

Abstract Submitted
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Measuring the quantum properties of graphene using angle-resolved photoemission spectroscopy CHOONGYU HWANG, Lawrence Berkeley National Laboratory, HUI ZHAI, DAVID A. SIEGEL, University of California, Berkeley/ Lawrence Berkeley National Laboratory, SHUYUN ZHOU, ALEXEI V. FEDOROV, Advanced Light Source, Lawrence Berkeley National Laboratory, DUNG-HAI LEE, ALESSANDRA LANZARA, University of California, Berkeley/ Lawrence Berkeley National Laboratory — Graphene, single carbon layer, exhibits novel properties based on its spinor eigenstates stemming from two sublattices carbon atoms. By using angle-resolved photoemission spectroscopy, we study the origin of the intensity distribution in the constant energy maps as a function of graphene thickness and polarization, and discuss the results in terms of quantum interference effect. Our findings provide one example of quantum properties of graphene and deeper understanding of the photoemission process.

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