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Gregory Toole* (gtoole@math.fsu.edu) and **Monica K. Hurdal**. *Linear Stability Analysis of a Turing Reaction-Diffusion System on an Exponentially Growing Prolate Spheroidal Domain*.

Turing reaction-diffusion systems of two partial differential equations have been used to generate patterns for the mathematical study of many biological and chemical phenomena. Such systems have been predominantly studied on static domains, but growing domain Turing systems have become an increasingly popular tool for pattern generation. Linear stability analysis is a key component of analysis of any Turing system, allowing one to generate mathematical conditions (often called “Turing conditions”) that ensure the system will exhibit Turing pattern generation. We will employ linear stability analysis to obtain Turing conditions for a reaction-diffusion system on an exponentially growing prolate spheroidal domain. (Received January 17, 2012)