ERRATA

Erratum to: Bound State of an Electron in a MOS Structure Due to the Spin–Orbit Interaction

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We found a mistake in our paper mentioned in the title of this note. Electric field normal to the structure F is a sum of the constant part $\bar{F}$ and contribution from the electron–electron interaction $\tilde{F}$, depending on the interparticle separation $\mathbf{p}$. Equation (2) in the paper relates to only $F = \bar{F}$, but the spin–orbit interaction (SOI) depending on $\tilde{F}$ should be written in the form $A\tilde{F}\mathbf{n}[(\hat{\mathbf{p}}_1 - \hat{\mathbf{p}}_2) \times (\boldsymbol{\sigma}_1 - \boldsymbol{\sigma}_2)]$, as this energy depends on the electron velocity relative to the source of the field. But $\hat{\mathbf{p}}_1 - \hat{\mathbf{p}}_2 = 2\hat{\mathbf{p}} = -2i\partial_{\mathbf{p}}$, and that is why in all of the following formulas F should be understood

as $\bar{F} + 2\tilde{F}$, while in the Eq. (19) in the terms with total momentum P one has to put $F = \bar{F}$, where $\bar{F}$ is the field due to gate voltage. The fields of the own image charges of electrons do not contribute to SOI. With accounting for the above-mentioned changes, the electron pair bound energy for $P = 0$ equals $\Delta \simeq 3.64$ meV for $\bar{F} = 3.2 \times 10^4$ V/cm, and same values of the rest parameters that are given in the paper.

The original article can be found online at

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