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Electron interferometer in the integer QH regime F.E. CAMINO, Stony Brook University, W. ZHOU, V.J. GOLDMAN, Stony Brook University — We report experiments on an electron interferometer fabricated from high mobility, low density GaAs/AlGaAs heterostructure material. In this device, a nearly circular electron island is separated from the 2DES by two nearly open constrictions. In the integer QH regime $f = 1$ and 2, we observe Aharonov-Bohm-like oscillations of conductance. The interference closed path is comprised by the two edge states circling the island, coupled by tunneling in the constrictions, the radius $r \sim 900$ nm is determined from the oscillation period. The radius can be tuned by application of a bias V_{FG} to the four front gates. We find approximately linear dependence $dr/dV_{FG} = 0.25$ nm/mV. We compare the experimental results to the island B = 0 electron density profile obtained in classical electrostatic models of Gelfand and Halperin, PRB **49**, 1862 (1994) and Chklovskii el al., PRB **46**, 4026 (1992).

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