Abstract Submitted
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Spin-orbit focusing of electrons in two dimensions[1] DAVID H. BERMAN, MICHAEL E. FLATTÉ, University of Iowa — The Green function for an electron confined to two-dimensions and experiencing both Rashba and Dresselhaus spin-orbit interactions shows that an initially isotropic distribution of electrons injected at a point can form a narrow beam as electrons move away from the source. This effect depends critically on the ratio of the Rashba to Dresselhaus interaction strengths. Formation of anisotropic distributions can be explained semi-classically using a stationary phase analysis taking into account coalescing stationary points.

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Michael Flatté
University of Iowa

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