

Chaotic itinerancy in globally coupled logistic maps

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Chaotic itinerancy (CI) is a type of dynamical behavior observed in high-dimensional dynamical systems. In CI, orbits are attracted to an ordered motion state and stay there for a while. Eventually, they depart from the ordered state and enter into high-dimensional chaotic motion. After some time, they once again reach an ordered state and this process continues. These ordered motion states are called attractor ruins. We analyze the transitions between attractor ruins that occur without any clear pattern.

This phenomenon has been observed across various domains, including neural dynamics and optical turbulence [1]. In this talk, I will describe a globally coupled logistic map, which is a simple prototype model for chaotic itinerancy in a symmetric dynamical system.

- [1] Kaneko, K., & Tsuda, I. (2003). *Chaotic itinerancy*. *Chaos*, 13(3), 926-936