Thus, the discussion is focused on chaotic attractors bounded in the space variables. This is important for applications, and it remains legal through our suggestions.

There are different types of chaos. The first one is the homoclinic chaos [4], which is generated from the famous manuscript of Poincaré [1]. Another one is the Devaney chaos [5] whose ingredients are transitivity, Lorenz sensitivity [6] and the existence of infinitely many unstable periodic motions, which are dense in the chaotic attractor. The third one is the Li-Yorke chaos [7], which is characterized by the presence of a scrambled set in which any pair of distinct points are proximal and frequently separated. One can see that the crucial difference of the homoclinic chaos from the others is the sensitivity and frequent separation features. When one says about homoclinic chaos it is assumed that there is the homoclinic structure, and moreover, there is instability. Lorenz [6] was the first who precised the divergence of neighbor motions as sensitivity, a specific sort of instability and this was followed by Li and Yorke [7], when they use frequent separation and proximality for the same purpose. The absence of the quantitative description of instability makes homoclinic chaos different from the late definitions, and this causes some sort of inconvenience. This is because the sensitivity is assumed to be one of the main ingredients of chaos in its modern comprehension. H. Poincaré himself was aware about the divergence of initially nearby trajectories, but had not given exact prescriptions how it should be proceeded. This is why, one can say that the puzzle construction, which was initiated and designed by the French genius is not still completed. In our study, we are trying to make a contribution to this puzzle working. For that purpose we have utilized open Poisson stable motions, which accompany homoclinic chaos [4]. In paper [2] we developed the concept of Poisson stable point to the concept of unpredictable point utilizing *unpredictability* as individual sensitivity for a motion. Thus, by issuing from the single point of a trajectory we use it as the Ariadne's thread to come to phenomenon, which we call as *Poincaré chaos* in [2]. This phenomenon makes the all types of chaos closer, since it is another description of motions in dynamics with homoclinic structure and from another side it admits ingredients similar to late chaos types. That is, transitivity, sensitivity, frequent separation and proximality. Presence of infinitely many periodic motions in late definitions can be substituted by continuum of Poisson stable orbits. Our main hopes are that this suggestions may bring research of chaos back to the theory of classical dynamical systems. The strong argument for this, is the fact that we introduced a new type of motions. That is the already existing list of oscillations in dynamical systems from equilibrium to Poisson stable orbits is now prolonged with unpredictable motions. This enlargement will give a push for the further extension of dynamical systems theory. In applications, some properties and/or laws of dynamical systems can be lost or ignored. For example, if one considers non-autonomous or non-smooth systems. Then we can apply unpredictable functions [3], a new type of oscillations which immediately follow almost periodic solutions of differential equations in the row of bounded solutions. They can be investigated for any type of equations, since by our results they can be treated by methods of qualitative theory of differential