

Colloquium

Does a simple system display complex dynamics?

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地 點：應用數學系多媒體教室（理 408 室）

摘 要：

In this speech, some simple systems, such as the Lorenz, the Rössler and Chen-Lee systems will be introduced. All these simple systems can display a rich of dynamic behaviors. Especially, the chaotic motion of systems will be presented in this talk. Chaos is a field of study in mathematics, with applications in several disciplines including meteorology, sociology, physics, engineering, economics, biology, and philosophy. Chaos theory studies the behavior of dynamical systems that are highly sensitive to initial conditions. Small differences in initial conditions yield widely diverging outcomes for such dynamical systems, rendering long-term prediction impossible in general. Chaotic behavior can be observed in many natural systems, such as weather and climate. There are four parts in this speech as follows:

- 1.Weather forecast
- 2.What is chaos?
- 3.How to identify chaotic motions?
- 4.Chen-Lee system.