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Fermi Surface of the Half Heusler Compounds $Ce_{1-x}La_xBiPt$ A. D. BIANCHI, J. WOSNITZA, HLD, FZR, P.O. Box 51 01 19, D-01314 Dresden, Germany, N. KOZLOVA, D. ECKERT, L. SCHULTZ, I. OPHALE, S. ELGAZZAR, M. RICHTER, IFW Dresden, D-01171 Dresden, Germany, J. HAGEL, M. DOERR, IFP, TU Dresden, D-01062 Dresden, Germany, G. GOLL, H. V. LÖHNEYSEN, Physikalisches Institut, Universität Karlsruhe, D-76128 Karlsruhe, Germany, G. ZWICKNAGL, Institut für Mathematische Physik, Technische Universität Braunschweig, D-38106 Braunschweig, Germany, T. YOSHINO, T. TAKABATAKE, Department of Quantum Matter, ADSM, Hiroshima University, Higashi-Hiroshima 739-8530, Japan — We report on the Fermi surface in the correlated half-Heusler compound $Ce_{1-x}La_xBiPt$. In $CeBiPt$ we find a field-induced change of the electronic band structure as discovered by electrical-transport measurements in pulsed magnetic fields. For magnetic fields above ~ 25 T, the charge-carrier concentration determined from Hall-effect measurements increases nearly 30%, whereas the Shubnikov–de Haas (SdH) signal disappears at the same field. In the non- $4f$ compound $LaBiPt$ the Fermi surface remains unaffected, suggesting that these features are intimately related to the Ce $4f$ electrons. Electronic band-structure calculations point to a $4f$ -polarization-induced change of the Fermi-surface topology. In order to test this hypothesis, we have measured the (SdH) signal in a $Ce_{0.95}La_{0.05}BiPt$ sample with a low La concentration.

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