

Abstract Submitted
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Doping and Polarization Dependence of the Thin Film C₆₀ Band Structure¹ DREW LATZKE, University of California, Berkeley and Lawrence Berkeley National Laboratory, CLAUDIA OJEDA-ARISTIZABAL, California State University, Long Beach, SINEAD GRIFFIN, University of California, Berkeley and Lawrence Berkeley National Laboratory, JONATHAN DENLINGER, Lawrence Berkeley National Laboratory, JEFFREY NEATON, ALEX ZETTL, ALESSANDRA LANZARA, University of California, Berkeley and Lawrence Berkeley National Laboratory — Experimental electronic band structure studies of buckminsterfullerene (C₆₀) thin films derived from high-resolution angle-resolved photoemission spectroscopy (ARPES) measurements are examined with respect to new theoretical DFT band structure calculations of the unique low-dimensional structure. The dispersive band structure, substrate interaction, and potassium-doping effects are examined and quantified. Observed patterns with photon energy and polarization dependence are explained in terms of electron interactions within and between the buckyball molecules.

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Drew Latzke
University of California, Berkeley and Lawrence Berkeley National Laboratory

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