1005-92-207   **Paul A Milewski*** (`milewski@math.wisc.edu`), University of Wisconsin, Madison. *Modeling of immunocolloid labeling and steric hindrance effects.*

We discuss the modeling of immunocolloid labeling (IL). IL is a process whereby a biological sample is immersed in a colloid suspension of gold spheres conjugated with antibodies. The antibodies bind with high specificity to receptors on the sample which can then be imaged with an electron microscope. We discuss the modeling of this process (a diffusion equation with surface reaction terms) and pay particular attention to the continuum modeling of the geometric interference of the spheres with each other and the receptors on the sample (steric hindrance effects). We also compare our results to experimental data. (Received February 14, 2005)