

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Hall effect in cuprates with collinear incommensurate spin density waves MAXIME CHARLEBOIS, SIMON VERRET, OLIVIER SIMARD, ALEXANDRE FOLEY, DAVID SNCHAL, A.-M. S. TREMBLAY, Universit de Sherbrooke and Institut quantique — The recently measured normal-state Hall effect in high-magnetic field shows that the carrier density drops in the pseudogap. More specifically, it scales like the doping p at small p and eventually raises to $1 + p$ at the doping where the pseudogap appears [1]. Whether the low-doping p behavior arises from spin density waves (SDWs) or from Mott physics is still an open question. Using the approach of Voruganti et al. [2], we studied the doping dependence of the Hall effect of mean-field collinear incommensurate spin-density-waves. The results are contrasted with those of antiferromagnetic [3] and incommensurate spiral spin-density waves [4]. — [1] Badoux et al., Nature 531 210 (2016) [2] Voruganti et al., PRB 45 13945 (1992) [3] Storey, EPL 113 27003 (2016) [4] Eberlein et al., PRL 117 187001 (2016)

Simon Verret
Universit de Sherbrooke and Institut quantique

Date submitted: 11 Nov 2016

Electronic form version 1.4