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Structure within bent-core liquid crystals films at the air/water interface LU ZOU, JI WANG, ELIZABETH K. MANN, Department of Physics, Kent State University, ANTAL JÁKLI, Liquid Crystal Institute, Kent State University, Kent, OH 44242, WOLFGANG WEISSFLOG, Univ. Halle Wittenberg, Inst. Phys. Chem., D-06108 Halle Saale, Germany — Films of three different classes of bent-core liquid crystals in Langmuir thin films at the air-water interface are considered. X-ray diffraction studies complement characterization of the films by surface pressure, Brewster angle microscopy, x-ray, and surface potential measurements. Both the end chains and the dipole moment of the core are varied, to allow an exploration of different possible layer structures at the interface. Depending on the end chains, we see either liquid phases of molecules flat on the surface or ordered phases with correlation length $\sim 10\text{nm}$; both cases give homogeneous, optically isotropic films. This material is based upon work supported by the National Science Foundation under Grant No.9984304. The surface potential work was supported by the Petroleum Research Fund, under grant ACS PRF# 35293-G 7. Use of the Advanced Photon Source was supported by the U.S. Department of Energy, Basic Energy Sciences, Office of Science, under Contract No W-31-109-Eng-38.

Elizabeth Mann
Kent State University

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