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Hall constant on triangular lattice ladder systems JAN HAERTER, MICHAEL PETERSON, SRIRAM SHASTRY, University of California at Santa Cruz — To make the transition from a one-dimensional to a planar system one can connect n 1D-chains to yield n-leg ladders. For square lattices, this approach has already led to quite interesting and unexpected results (Dagotto et al, Prelovšek et al). In this work, frustration is introduced through triangular geometry, achieved by adding additional bonds to the square lattice ladders. We study the response of such t-J ladders to an applied magnetic field and investigate the Hall constant R_H as function of temperature, interaction strength, doping, and frequency. These systems complement toroidal or spherical systems since these allow the limit $\partial/\partial B$ to be taken more accurately which leaves the geometric frustration fully preserved. We investigate the crossover from a degenerate Fermi system to a high T regime where R_H grows indefinitely ($R_H \propto T$) with temperature.

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