Multidimensional discrete phase system with piecewise linear characteristic

© A.F. Gribov

Bauman Moscow State Technical University, Moscow, 105005, Russia

We study the mapping that serves as a mathematical model of the system of phase synchronization with discrete time. The conditions of the existence of hyperbolic attractors are derived. We prove the existence of homoclinic trajectories leading to the emergence of hyperbolic attractors.

Keywords: phase system, map, bifurcation, hyperbolic attractor.

Gribov A.F., Ph.D., Assoc. Professor of the Mathematical Modelling Department of Bauman Moscow State Technical University. e-mail: alexandr-gribov@list.ru