Texas Tech University - Department of Mathematics and Statistics
Seminar in Applied Mathematics

On the continuity of families of global, pullback and uniform attractors

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ABSTRACT. Let Λ be a complete metric space, and let $\{S_\lambda(\cdot) : \lambda \in \Lambda\}$ be a parametrized family of semigroups with global attractors A_λ. We assume that there exists a fixed bounded set D such that $A_\lambda \subset D$ for every $\lambda \in \Lambda$. We show that the attractors A_λ are continuous with respect to the Hausdorff distance at a residual set of parameters λ in the sense of Baire Category. This result is then extended to the pullback and uniform attractors of a family of processes for non-autonomous systems. In applications, we consider the Lorenz system and two-dimensional Navier-Stokes equations. This is joint work with Eric Olson (University of Nevada, Reno) and James Robinson (University of Warwick).