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**Quantum Oscillation in noncentrosymmetric superconductor BiPd** MOJAMMEL ALAM KHAN, Louisiana State Univ - Baton Rouge, DAVID GRAF, National High Magnetic Field Laboratory., JOHN DITUSA, DAVID YOUNG, Louisiana State Univ - Baton Rouge — In a noncentrosymmetric (NCS) superconductor (lacking a center of inversion), the order parameter can have a mixture of spin singlet and triplet pairing components, often leading to superconducting properties that deviate from the BCS predictions. BiPd, which crystallizes in monoclinic structure, is NCS and recent experiments on BiPd show complex properties with the possibility of mixed pairing as well as evidence of Dirac surface states. Here we present the measurement of quantum oscillations (dHvA) using torque magnetometry on single crystals of BiPd under applied fields up to 35 T and at temperatures as low as 300 mK. Oscillations were observed at temperatures as high as 20 K, with a clear angle dependence of the oscillations with respect to the crystallographic b-axis.From the Fourier transform analysis of the oscillation data, several pieces of Fermi surface have been identified, which agrees with the theoretical calculations.The total Fermi surface is complex, being composed of multiple sheets of both hole- and electron-like orbits. A small piece of Fermi surface, with frequency 40 T, can be followed in the entire angle sweep. From the temperature dependence of the frequency amplitude the cyclotron effective mass and the corresponding Berry phase have been calculated.

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