2003 Vol.40 No.6 pp.665-668 DOI:

Flux for a System with Infinite Globally Coupled Oscillators Driven by Temporal-Spatial Noises

HAN Yin-Xia,[1,2] LI Jing-Hui,[1] and CHEN Shi-Gang[1]

[1] Center for Nonlinear Studies, Institute of Applied Physics and Computational Mathematics, P.O. Box 8009(28), Beijing 100088, China

[2] Graduate School of China Academy of Engineering Physics, P.O. Box 2101, Beijing 100088, China

(Received: 2003-4-8; Revised:)

Abstract: The transport of a spatially periodic system with infinite globally coupled oscillators driven by temporal-spatial noises is investigated. The probability current shows that the correlation of the multiplicative noises with the space, the spatial asymmetry, and the coupling among the different oscillators are ingredients for the transport of particles. It is a new phenomenon that the correlation of the multiplicative noises with the space can induce the nonzero flux.

PACS: 05.40.Ca

Key words: flux, transport, temporal-spatial noises

[Full text: PDF]

Close