**Magnetostriction in SmB6**

Jaime, M. (Los Alamos National Laboratory); Liu, H., Hartstein, M., Davies, A.J., Sebastian, S.E. (Department of Physics, U. of Cambridge); Ciomaga Hatnean, M., Balakrishnan, G. (Department of Physics, U. of Warwick).

**Introduction**

 The observation of quantum oscillations in the magnetization unaccompanied by oscillations in the electrical resistance of SmB6 was reported in refs [1], [2], and [3]. Here we study accompanying effects in the crystal lattice [4] using magnetostriction measurements.

**Experimental**

 High-purity single-crystal SmB6 samples were grown by floating zone method and screened with Laue x-ray diffraction and inverse electrical resistivity residual ratios. The optical fibre technique was used to measure magnetostriction over a range of temperatures using the 45T hybrid magnet and a 65T pulsed magnet.

**Results and Discussion**

 We have measured magnetostriction using facilities at the NHMFL up to 45T and at the LANL up to 60T. Fig. 1 shows the magnetostriction measured in pulsed fields on samples with a smooth surface to avoid shear lag. The data shown in Fig. 1 are seen to be dominated by mechanical vibrations (Fig. 1).

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**Fig. 1.** Measured magnetostriction in a single crystal of SmB6 with a 65T pulsed magnet. The data are dominated by mechanical vibrations, which are evident from the difference between the upsweeps and downsweeps.

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