

Dynamics of interface-reaction equations

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Abstract. Pattern formation of reaction-diffusion system has been of interest for many years. Many interesting phenomena have been observed experimentally and numerically. However, it is difficult to handle the dynamics of these phenomena mathematical rigorously. To overcome this difficulty, we introduce a simple model of an excitable system based on a free boundary problem, which is called a interface-reaction system in this talk. I will explain the global dynamics of solutions of this model. First I will explain the global stability of the traveling pulse and then I will explain that the global dynamics of solutions is classified into three cases. This is a joint work with Yan-Yu Chen and C.-H. Wu.