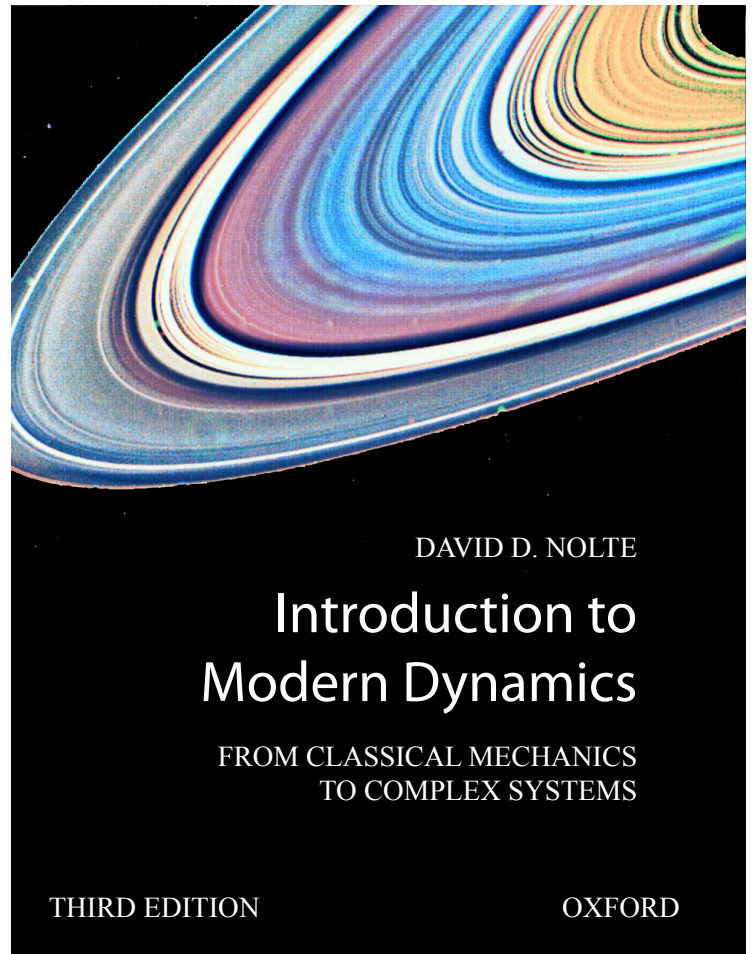
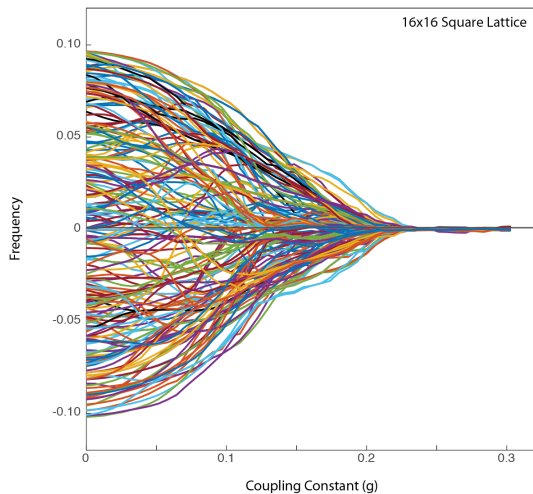


Introduction to Modern Dynamics:

From Classical Mechanics
to Complex Systems



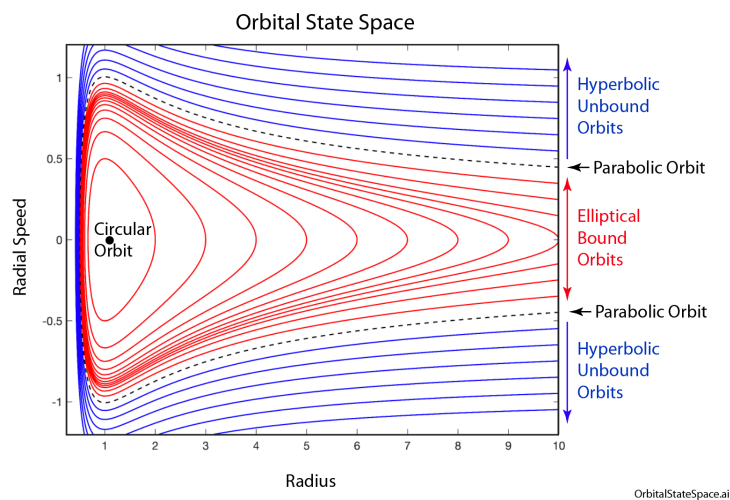
Modernizing Classical Mechanics

Show your students where modern dynamics is today and how it can
help them in graduate school and beyond.

The Physics of the Real World is *Complexity*!

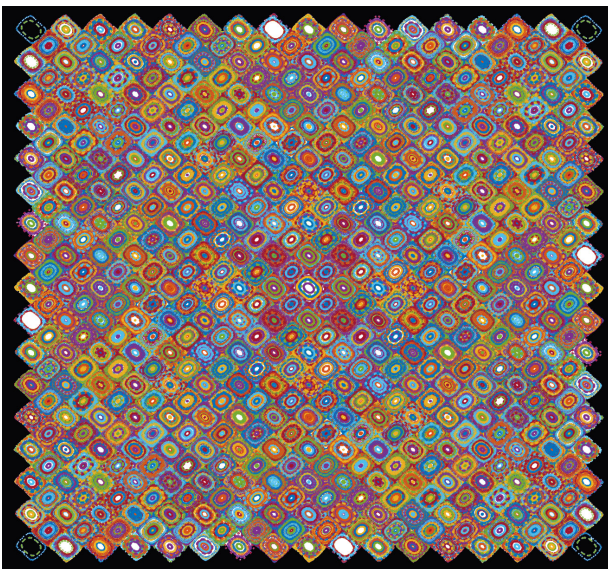
The Principle of Stationary Action

The action principle underpins virtually all Lagrangian and Hamiltonian physics. It is a geometric principle that governs the orbits of planets around distant stars as well as the flow of the Jet Stream around the Earth. It is the origin of the idea that “Physics is Geometry”, guiding the modern view of mechanics and dynamics and making them relevant in today’s world.



Chaos

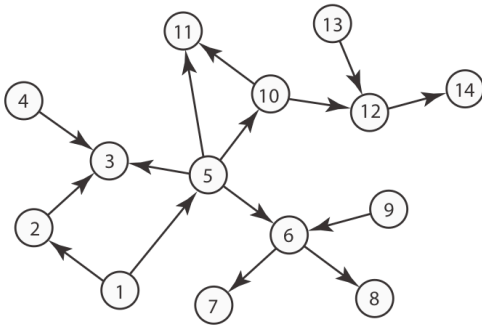
Deterministic chaos is perhaps the best way to show how the physics of complexity arises from simple principles.



Networks

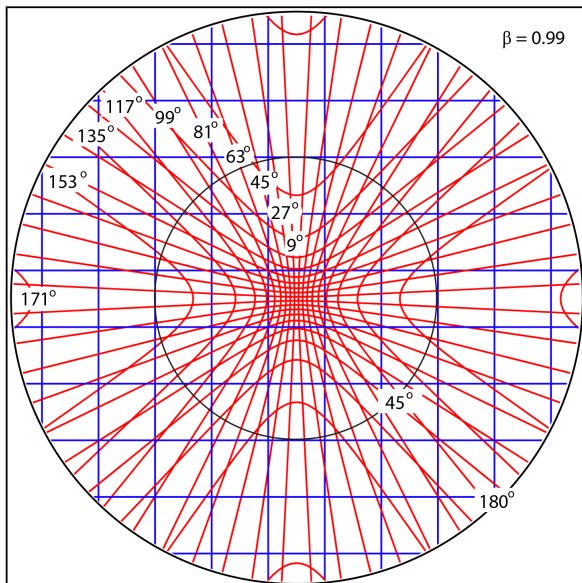
The World is not a Stage ... it's a Graph! Everything is connected. The physics of (and on and in) networks is central to any current thinking of complex systems.

Directed Random Graph



Special and General Relativity

The secret to understanding relativity is not that everything is relative ... but to find those things that are invariant, and geometry is the key.



Transition your Teaching from Classical to Modern Dynamics

With "Introduction to Modern Dynamics" you can transition your classical mechanics lecture notes by expanding them and reframing them in the context of geometric physics.

Request your examination copy of Introduction to
Modern Dynamics from Oxford University Press
today!