Title:	Conventional superconductivity in the type-II Dirac semimetal PdTe 2
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Keywords:	Tellurium compounds Temperature dependence Bardeen-Cooper-Schrieffer Transition metals
Issue Date:	2018
Publisher:	American Physical Society
Citation:	Physical Review B, 97(1).
Abstract:	The transition metal dichalcogenide PdTe2 was recently shown to be a unique system where a type-II Dirac semimetallic phase and a superconducting phase coexist. This observation has led to wide speculation on the possibility of the emergence of an unconventional topological superconducting phase in PdTe2. Here, through direct measurement of the superconducting energy gap by scanning tunneling spectroscopy, and temperature and magnetic-field evolution of same, we show that the superconducting phase in PdTe2 is conventional in nature. The superconducting energy gap is measured to be 326 μeV at 0.38 K, and it follows a temperature dependence that is well described within the framework of Bardeen-Cooper-Schrieffer's theory of conventional superconductivity. This is surprising because our quantum oscillation measurements confirm that at least one of the bands participating in transport has topologically nontrivial character.
URI:	https://journals.aps.org/prb/abstract/10.1103/PhysRevB.97.014523 (https://journals.aps.org/prb/abstract/10.1103/PhysRevB.97.014523) http://hdl.handle.net/123456789/2173 (http://hdl.handle.net/123456789/2173)
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