

AN OVERVIEW OF MODELS FOR ENTANGLED DYNAMICS

A.E. Likhtman

University of Reading, Department of Mathematics, Reading, UK

a.likhtman@reading.ac.uk

I will briefly describe my recent book chapter about models of polymer dynamics. I will start with models for unentangled dynamics and compare molecular dynamics simulations with many available single-chain models. In particular, I will show some detailed Rouse-modes analysis and detailed comparison of the static properties. I will then turn my attention to existing models for entangled dynamics, such as tube theory, slip-links models and chain in an array of obstacles. I will show the comparison of these models with molecular dynamics and highlight the conceptual problems standing on the way of further developments.