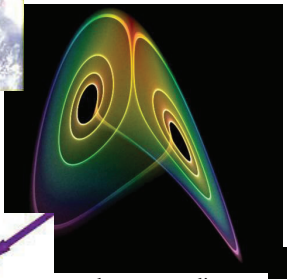
Research (What is it about?)	**Strange attractors in three-dimensional maps**
UNN authors	*Gonchenko A.S., Gonchenko S.V.*
We find (The result)	We show that three-dimensional maps may have only 5 different types of pseudohyperbolic attractors that contain only one fixed point
Abstract	Attractor is a set of numerical values (trajectory in phase space) toward which a system tends to evolve, for a wide variety of starting conditions of the system. System values that get close enough to the attractor values remain close even if slightly disturbed. The attractors in the form of curves and surfaces are long-known. In some cases the attractors of fractal structure can be arise (which describe a dynamic chaos). They named as ***strange attractors***. The basic types of strange attractors for two-dimensional maps (diffeomorphisms) and three-dimensional dynamic systems were identified earlier. The result is generalized for three-dimensional maps. Such attractors are genuine strange attractors in that sense that each orbit in the attractor has positive maximal Lyapunov exponent and this property is robust, i.e., it holds for all close systems. We show that three-dimensional maps may have only 5 different types of such attractors, which we call the discrete Lorenz, figure-8, double-figure-8, super-figure-8, and super-Lorenz attractors. We find the first four types of attractors in three-dimensional generalized Henon maps of form (x) over bar = y, (y) over bar = z, (z) over bar = Bx + Az + Cy + g(y, z), where A, B and C are parameters (B is the Jacobian) and g(0, 0) = g'(0, 0) = 0

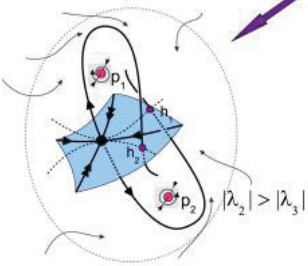
Representative articles 2016-2017, quartiles	1. *Gonchenko A.S., Gonchenko S.V.* Variety of strange pseudohyperbolic attractors in three-dimensional generalized Henon maps. Physica D. **337**, 43-57 (2016).	Q1, Q2,Q2
	Q-index (Qi) of the result	**3.33**

In collaboration	–

One of simplest attractors.

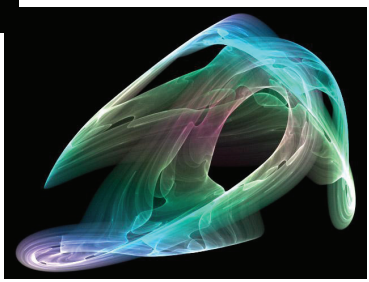


The classic strange attractor of Lorenz's type…



and corresponding specific points and trajectories.

Three-dimensional strange attractor:



The basic types of strange attractors for three-dimensional polynomial maps (two-dimensional projections).