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Author Correction: Exploring room temperature spin transport under band gap opening in bilayer graphene

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Correction to: *Scientific Reports* https://doi.org/10.1038/s41598-023-36800-2, published online 26 June 2023

The original version of this Article contained an error in Figure 1 and 2. In Figure 1 the revised figure was not used in the article and in Figure 2b there was a typo in the y axis legend where "$n \times 10^{-12}$ (cm^{-2})" was changed to "$n \times 10^{12}$ (cm^{-2})".

The original Figures 1 and 2 accompanying legends appear below.

In addition, in the Results section, under the subheading 'Spin transport measurements',

"These are measurements where we sweep an in-plane magnetic field, which reverses the magnetisation of the 1D contacts and enables us to obtain either a parallel or antiparallel magnetic alignment between the injector and detector contacts.",

now reads

"These are measurements where we sweep an in-plane magnetic field, $B_{\parallel}$, applied along the direction of contacts, which reverses the magnetisation of the 1D contacts and enables us to obtain either a parallel or antiparallel magnetic alignment between the injector and detector contacts."

Also,

"In doing so, we sweep a perpendicular magnetic field strength across a range of ±200 mT, which causes the diffusing electronic spins to experience Larmor precession, and fit the spin signal with the Hanle equation[22]."

now reads

"In doing so, we sweep magnetic field strength perpendicular to the plane of the graphene (see Figure 1b), $B_{\perp}$, across a range of ±200 mT, which causes the diffusing electronic spins to experience Larmor precession, and fit the spin signal with the Hanle equation[22]."

The original Article has been corrected.

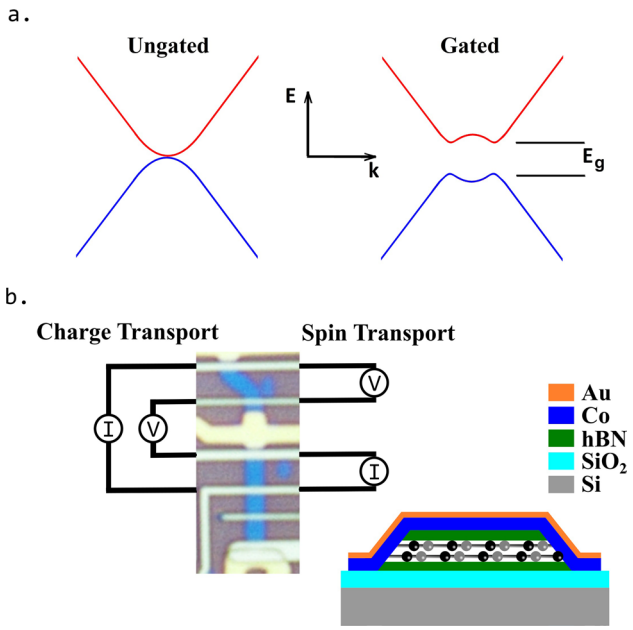

Figure 1. Bilayer graphene transport channel and device. (**a**) Band structure of pristine BLG without (left) and with (right) an applied perpendicular electric displacement field. (**b**) Optical micrograph of our ~ 1 μm wide BLG graphene transport channels (blue) with contacts and top gate (in the measurement region). The charge (spin) transport current injection, *I*, and local (non-local) potential difference, *V*, measurement configuration. Inset: Schematic of the device heterostructure showing the Co/Au 1D edge contacts, with the graphene represented by the balls and sticks.

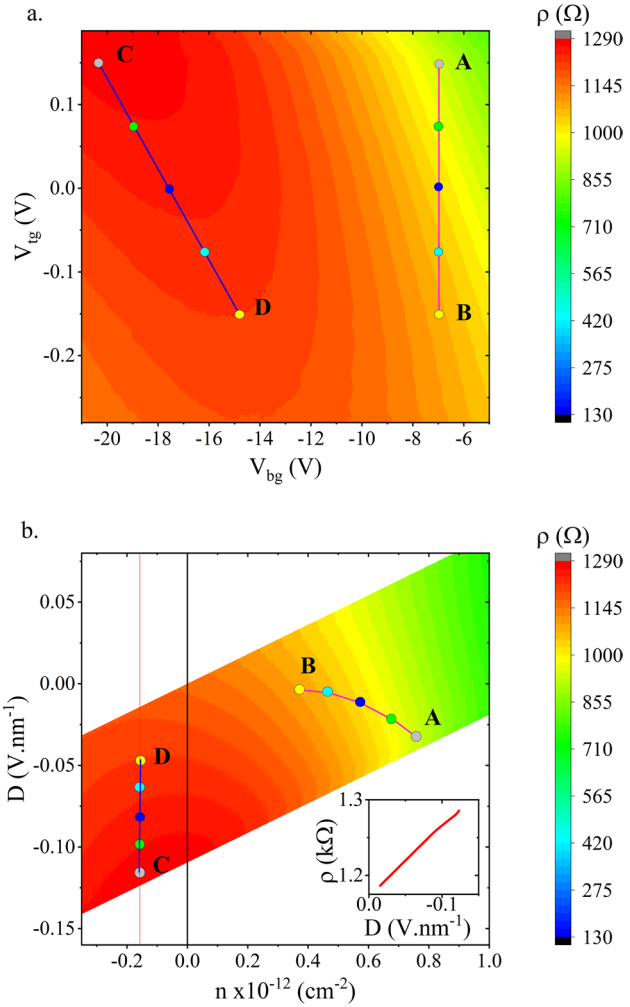

Figure 2. (**a**) A 2D charge transport measurement map at RT showing the effect on the sheet resistance, ρ, of applying a back gate voltage, V_{bg}, and top gate voltage, V_{tg}. (**b**) The same charge transport measurements transformed into a map as a function of carrier density, n, and electric displacement field, D. In both maps the symbols are shown where the spin transport measurements were made. b**(inset)** Sheet resistance close and parallel to the Dirac ridge ($n \approx 0$).