Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Non-contact AFM Imaging of the Surface of Freely Suspended Liquid Crystal Films[1] CHRISTOPHER HAWLEY, Dept. of Physics, Lawrence University, Appleton, WI 54912-0599, JEFFREY COLLETT, Dept. of Physics, Lawrence University, Appleton, WI 54912-0599 — The surfaces of freely suspended thick films of 7O.7 in modulated crystalline-B phases have been imaged using non-contact mode atomic force microscopy. Large-scale images show 3 nm steps at the edges of layers on the surface of thick films that are adjacent to large flat areas. Previous models of x-ray diffraction measurements indicate that some of the crystalline-B phases of 70.7 have static modulations with amplitudes of 0.4 nm and a period of about 10 nm[1]. No surface modulations are seen, suggesting either that the modulations are not static or that the surface structure differs from that of the bulk. [1] E. B. Sirota, P. S. Pershan, and M. Deutsch, Phys. Rev. A 36, 2902 (1987).

[1]Supported by the W. M. Keck Foundation and NSF award DUE-0532573

Jeffrey Collett
Department of Physics, Lawrence University, Appleton, WI 54912-0599

Date submitted: 20 Nov 2006 Electronic form version 1.4