Erratum

Relation between the spin Hall conductivity and the spin Chern number for Dirac-like systems

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Distribution functions were defined for negative energies instead of positive energies. However, this does not alter the results obtained in the article. Correct definitions are as follows.

- Beginning of Page 6: the theta-function at the Fermi energy E_F : $f = \theta(E_F - E)$. Thus, the anomalous Hall conductivity reads

$$\sigma_{\text{AH}} = e^2 \int_{E < E_F} \frac{d^2 p}{(2\pi\hbar)^2} G_{xy}.$$

- End of Page 6: Once this is done we can set the ground state distribution functions to unity by restricting our integrals to energies less than the Fermi energy.
- Beginning of Page 12: Therefore, f restricts the integral to energies less than the Fermi energy and the spin Hall conductivity becomes ...