Mathematics, Statistics, and Computer Science   **@ UIC**

Analysis and Applied Mathematics Seminar

Evolutionary system, global attractor, trajectory attractor, and applications

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Abstract: I will review some resent results on the long-time behavior of the nonautonomous 3D Navier-Stokes equations and general nonautonomous reaction-diffusion systems. The method is based on a new framework of evolutionary systems that deals directly with the notion of a uniform global attractor due to Haraux, and with which a trajectory attractor can be defined for the original system under consideration. The notion of a trajectory attractor was previously established for a system without uniqueness by considering a family of auxiliary systems including the original one. I will also expound on the existence of a strongly compact strong trajectory attractor when the system is asymptotically compact, and how we view the global and trajectory attractors in a unified way. Part of the results of the talk is a joint work with Cheskidov.

Monday, February 15 at 4:00 PM in SEO 636