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Title:	Generation of strain-induced pseudo-magnetic field in a doped type-II Weyl semimetal
Authors:	Kamboj, S. (/jspui/browse?type=author&value=Kamboj%2C+S.) Sirohi, Anshu (/jspui/browse?type=author&value=Sirohi%2C+Anshu) Vasdev, Aastha (/jspui/browse?type=author&value=Vasdev%2C+Aastha) Sheet, G. (/jspui/browse?type=author&value=Sheet%2C+G.)
Keywords:	Semimetals Possibility Deformations Oscillations
Issue Date:	2019
Publisher:	American Physical Society
Citation:	Physical Review B, 100(11).
Abstract:	In Weyl semimetals, there is an intriguing possibility of realizing a pseudo-magnetic field in the presence of small strain due to certain special cases of static deformations. This pseudo-magnetic field can be large enough to form quantized Landau levels and thus become observable in Weyl semimetals. In this paper we experimentally show the emergence of a pseudo-magnetic field ( $\sim 3$ T) by scanning tunneling spectroscopy on the doped Weyl semimetal Re- MoTe <sub>2</sub> , where distinct Landau-level oscillations in the tunneling conductance are clearly resolved. The crystal lattice is intrinsically strained where large area scanning tunneling microscopy imaging of the surface reveals differently strained domains where atomic scale deformations exist forming topographic ripples with varying periodicity in the real space. The effect of the pseudo-magnetic field is clearly resolved in areas under maximum strain.
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://journals.aps.org/prb/abstract/10.1103/PhysRevB.100.115105">https://journals.aps.org/prb/abstract/10.1103/PhysRevB.100.115105</a> ( <a href="https://journals.aps.org/prb/abstract/10.1103/PhysRevB.100.115105">https://journals.aps.org/prb/abstract/10.1103/PhysRevB.100.115105</a> ) <a href="http://hdl.handle.net/123456789/1872">http://hdl.handle.net/123456789/1872</a> ( <a href="http://hdl.handle.net/123456789/1872">http://hdl.handle.net/123456789/1872</a> )
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