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Data-Driven Framework for Uncovering Hidden Control Strategies in Evolutionary Analysis

Wednesday, October 25, 2023 3:00 PM (30 minutes)

Natural risks are characterized primarily by their uncontrollability, or at least, their difficulty in being controlled. In this instance, the goal is to try to understand the mechanism that causes these hazards as well as the variables that affect the processes' evolutionary behavior. In this talk, we provide a data-driven approach for identifying an evolutionary system's hidden control mechanisms. This approach enables deciphering of the hidden processes that leads to these kinds of hazard circumstances. Model predictive control is extended by using new techniques to determine the best control together with the parameters for evolution in general dynamical systems. This is a major divergence from traditional control approaches, which call for an understanding of the system, the capacity to influence its course, and the controller's approach or parameters.

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