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Texture Transition in the Superfluid B-phase of ^{3}He in Anisotropic Silica Aerogel[1] MAN NGUYEN, ANDREW ZIMMERMAN, WILLIAM HALPERIN, Northwestern Univ — Superfluid ^{3}He in the presence of silica aerogel is a model system to reveal the effects of disorder in condensed matter systems. Our NMR spectroscopy uncovered strikingly different phase diagrams between isotropically and anisotropically distributed impurities, indicating that the precise nature of impurities plays a strong role in the relative stability of phases.[1,2] Anisotropy, introduced through either negative or positive strain on the aerogel, acts as another experimental control parameter. Here we report observations of a strain-driven, textual transition of the order parameter in the B-like superfluid phase of ^{3}He in negatively strained aerogel. The interplay between strain and other control parameters such as pressure and magnetic field is also discussed. Results suggest multiple lengths-scales introduced by the anisotropic aerogel are important in stabilizing phases and textures. This work was supported by the National Science Foundation, DMR-1103625.

1. J. I. A. Li *et al.*, Phys. Rev. Lett. **112**, 115303 (2014)
2. J. I. A. Li *et al.*, Phys. Rev. Lett. **114**, 105302 (2015)

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