_N J_N^2\left(\boldsymbol{\alpha}_0 \cdot \boldsymbol{k}_N, \frac{U_p}{2\omega}\right) \left| \sum_{l_i} 2\tilde{\phi}_i(\boldsymbol{k}_N) \begin{cases} \cos(\mathbf{k}_N \cdot \mathbf{R}/2): & \text{even } l_i \\ \sin(\mathbf{k}_N \cdot \mathbf{R}/2): & \text{odd } l_i \end{cases} \right|^2, \quad (1)$$

while that for ionization from a HOMO of ungerade symmetry takes its most general form as:

$$\Gamma^+ = 2\pi N_e \sum_{N=N_0}^{\infty} C_{\mathrm{coul}} k_N (U_p - N\omega)^2 \int d\hat{\boldsymbol{k}}_N J_N^2\left(\boldsymbol{\alpha}_0 \cdot \boldsymbol{k}_N, \frac{U_p}{2\omega}\right) \left| \sum_{l_i} 2\tilde{\phi}_i(\boldsymbol{k}_N) \begin{cases} \cos(\mathbf{k}_N \cdot \mathbf{R}/2): & \text{odd } l_i \\ \sin(\mathbf{k}_N \cdot \mathbf{R}/2): & \text{even } l_i \end{cases} \right|^2 \quad (2)$$

where $\tilde{\phi}_i(\boldsymbol{k}_N)$ is the Fourier transform of the ith atomic orbital.

In the original Letter we have inadvertently considered only the leading term contributions to the total rate of ionization, having a bonding ($l_i = 0$) character in the case of σ_g-symmetry (N_2) and an antibonding ($l_i = 1$) character in the case of π_g-symmetry (O_2, F_2). The results and conclusions including the interference suppression of molecular ionization discussed in the Letter and elsewhere [1,2] are not affected.

[1] F. Grasbon, G. G. Paulus, S. L. Chin, H. Walther, J. Muth-Böhm, A. Becker, and F. H. M. Faisal, Phys. Rev. A **63**, 041402(R) (2001).

[2] J. Muth-Böhm, A. Becker, S. L. Chin, and F. H. M. Faisal, Chem. Phys. Lett. **337**, 313 (2001).

