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Erratum

Femtosecond studies of electron tunneling at metal–dielectric interfaces (Chemical Physics 205 (1996) 191–203) [1]

R.L. Lingle, Jr. [a,b], N.-H. Ge [a,b], R.E. Jordan [a,b], J.D. McNeill [a,b], C.B. Harris [a,b]

[a] Department of Chemistry, University of California, Berkeley, CA 94720, USA

[b] Chemical Sciences Division, E.O. Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA

In the last stages of the production process, after the authors' proof had been returned, an unfortunate error occurred. The unrevised figures 1, 5, 7, 8 and 9 were published instead of the revised ones. The correct figures are printed below.

The publisher apologizes to the authors and to the readers for this error.

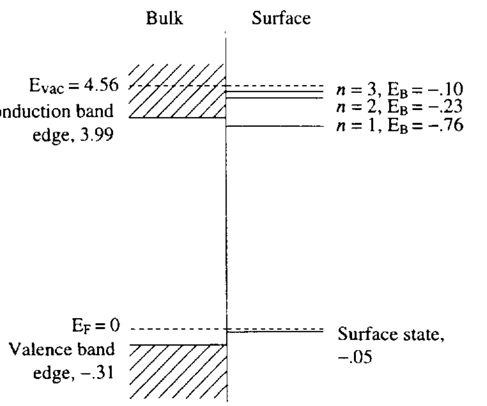

Fig. 1. Energy diagram in units of eV for electronic states at the Ag(111) surface. The left side shows the energies of the projected bulk states at $k_{\|} = 0$, referenced to the Fermi level. The right side shows the location of the lowest members of the image series and the occupied surface state. Binding energies E_B of the image states are referenced to the vacuum level. The vacuum level and the Fermi level are separated in energy by the work function.

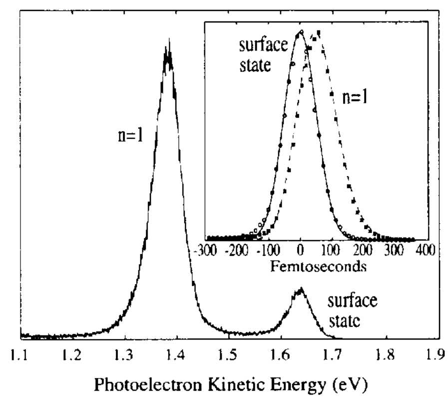

Fig. 5. The photoelectron energy distribution curve (EDC) for bare Ag(111) excited with 300 nm and photoemitting with 600 nm as a function of photoelectron kinetic energy at time zero at a sample temperature of 106 K. The right peak is due to simultaneous TPPE from the occupied surface state (refer to Fig. 1). The left peak is due to electrons which transiently populate the $n = 1$ image potential state. The entire EDC was acquired in 20 s. The inset shows the dynamics of the two signals. The Gaussian FWHM of the surface state signal is 120 fs and is assumed to be the instrument function. The rise and decay times for the $n = 1$ signal are deconvolved using the Gaussian fit to the instrument function and the kinetic model represented by Eq. (2) to yield a rise time $k_1^{-1} = 24$ fs and a lifetime $k_2^{-1} = 32 \pm 10$ fs.

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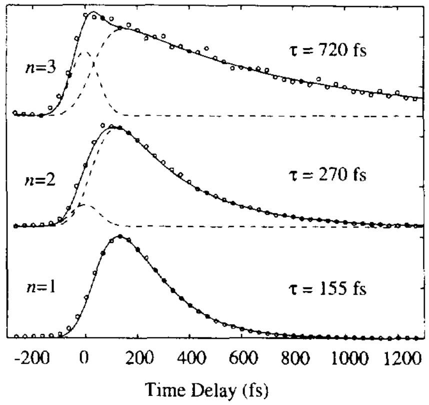

Fig. 7. The femtosecond population dynamics of the $n = 1$, 2, and 3 states for a monolayer of n-heptane/Ag(111). The component at time zero in the $n = 2$ and 3 data has similar dynamics to the instrument function (see text) and is tentatively assigned to TPPE from the valence band edge. The data are modeled by convolving the instrument function shown in Fig. 4 with the sum of a single exponential decay and the function of Eq. (2).

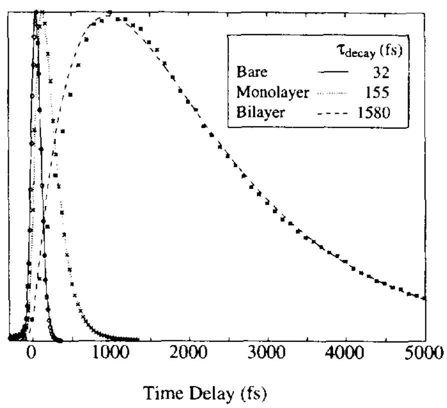

Fig. 8. The femtosecond population dynamics in the $n = 1$ state for bare Ag(111), monolayer n-heptane/Ag(111), and bilayer n-heptane/Ag(111). The data are fit by a rise time and a decay time according to the model in Eq. (2).

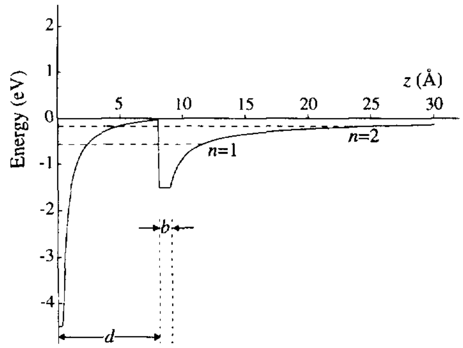

Fig. 9. Model potential by Cole for a $d = 8$ Å dielectric overlayer on a metal surface, corresponding to a bilayer of a n-heptane. The potential in the dielectric region, $z < d$ is the screened image potential of the metal plus the bulk electron affinity of the material, where $V_0 = +0.2$ eV and $\epsilon = 2.0$ in Eq. (3). The potential in the vacuum region shown in Eq. (4) is the solution to the boundary value problem for an electron outside a continuum dielectric layer on a perfect conductor. The parameter b is the cutoff length for the Coulomb potential outside the dielectric/vacuum interface. The dashed lines show the lowest two eigenvalues of the potential obtained by solving the Schrödinger equation as described in the text.