

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**Simulation of Line Edge Roughness in Weakly Segregated and Strongly Segregated Diblock Copolymer Resists** AUGUST BOSSE, Polymers Division, National Institute of Standards and Technology — We discuss phase-field simulations of  $A$ - $B$  interfacial roughness (*i.e.*, “line edge roughness”) in weakly segregated and strongly segregated  $AB$  diblock copolymer resists. Line edge roughness—in particular, long-wavelength line edge roughness—can be especially troublesome for resist scientists because of its ability to disrupt final device function. We examine the relative magnitude *and* spectral character of long-wavelength line edge roughness in weakly segregated and strongly segregated  $AB$  diblock copolymer resists using a stochastic version of the Leibler-Ohta-Kawasaki phase-field theory of block copolymer ordering [T. Ohta and K. Kawasaki, *Macromolecules* **19**, 2621 (1986)].

August Bosse  
Polymers Division, National Institute of Standards and Technology

Date submitted: 20 Nov 2009

Electronic form version 1.4