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**High-resolution x-ray diffraction study of the heavy-fermion compound YbBiPt** B. G. UELAND, S. M. SAUNDERS, S. L. BUD'KO, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University, G. M. SCHMIEDESHOFF, Department of Physics, Occidental College, P. C. CANFIELD, A. KREYSSIG, A. I. GOLDMAN, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University — YbBiPt is a heavy-fermion compound possessing significant short-range antiferromagnetic correlations below $T^* = 0.7$ K, fragile antiferromagnetic order below $T_{\rm N} = 0.4$ K, a Kondo temperature of $T_{\rm K} \approx 1$ K, and crystalline-electric-field splitting (CEF) on the order of $E/k_{\rm B} = 1 - 10$ K. Its lattice is face-centered cubic at ambient temperature, but certain data, particularly those from studies aimed at determining the CEF level scheme, suggest that the lattice distorts at lower temperature. Here, we present results from high-energy x-ray diffraction experiments which show that, within our experimental resolution of $\approx 6 - 10 \times 10^{-5}$ Å, no structural phase transition occurs between 1.5 and 50 K. Despite this result, we demonstrate that the compound's thermal expansion may be modeled using CEF level schemes appropriate for $Yb^{3+}$ residing on a site with either cubic or less than cubic point symmetry.
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