

MAR05-2004-002005

Abstract for an Invited Paper
for the MAR05 Meeting of
the American Physical Society

Time-dependent structure of polymer brushes¹

JACOB KLEIN, Oxford University/Weizmann Institute

The time dependence of polymer brush structure may be viewed at a number of levels: One level is the construction time for a brush from solution of polymers that self-assemble on a surface by attachment at one end only to form the brush; another concerns the relaxation of brushes towards equilibrium after they have been sheared, a property of importance for lubricating brushes. The talk will consider progress at both of these levels, especially the effect on the first level of varying the brush-end sticking energy, and the effect on the second level of shear of mutually-compressed sliding brushes.

¹Work done with S. Titmus, I. Dunlop, W. Briscoe, G. Sakellariou, N. Hadjichristidis, R. Tadmor, J. Janik, L. Fetters