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Quantum Hall states in strained InAs heterostructures[1] JESSE KANTER, FRANCESCA ARESE LUCINI, ALEXANDRA DUBOY, The Graduate Center, City College, City University of New York, T.D. MISHIMA, M.B. SANTOS, University of Oklahoma, JAVAD SHABANI, The Graduate Center, City College, City University of New York — In a recent development it was realized that non-Abelian quasiparticles, parafermion zero-modes emerge at an interface between a superconductor and two dimensional electron system (2DES) in the quantum Hall regime. [1]. Unlike widely used GaAs systems, surface level pinning in InAs could allow for fabrication of transparent contacts to superconductors. However, no fractional quantum Hall state has been observed in InAs quantum wells so far. Whether this is due to the type of disorder present in the quantum well is not clear. In this work, we study the transport and dingle mobility of 2DESs confined to strained InAs quantum wells as a function of electron density and spacer thickness to the surface. We compare our results to early observation of fractional quantum Hall states in GaAs. [1] R. S. K. Mong, et al. Phys. Rev. X 4, 011036 (2014)

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