Erratum: Signals of strong electronic correlation in ion scattering processes
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M. Tacca, F. Bonetto, C. Gonzalez, and E. C. Goldberg

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We found an error in the mathematical formulation of the finite-\(U\) model [19] that we used in our paper to describe the neutral fractions measured when Sr\(^+\) ions collide with a gold surface [4,5]. The error is connected to boundary conditions, such as the following one:

\[
F_0 \left\langle \hat{c}_{k\uparrow} | 0, 0 \rangle \langle \uparrow, \downarrow | h_0 \right\rangle = -[2 \langle h_{\downarrow} \rangle - 1] G_0 \left\langle \hat{c}_{k\downarrow} | 0, 0 \rangle \langle \uparrow, \downarrow | t_0 \right\rangle,
\]

where the correct minus sign was dismissed. This correction introduces changes of sign in the integral terms \(\int_{t_0}^{t'} d\tau \Omega(\tau) G(\tau, t')\) which affect the motion equation of the Green’s functions \(F(t, t')\).

The above-described amendment of the finite-\(U\) model introduces slight modifications in Figs. 6(c) and 7 of the published paper. These figures should be replaced by the figures below.

![Figure 6.(c)](image_url)

FIG. 6. (c). Calculated neutral fraction as a function of the target temperature under the finite-\(U\) approach. The solid red lines correspond to the calculation assuming different values of the gold work function around 5.1 eV (indicated in the figure). The figure shows a strong dependence of the neutral fraction with the surface work function. Typical precision in work-function measurements (0.1 eV) introduces ample errors in the calculation (shaded region), sufficient to match the experimental data (black solid squares).
FIG. 7. Calculated neutral fraction under the finite-$U$ model when the work function is fixed at $\Phi = 5.1$ eV (full red circles) and when a slight temperature dependence in the work function (the inset) is assumed (empty squares with crosses). Work-function variations on the order of $10^{-4}$ eV/K are typical in metals.

From Fig. 7, it can be observed that the work-function temperature dependence necessary to explain the measured neutral fractions is even less marked than that of the wrong result published. Thus, the important conclusions in the published paper regarding a very slight temperature dependence of the work function to explain the neutral fractions experimentally obtained are still (or even more) valid in the present case.