

Abstract Submitted  
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**Hall coefficient and magnetoresistance of 2D spin-polarized electron system**<sup>1</sup> EUYHEON HWANG, University of Maryland, SANKAR DAS SARMA, University of Maryland — Recent measurements of the Hall resistance show that the Hall coefficient is independent on the applied in-plane magnetic field which gives rise to the spin-polarization of the system. We calculate the weak-field Hall coefficient and the magnetoresistance of a spin polarized system based on the screening theory. We solve the coupled kinetic equations of the two carrier system including electron-electron interaction. We find that the in-plane magnetic field dependence of the Hall coefficient can be suppressed by the weakening of the screening and the electron-electron interaction. However, the in-plane magnetoresistance is barely affected by the electron-electron interaction.

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