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Erratum: Low-Energy Electron-Impact Ionization of Argon: Three-Dimensional Cross Section (Physical Review A - Atomic, Molecular, and Optical Physics 85, 032702 (2012))

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Erratum: Low-energy electron-impact ionization of argon: Three-dimensional cross section [Phys. Rev. A 85, 032702 (2012)]

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A similar experimental cross-normalization error as reported in Ren *et al.* [1] was discovered in the evaluation of the low-energy ($E_0 = 70.8$ eV) results published in the above paper for electron-impact single ionization of a $3p$ electron in argon. A revised version of Fig. 2 is given here. It shows that the *B*-spline *R*-matrix model for these kinematics qualitatively reproduces both the overall shape and the relative magnitude of the experimental data in the three-dimensional plots of the triple-differential cross section when the $\sin\theta_1$ factor in the solid-angle element for the detection angle of the fast (scattered) electron is properly accounted for. Nevertheless, not all the details of the measurements are reproduced by any of the theories after simply rescaling the experimental data by $\sin\theta_1/\sin\theta_n$, where θ_n (=8° in the original paper) is the angle at which the experiment was normalized to the BSR theory.

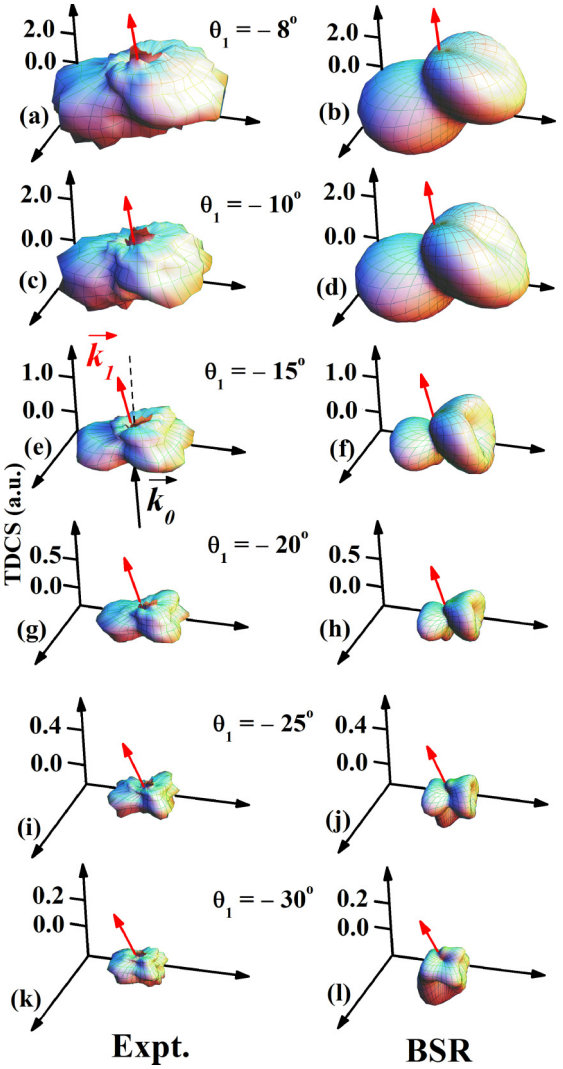

FIG. 2. (Color online) Three-dimensional presentation of the triple-differential cross section for single ionization of Ar ($3p$) by 70.8 eV electron impact as a function of the emission angle of an electron with kinetic energy $E_2 = 3$ eV (± 1.0 eV) and different projectile scattering angles (θ_1). (a) and (b) $\theta_1 = -8°$ ($\pm 1.5°$), (c) and (d) $\theta_1 = -10°$ ($\pm 2.0°$), (e) and (f) $\theta_1 = -15°$ ($\pm 2.5°$), (g) and (h) $\theta_1 = -20°$ ($\pm 3.0°$), (i) and (j) $\theta_1 = -25°$ ($\pm 3.0°$), and (k) and (l) $\theta_1 = -30°$ ($\pm 3.5°$). Left column: experiment. Right column: *B*-spline *R*-matrix with pseudostates (BSR) theory.

[1] X. Ren, A. Senftleben, T. Pflüger, J. Ullrich, K. Bartschat, and A. Dorn, Phys. Rev. A **89**, 029904(E) (2014).

