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Correction: Tuning trion binding energy and oscillator strength in a laterally finite 2D system: CdSe nanoplatelets as a model system for trion properties

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Correction for 'Tuning trion binding energy and oscillator strength in a laterally finite 2D system: CdSe nanoplatelets as a model system for trion properties' by Sabrine Ayari et al., *Nanoscale*, 2020, **12**, 14448–14458, DOI: 10.1039/D0NR03170D.

The authors regret that typographic errors were present in some of the un-numbered equations in the Methods section on page 14454 of the original manuscript. The corrected paragraph should read as below. The errors do not affect the conclusions or results and discussion in the manuscript, as the modelling used the correct equations; only the display of the equations is changed.

'Actually, the electric force lines emerging from charges within a semiconductor nanoparticle pass through the surrounding medium, having a smaller dielectric constant than the semiconductor. Therefore, in order to take the dielectric screening of Coulomb interaction properly into account, the electron-hole direct Coulomb interaction is treated here using a Rytova-Keldysh potential $\hat{V}_c(\rho_e - \rho_h) = -\frac{e^2}{2\pi\epsilon_{env}} \int \frac{e^{iq(\rho_e - \rho_h)} d^2q}{q(1 + qr_s)}$ according to the widely accepted approach (Ref. 7,31,32,51,74–77 in the original manuscript, published here as Ref. 1–8, respectively). However to avoid the divergence of the integral of the exponential function in the Keldysh potential, we can construct an approximate expression for $\hat{V}_c(\rho)$ in terms of elementary functions

$$\hat{V}_c(\rho_e - \rho_h) = \frac{e^2}{2\epsilon_{env}r_s} \left[\ln\left(\frac{|\rho_e - \rho_h|}{|\rho_e - \rho_h| + r_s}\right) + (\gamma - \ln(2))e^{-\frac{|\rho_e - \rho_h|}{r_s}} \right]$$

(See ref. 8 below for details). This potential is better than using an unscreened vacuum Coulomb potential together with envelope functions in z-direction, the standard approach for quantum wells. Here, $r_s = \epsilon_{cdSe}Z_0/(2\epsilon_{env})$ is the dielectric screening length, $Z_0 = (a_0/2) \times 4.5$ ML is the platelet thickness and γ is the Euler constant'.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

Notes and references

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