

Abstract Submitted
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Fermi-surface topology and field-dependent effective masses in the skutterudite $\text{PrOs}_4\text{As}_{12}$ ¹ PEI-CHUN HO, IPAPS and Physics, UCSD, JOHN SINGLETON, National High Magnetic Field Laboratory, Los Alamos, W. YUHASZ, T. YANAGISAWA, T. SAYLES, BRIAN MAPLE, IPAPS and Physics, UCSD, PAUL GODDARD, Oxford University Physics, A. PIETRASZKO, Z. HENKIE, Institute for Low Temperature and Structure Research, Polish Academy of, HISATOMO HARIMA, Physics, Kobe University — Comprehensive magnetic-field-orientation dependent studies of the de Haas-van Alphen effect have been carried out on single crystals of the skutterudites $\text{PrOs}_4\text{As}_{12}$ and $\text{LaOs}_4\text{Sb}_{12}$ using fields of up to 60 T. The Fermi-surface topologies of the two compounds are found to be very similar; in addition, they are in reasonable agreement with the predictions of bandstructure calculations for $\text{LaOs}_4\text{Sb}_{12}$. However, whilst the quasiparticle effective masses in $\text{LaOs}_4\text{Sb}_{12}$ are field-independent, those in $\text{PrOs}_4\text{As}_{12}$ are found to decrease with increasing field, possibly reflecting the gradual suppression of magnetic fluctuations associated with proximity to the low-temperature, low-field antiferromagnetic state.

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