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Coulomb blockade of anyons: coherent quasiparticle transport in multi-antidot systems DMITRI AVERIN, JAMES NESTEROFF, SUNY Stony Brook — We have developed a model for transport of anyonic quasiparticles of primary quantum Hall liquids through systems of multiple antidots weakly coupled to external edges. At energies smaller than the energy gap of the antidots, the quasiparticles behave as *hard-core* anyons, i.e., exhibit fractional exchange statistics, while the on-site Coulomb interaction suppresses the double occupancy of the antidots (thus simulating Fermi exclusion). The hard-core condition implies that the quasiparticle exchanges affect transport only in systems with closed loops. Coherent tunnel coupling of the antidots leads to the formation of stationary states and associated resonant conductance peaks for tunneling between the edges through these states. We have calculated the tunnel conductance for double- and triple-antidot systems and shown that in the case of three antidots connected in a loop, the anyonic exchange statistics manifests itself in both the relative positions and amplitudes of the peaks.

James Nesteroff
SUNY Stony Brook

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