DEPARTMENT OF PHYSICS AND ASTRONOMY and THE CENTER FOR SIMULATIONAL PHYSICS

2024 Chhabra-Landau Lecture

Wavelength Selection by Additive Stochastic Noise in a Driven Out of Equilibrium System

J Michael Kosterlitz

Harrison E. Farnsworth Professor of Physics, Brown University
2016 Nobel Prize winner for Physics
Member of the National Academy of Science

I discuss a partly analytic demonstration of selection of a unique state by stochastic noise in a driven out of equilibrium system – the 1D Stabilized Kuramoto-Sivashinsky equation with additive stochastic noise. A possible extension of this counter intuitive result may have implications for the evolution of biological systems.

S. Saxena and J.M. Kosterlitz, Phys Rev **E 100**, 022223 (2019); E **103**, 012205 (2021) (numerical);
Y.-C. Chen, C. Shi, J.M. Kosterlitz, X. Zhu and P. Ao, Proc. Natl. Acad. Sci. **117**, 23227 (2020), **119**, e2211359119 (2022) (analytic & numerical).

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Thursday, March 14, at 3:55 PM

Physics Building Room 202

Via Zoom: https://zoom.us/j/99879004873?pwd=Vkp2dHJDdU9tcnpNUWp5SFk4QVIvQT09

Local Contact: Prof. Phillip Stancil, pstancil@uga.edu