Extreme Events in Dynamical System

Contributed Talk

Suresh Kumarasamy

Centre for Artificial Intelligence, SRM Group of Institutions, Ramapuram, Chennai, Tamil Nadu, India

Extreme events (EE) often occur unexpectedly, leading to devastating consequences in both natural and societal contexts. Understanding the dynamic origins of EE, their distinct transitions, and the potential for early prediction has become a critical challenge in recent years. Gaining such insights is essential for minimizing the impacts of unanticipated natural disasters and addressing the escalating effects of global warming. Dynamical systems theory provides a powerful framework for studying a wide range of complex systems, offering valuable tools to enhance EE research and equip scientists and decision-makers with actionable insights. This talk delves into detailed studies of the emergence of extreme events across various dynamical systems, focusing on their underlying mechanisms.