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**Hydrodynamic Coulomb drag, magnetodrag and Hall drag of strongly correlated electron liquids**[1] STANISLAV APOSTOLOV, ALEX LEVCHENKO, Michigan State University, ANTON ANDREEV, University of Washington — We develop a theory of Coulomb drag in ultraclean double layers with strongly correlated carriers. In the regime where the equilibration length of the electron liquid is shorter than the interlayer spacing the main contribution to the Coulomb drag arises from hydrodynamic density fluctuations. The latter consist of plasmons driven by fluctuating longitudinal stresses, and diffusive modes caused by temperature fluctuations and thermal expansion of the electron liquid. We express the drag resistivity in terms of the kinetic coefficients of the electron fluid. Our results are nonperturbative in interaction strength and do not assume Fermi-liquid behavior of the electron liquid.

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