Erratum: Electronic structure models of phosphorus δ-doped silicon [Phys. Rev. B 79, 033204 (2009)]

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We wish to clarify that the local density of states (LDOS) shown in Fig. 4(b) of our Brief Report was evaluated using the same $4\times4\times1$ **k**-point grid used to solve the self-consistent field (SCF) equations. This approach is responsible for the banded appearance of the LDOS, reflecting the discrete energy spectrum of a limited number of **k**-points. In order to reproduce the continuous density of states that would be expected for a two-dimensionally doped semiconductor, much denser **k**-point grids must be used. This is approximated by Fig. 1 below in which the LDOS was evaluated post-SCF using a $12\times12\times1$ grid. We note that the doping potential and the donor electron distribution are less sensitive on **k**-mesh density. The conclusions and all other aspects of our Brief Report remain unchanged.

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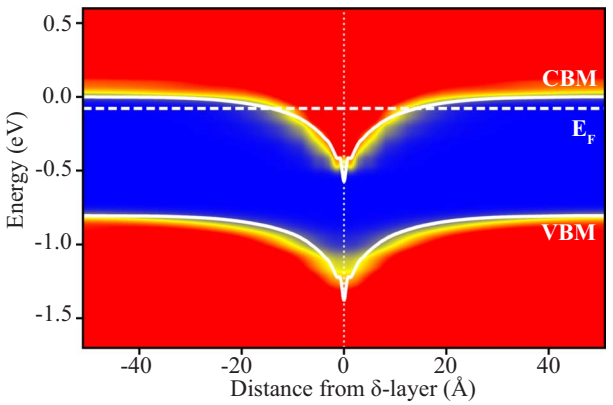

FIG. 1. (Color online) Local density of states (LDOS) of a 1/4 ML phosphorus δ-doped silicon, plotted as a function of distance to the doped atomic layer. The LDOS was evaluated using an 80 layer (80*L*) model, a c(2×2) planar unit cell, and a $12\times12\times1$ **k**-point mesh. SCF convergence was achieved using a $4\times4\times1$ grid.

