1116-35-820   **Junping Shi*** (`jxshix@wm.edu`), Department of Mathematics, College of William and Mary, Williamsburg, VA 23187. *Structure of attractors for the reaction-diffusion systems in chemical and biological models.*

For many reaction-diffusion systems in chemical and biological models, it is known that an attractor exists for the underlying dynamics. But other than the gradient systems, the precise structure of the attractors is not known. We demonstrate that in many cases, the attractor is consisted of a large number of steady state solutions and periodic orbits, and the bifurcation diagram for the system can be very complicated. For simplified patch ODE models, we show that a more precise picture of the attractor can be obtained. (Received September 13, 2015)