

Abstract Submitted
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Superfluid Atom Circuits JEFFREY LEE, AVINASH KUMAR, University of Maryland, JQI, STEPHEN ECKEL, NIST, JQI, FRED JENDRZEJEWSKI, University of Maryland, JQI, WILLIAM PHILLIPS, GRETCHEN CAMPBELL, NIST, JQI, CHRISTOPHER LOBB, WENDELL HILL, III, University of Maryland, JQI — We have constructed basic atom circuits using all optical potentials on an ultracold sodium gas. In the thermal case, we have shown that these circuits contain a structure that is analogous to resistance. In the case of the BEC, where we have a superfluid, it is less clear what the proper analogy is. We will show our progress toward creating this system, and fully exploring its dynamics.

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