

abstract

Ruth and Irving Adler Lecture
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

The Lorenz differential equations, a system of non-linear ODE's in 3 space variables and time, have become well-known as the prototypical chaotic dynamical system with a 'strange attractor'. A periodic orbit in the associated flow on \mathbb{R}^3 is a closed curve in \mathbb{R}^3 , and it turns out that (with some well-understood exceptions) the orbits are naturally knotted. They are known as 'Lorenz knots', and they turn out to be a most interesting family. Even more, recent work has shown that Lorenz knots play a role in more parts of mathematics than anyone had anticipated, and have unexpected meaning therein.