Erratum: Proposal for Measuring Mechanically Equilibrium Spin Currents in the Rashba Medium
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The numerical evaluation of the mechanical effect in the Letter was incorrect. In the expression for the cantilever displacement $h = 3\tau/2kl$ [the second paragraph after Eq. (17)] the spring constant $k = 86 \text{ \mu N/m}$ for the cantilever of the width $w = 3 \times 10^{-4} \text{ cm}$ [1] was used. Then the expression for displacement should be $h = 3\tau w/2kl$; i.e., the spin torque $\tau$ per unit length must be replaced by the total spin torque $\tau w$. This error resulted in overestimation of the effect by the factor $\sim 3300$. In addition, using the mass of a free electron in the evaluation (instead of the smaller effective electron mass) led to further overestimation of the displacement. According to the corrected evaluation the suggested mechanical effect looks too weak for observation with the cantilever used by Poggio et al. [1], but remains to be a manifestation of observability of equilibrium spin currents, at least in principle.

I thank R. Winkler for bringing the error to my attention.

[1] Poggio et al., Phys. Rev. Lett.99, 017201 (2007).