

Abstract Submitted
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Ultrasound in a Metamagnet and the Single Energy Scale Model

B. SHIVARAM, University of Virginia, VERNON ULRICH, Grove City College, PRADEEP KUMAR, University of Florida, V. CELLI, University of Virginia — Ultrasound velocity measurements in the heavy electron compound UPt₃ for magnetic fields up to 33 T are reported. We show that the single energy scale model (B.S.Shivaram et al., Phys. Rev., B89, 24110799(R), 2014) captures the observed key features of the field dependence in the sound velocity shift, δv_s . The shift δv_s at H_c is inversely dependent on temperature above a certain “Dingle Temperature” and assumes a fixed value at very low T. This “saturation” in δv_s is accounted for by level broadening in the single energy scale model..

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