Erratum: Quasiclassical theory for interfaces with spin-orbit coupling [Phys. Rev. B **100**, 064502 (2019)]

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We provide here a few corrections for the derivation of the boundary conditions in Ref. [1]. The corrections do not have any consequence for the final form of the boundary conditions themselves, and thus they do not affect the main results of Ref. [1].

- (i) Below Eq. (18), the text should read “. . . the replacements $\check{V} \rightarrow \check{V}_0$, $\check{T} \rightarrow \check{T}_0$, and $\check{G}_0 \rightarrow \check{G}_0 e^{i(k_1 - k_2) \cdot R_0}$.
- (ii) In Eq. (50), the occurrences of $\check{g}$ without subscripts should be replaced by $\check{g}_{d,j}$.
- (iii) In Eq. (52), 2π should be 4π .
- (iv) In Eq. (53), σ_j should be replaced by $-D_j$, where D_j is the diffusion coefficient in material j .
- (v) Equation (54) should read

$$D_1 \hat{n} \cdot \check{g}_{d,1} \nabla \check{g}_{d,1} = \int \frac{d\Omega}{4\pi} v_n \frac{\tau(\theta) [\check{g}_{d,1}, \check{g}_{d,2}]}{4\check{I} + \tau(\theta)(\{\check{g}_{d,1}, \check{g}_{d,2}\} - 2\check{I})}. \quad (1)$$

(vi) Immediately after Eq. (56), the text should read, “where T is the angular average of $v_n \tau(\theta)/D$.” The remaining text up to the start of Sec. III should be disregarded, since the discussion about the large- V_0 limit is not relevant within the perturbative framework used in our paper, where only small V_0 may be considered.

(vii) Figure 1(b) should be disregarded for the same reason as above: only the small V_0 limit is applicable in our model.

(viii) Prior to Eq. (78), the following text should be disregarded, since the arguments presented in those sentences are incorrect: “The θ integration of the spin-independent term in Eq. (76) diverges. However, when $\alpha = 0$, we know that including all orders of the T matrix, given in Eq. (43), yields a finite expression—namely Eq. (54). This means that the divergence appears when the T matrix is truncated to give Eq. (70). The interpretation of this is that microscopic analytical expressions for the coupling constants due to w , w_α , and γ cannot be found within the present theory, and they instead become input parameters.”

[1] M. Amundsen and J. Linder, [Phys. Rev. B **100**, 064502 \(2019\)](#).