Erratum: Proximity spin-orbit and exchange coupling in ABA and ABC trilayer graphene van der Waals heterostructures [Phys. Rev. B 105, 115126 (2022)]

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In the original paper, we stated on page 8 that "... in the ABC TLG orbital Hamiltonian, the additional factors of 2 in front of V_1 and V_2 in the diagonal entries arise due to SOC...". This is incorrect, as there should be no factors of 2 present. Correspondingly, the Hamiltonian, Eq. (3), also has this typo. The correct version of Eq. (3), describing ABC TLG, should read

$$\mathcal{H}_{\text{orb}}^{\text{ABC}} = \begin{pmatrix} \Delta + V_1 & \gamma_0 f(\boldsymbol{k}) & \gamma_4 f^*(\boldsymbol{k}) & \gamma_1 & 0 & 0 \\ \gamma_0 f^*(\boldsymbol{k}) & \eta + V_1 & \gamma_3 f(\boldsymbol{k}) & \gamma_4 f^*(\boldsymbol{k}) & \gamma_6 & 0 \\ \gamma_4 f(\boldsymbol{k}) & \gamma_3 f^*(\boldsymbol{k}) & \Delta + V_2 & \gamma_0 f(\boldsymbol{k}) & \gamma_4 f^*(\boldsymbol{k}) & \gamma_1 \\ \gamma_1 & \gamma_4 f(\boldsymbol{k}) & \gamma_0 f^*(\boldsymbol{k}) & \Delta + V_2 & \gamma_3 f(\boldsymbol{k}) & \gamma_4 f^*(\boldsymbol{k}) \\ 0 & \gamma_6 & \gamma_4 f(\boldsymbol{k}) & \gamma_3 f^*(\boldsymbol{k}) & \eta - V_1 & \gamma_0 f(\boldsymbol{k}) \\ 0 & 0 & \gamma_1 & \gamma_4 f(\boldsymbol{k}) & \gamma_0 f^*(\boldsymbol{k}) & \Delta - V_1 \end{pmatrix} \otimes s_0. \tag{3}$$

Also, the fit parameters listed in the original paper, where ABC TLG is involved, were obtained with the incorrect orbital Hamiltonian. Since the changes in the Hamiltonian affect the diagonal entries, the parameter values for Δ, η, V_1, and V_2 in the original paper are not reliable in Table III and Table V. Therefore, we have refitted all the ABC TLG results with the corrected Hamiltonian. In particular, we keep all other parameters fixed and refit Δ, η, V_1, and V_2. The overall physics and accurateness of the fits reproducing the DFT results stays the same. In Table I and Table II of this Erratum, we summarize the relevant changes.

In the case of $MoSe_2$/ABC-TLG/WSe_2, when an electric field is applied, we also refitted the potential V_1 and asymmetry η, as we did in the original paper. We obtain corrected values for $V_1 = 9.211$ (-6.365) meV and $\eta = -3.753$ (-2.701) meV for the negative (positive) field. These parameters replace those in the caption of Fig. 12 in the original paper.

TABLE I. The relevant corrected fit parameters for the TMDC and the CGT encapsulated ABC TLG structures. These parameters replace those in Table I in the original paper.

System	WSe_2 ABC $MoSe_2$	CGT ↑ ABC CGT ↑	CGT ↓ ABC CGT ↑
V_1 (meV)	0.015	0.563	−0.375
V_2 (meV)	−19.077	−18.202	−13.134
Δ (meV)	9.194	10.773	7.835
η (meV)	−3.213	−2.545	−3.185

TABLE II. The relevant corrected fit parameters for bare ABC TLG with electric field and for the structurally relaxed ABC TLG. These parameters replace those in Table III and Table V in the original paper.

Electric field (V/nm)	0	0.25	0.5	0.75	1.0	0 (relax)
V_1 (meV)	0	−6.000	−19.814	−35.257	−49.585	0
V_2 (meV)	−37.243	−37.296	−37.178	−36.779	−33.724	−45.178
Δ (meV)	10.288	9.799	9.539	10.974	10.003	11.110
η (meV)	−1.121	−1.542	−1.622	0.263	0.591	−2.832

