# Erratum: Electrical control of the Kondo effect in a helical edge liquid
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In our recent Rapid Communication, Fig. 2 was erroneously plotted due to an incorrect expression for the current operator. The correct figure is given below.
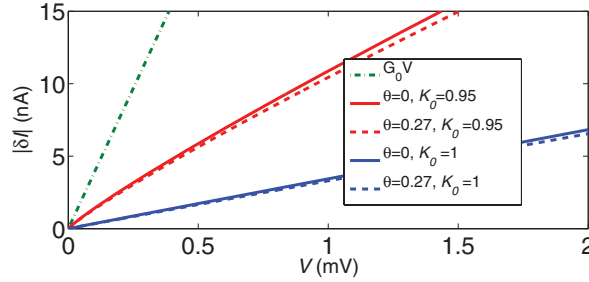


FIG. 2. (Color online) The RG-improved current correction (12) at $T = 30$ mK as a function of applied voltage, for different values of $K_0$ and $\theta$. The dashed lines represent $\theta \approx 0.27$, corresponding to $\hbar\alpha = 10^{-10}$ eV m. Other parameters are defined in the text. The QSH edge current $G_0 V$ is plotted as a reference.

The corrected expression for the current operator $\hat{I}$, appearing on lines 1 and 2 from the top, second column, page 3, should read $\hat{I} = (e/2) \, \partial_t \, (\Psi'^{\dagger} \sigma^{z'} \Psi')$. As a consequence, Eqs. (10)–(12) are replaced by

$$\delta\hat{I} = \frac{ie}{2\pi\kappa} \left[ \sum_{j=\pm} A_j e^{i\sqrt{\pi}(2\sqrt{K} - j\lambda)\varphi} S^j + i A_0 \, e^{i\sqrt{4\pi K}\varphi} S^z \right] + \text{H.c.}, \tag{10}$$

where $A_{\pm} = (1/2)(J_x \pm J'_y)$ and $A_0 = J_E/2$,

$$\delta G = -\frac{e^2}{\hbar} \sum_{j=-1}^{+1} A_j^2 F(2\sqrt{K} - j\lambda)(2\pi T/D)^{2(\sqrt{K} - j\lambda/2)^2 - 2}, \tag{11}$$

and

$$\delta I \approx -e \sum_{j=-1}^{+1} \text{Im}\{B(K_j + ieV/2\pi T, K_j - ieV/2\pi T)C_j(T/D)^{2K_j - 1} \sin[\pi(K_j - ieV/2\pi T)]/\cos(\pi K_j)\}, \tag{12}$$

respectively. Also, the multiplicative factor $\cos^2\theta$ in the expression for the conductance correction $\delta G$, line 31 from the top, second column, page 3, should be removed. The related equations (S2)–(S6) in the Supplemental Material should be changed accordingly, removing the factors of $\cos\theta$ and $\cos^2\theta$.

We also take the opportunity to point out that the sentences beginning "The presence of..." on line 33, page 2, and "Thus, in the noninteracting limit..." on line 21, page 3, should be removed. (For a discussion of the microscopic origin of the correlated two-particle and inelastic single-particle backscattering terms, see Refs. 1 and 2.)

None of the corrections change our conclusions in the published Rapid Communication.

We thank F. Crépin and P. Recher for drawing our attention to the erroneous expression for the current operator.

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[1] F. Crépin, J. C. Budich, F. Dolcini, P. Recher, and B. Trauzettel, Phys. Rev. B **86**, 121106(R) (2012).

[2] T. L. Schmidt, S. Rachel, F. von Oppen, and L. I. Glazman, Phys. Rev. Lett. **108**, 156402 (2012).