

Numerical Methods for Pattern Formation Problems in Biology

Chichia Chiu

Department of Mathematics, MSU

email: chiu@math.msu.edu

phone: 432-1618

Abstract: Multi-dimensional reaction-diffusion systems and reaction-diffusion-chemotaxis systems are the general mathematical models for studying pattern formation problems in chemistry and biology. In this talk, some efficient numerical algorithms will be discussed for solving these models. These include ADI methods (Alternating Direction Implicit methods), multigrid techniques and multistage methods. Numerical results will be shown.