

Abstract Submitted
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Surface morphology of SiO deposited substrates and alignment of nematic LC*¹ LEELA JOSHI, SATYENDRA KUMAR, Department of Physics, Kent State University, Kent, OH 44242, RICCARDO BARBERI, Physics Department, University of Calabria, 87036 Rende (CS), Italy — Glass substrates with thin film of SiO are known to align nematic liquid crystals homogeneously for oblique deposition. X-ray reflectivity was employed to probe the surface morphology of approximately 150Å thick SiO films deposited at different landing angles. The interfacial roughness and morphological anisotropy was determined along the two orthogonal in-plane directions and the average electron density profile of the film calculated. The results show that the homogeneous and planar aligning films consists of SiO film with different roughness anisotropy and film thickness. The results will be discussed in light of previous reflectivity and AFM results on SiO [1] and other [2] surfaces. [1]. R. Barberi, Giocondo, G.V. Sayko, A.K. Zvezdin, Phys. Lett. **A213**, 293 (1996). [2]. S. Kumar, J.-H. Kim, and Y. Shi, Phys. Rev. Lett. **94**, 077803 (2005).

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