

Abstract Submitted
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Phase separation in a DMPC/Dchol mixed Langmuir Film: A combined Brewster Angle, Fluorescence and Light Scattering Microscopy study¹ PRITAM MANDAL, FANINDRA BHATTA, Department of Physics, Kent State University, ARNE GERICKE, Department of Chemistry & Biochemistry, Worcester Polytechnic Institute, EDGAR KOUIJMAN, Department of Biology, Kent State University, Kent, DAVID ALLENDER, ELIZABETH MANN, Department of Physics, Kent State University — Fluorescence microscopy (FM) is one of the most direct imaging techniques for in situ observation of morphology and phase-separation at the macroscopic scale [1] in lipid mono- or bi-layers. However, the presence of fluorescent dye-molecules can affect the system. In Brewster Angle Microscopy (BAM), one can image monomolecular Langmuir films without probes. Here, using a composite set-up of BAM, FM and Light Scattering Microscopy (LSM), we present a comparative study of the three techniques on a binary lipid mixture in the presence of two different probes. In most cases, all three techniques show precisely the same domains. However, depending on conditions, some domain types were more evident in one technique than the others. This established, we can directly test the influence of probe on the domain structure.

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