Ananta Acharya* (a_achary@uncg.edu), 116 Petty Science Building, Department of Mathematics, UNC Greensboro, Greensboro, NC 27402, and Nalin Fonseka, Juan Quiroa and Ratnasingham Shivaji. Sigma Shaped Bifurcation Curves.

We study positive solutions of steady state reaction diffusion equation where a parameter λ influences the equation as well as the boundary condition. We show that there exist multiple positive solutions for certain range of λ such that we get a sigma shaped bifurcation diagram. We prove our results using the method of sub-super solutions. (Received March 05, 2021)