

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Discrepancies Between Theory and Experiment for Field-Dependence and f -wave Interactions in Superfluid $^3\text{He-B}$ C.A. COLLETT, J. POLLANEN, JIA LI, W.J. GANNON, W.P. HALPERIN, Department of Physics and Astronomy, Northwestern University — We have performed transverse acoustics experiments in superfluid $^3\text{He-B}$, exploring the magnetic field splitting of the imaginary squashing mode (ISQ), a collective mode of the order parameter labelled by its total angular momentum $J = 2$. We have compared theoretical calculations¹ of the Zeeman splitting, g_{2-} , and its dependence on the strength of f -wave pairing interactions, x_3^{-1} , with our recent experimental data, showing unexpected discrepancies. We suggest that the origin of these discrepancies can be traced to limits on the applicability of the theoretical calculations at high magnetic field and at frequencies some distance from the order parameter collective mode. We discuss the analysis done by Davis *et al.* in light of those limitations.² This work was supported by the National Science Foundation DMR-1103625.

¹J.A. Sauls and J.W. Serene, Phys. Rev. Lett. **49**, 1183 (1982).

²J.P. Davis *et al.*, Phys. Rev. Lett. **100**, 015301 (2008).

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Date submitted: 22 Dec 2011

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