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Computational Mathematics Seminar Series

Noise-induced transition for the Kuramoto-Sivashinsky equation**Xiaoliang Wan, LSU**Johnston Hall 338
September 08, 2009 - 03:10 pm**Abstract:**

Noise-induced transition in the solutions of the Kuramoto-Sivashinsky equation is investigated using the minimum action method derived from the large deviation theory. This is then used as a starting point for exploring the configuration space of the Kuramoto-Sivashinsky equation. The particular example considered here is the transition between a stable fixed point and a stable traveling wave. Five saddle points, up to constants due to translational invariance, are identified based on the information given by the minimum action path (MAP). Heteroclinic orbits between the saddle points are identified. Relations between noise-induced transitions and the saddle points are examined.

