

On dynamical systems, entropy and certain classes of real functions

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It is commonly accepted that if entropy of a function is positive, the function is chaotic. The analysis of different examples of functions leads us to the interesting observation that chaos, and therefore also entropy of a function, may be focused around one point. There are a lot of theories, which emphasize the importance of the problem connected with focusing entropy of a function on a set or at a point. It seems appropriate to assume that the essence of such points should be connected with a behavior of a function exclusively around this point.

During the research related to points focusing entropy it turned out that there are functions which “attracts” positive entropy at a point. This means that each function “lying near” given function has a positive entropy on every open neighborhood of a given point. During the talk issues connected with points focusing entropy and functions attracting positive entropy will be presented.

Many studies concerning dynamical systems are strictly connected with asymptotic properties of orbits. In particular, the basic questions regard the behavior of orbits of points lying close to a fixed point of a dynamical system. It leads to the issue of stability. During the lecture we will also concentrate on some kind of stability at a point.

Usually, studies related to dynamical systems are connected with systems consisting of continuous functions. During the lecture, in addition to continuous functions, almost continuous functions (in the sense of Stallings) and approximately continuous functions will also be considered.
