

UCCS GRADUATE STUDENT PRESENTATION

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12:30pm -1:00pm

UC 307

Modeling the Chaotic Waterwheel

In 1963 Edward Lorenz derived a three-dimensional system from a simplified model of convection rolls in the atmosphere. Minute variations in the initial conditions of this system resulted in large changes in the behavior of the system. In the 1970s, a chaotic waterwheel was designed at MIT that models the Lorenz equations.

In this talk we will derive a system of equations modeling the behavior of the chaotic waterwheel. We then show that the waterwheel's system is equivalent to the Lorenz equations.