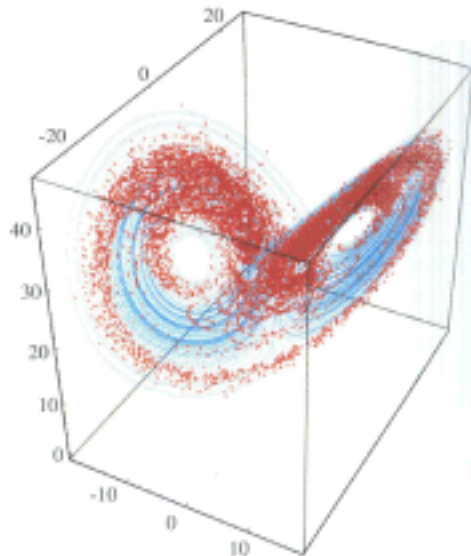
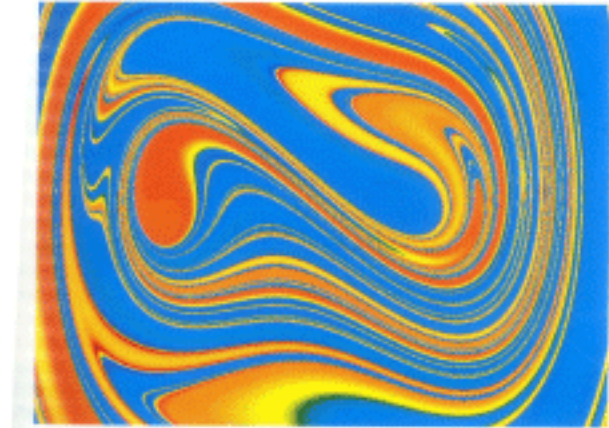


CDS 104

Introductory Concepts for Dynamical Systems

COURSE DESCRIPTION: CDS 104 is aimed at students who are new to nonlinear dynamics, especially those in chemistry, biology, physics, and engineering. Our goal is to explain this subject in a direct and simple way, and to show how it can be used to understand the wonders of nonlinear world. We will use the textbook written by Strogatz whose mathematical treatment is friendly and informal, yet still careful. Computation, concrete examples, and geometric intuition will be stressed. We will cover chapters on phase plane analysis, limit circles, bifurcation as well as chaos, with applications to physics, biology, chemistry, and engineering. These materials should provide students with a good grounding on nonlinear methods.



Instructor: W.S. Koon

<http://www.cds.caltech.edu/~koon/>

Spring Term 2005: TuTh 2-3pm, 125 Steele

6 units [satisfies undergraduate CDS minor requirement]

Textbook: Steven Strogatz, *Nonlinear Dynamics and Chaos with Application to Physics, Biology, Chemistry, and Engineering*

For further information:

<http://www.cds.caltech.edu/academics/courses/index.php#spring>