CORRIGENDUM

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Complete photo-fragmentation of the deuterium molecule

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In Figs 2 and 3 of this Letter, we calculated the angle between the molecular axis and the in-plane electron as $\varphi_{e,mol} = \varphi_{mol} - \varphi_e$, where φ_e and φ_{mol} are the angles of the electron and the molecular axis with respect to the polarization vector ε. This distribution was then rotated by the angle of the molecular axis to picture the electron emission in the polar plots. Here a sign error occurred: instead of calculating and plotting $\varphi_{mol} - \varphi_{e,mol} = \varphi_e$, we presented $\varphi_{mol} + \varphi_{e,mol} = 2\varphi_{mol} - \varphi_e$.

Figure 1 illustrates the corrected results (compare with Figs 2, 3 in our Letter). The data now show an even stronger dependence of the angular distribution of the electrons on the molecular orientation, emphasizing the importance of the new internal reference axis. Thus, the angular distribution in Fig. 1a does not resemble a helium-like dipole pattern any more (as we stated originally), which would be aligned mainly along the polarization axis, but shows a preferred emission of electrons rectangular to the molecular axis.

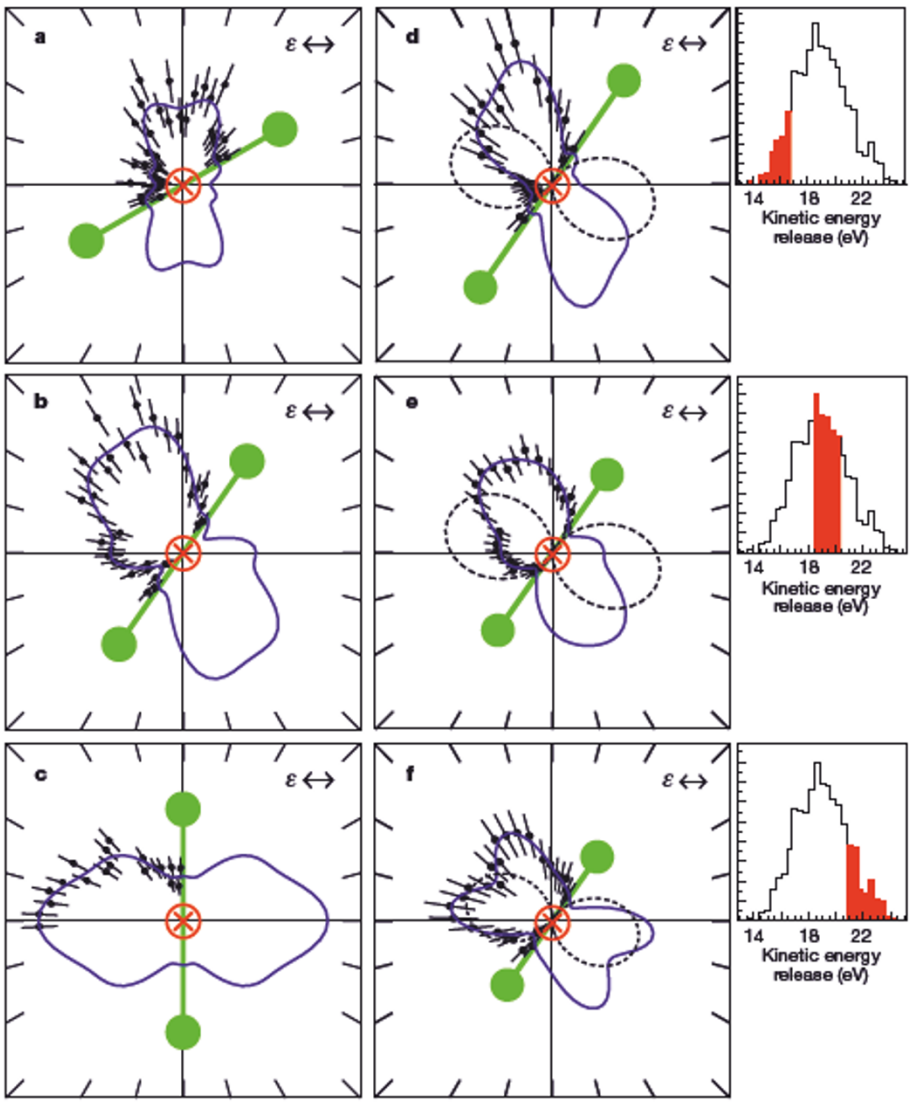

Figure 1 | Angular distribution in the non-coplanar frame as a function of molecular orientation for the photo double ionization of deuterium molecules. **a–f,** The angular distribution of one electron (black dots, with error bars indicating the standard deviation of the mean value) in the plane of the molecular axis (green barbell) and the electric field vector of the linear polarized light ε (horizontal double arrow) for a photon energy of 75.5 eV. (In **a**, the angle between the molecule and the polarization axis is 30°, whereas it is 55° in **b** and 90° in **c**.) The other electron moves orthogonally out of the plane towards the observer (red circled cross). In **d–f**, the molecular axis is fixed at 55° while the kinetic energy release varies (rightmost panels). Each electron has 12.25 eV energy. Blue solid lines show a fit with spherical harmonics ($l\varepsilon[1,4]$, $m\varepsilon[0,1]$). The dashed black lines represent the result from a single centre expansion of the molecular ground state and a CCC expansion of the final two-electron continuum.