

APPLIED DYNAMICAL SYSTEMS SEMINAR

Perturbing the formation of a decision

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Decisions based on uncertain sensory information has been attributed to the accumulation of information over time. Several models have been developed to fit the behavioral (choice reaction time and accuracy) and/or neurophysiological data from human or animal experiments. These models share some common characteristics: noisy integration of information over time toward some decision criterion or threshold. However, the models usually differ in the way they specifically integrate the sensory information, e.g. "perfect" or "leaky" integration. In this talk, I will discuss a specific experiment that studies how time-varying stimulus perturbation can affect perceptual decision-making. Through computer simulations and theoretical analysis, I will discuss whether this time-varying perturbation approach can help to identify the type of neural network underlying decision formation.