

Abstract Submitted
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Superconducting graphene sheets in CaC_6 enabled by phonon-mediated interband interactions SHUOLONG YANG, JONATHAN SOBOTA, Stanford University, CHRIS HOWARD, CHRIS PICKARD, University College London, MAKOTO HASHIMOTO, DONGHUI LU, SLAC National Accelerator Laboratory, SUNG-KWAN MO, Lawrence Berkeley National Laboratory, PATRICK KIRCHMANN, SLAC National Accelerator Laboratory, ZHI-XUN SHEN, Stanford University — The superconducting mechanism of graphite intercalation compounds has been under intense debate. To reveal this mechanism, we studied a prototypical compound CaC_6 using angle-resolved photoelectron spectroscopy. Both the calcium-derived and graphene-derived bands were clearly resolved. We performed analysis on the superconducting gaps and electron-phonon coupling constants. We will also discuss the important implications in fabricating superconducting graphene devices.

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