Quantitative aspects of the shadowing property

Sergey Tikhomirov

Saint Petersburg State University, St. Petersburg, Russia
stikhomirov@spbu.ru

The shadowing theory studies properties of pseudotrajectories. Pseudotrajectories naturally appears in various situations: presence of a noise, not complete information about the law of evolution, it appears as a result of round-off errors in numerics.

The shadowing theory starts its rapid development after celebrated work of Anosov on structural stability of geodesic flows on manifolds of negative curvature. In particular Anosov proved that in a neighborhood of a hyperbolic set any pseudotrajectory can be shadowed by an exact trajectory.

In the talk we discuss some of recent results on shadowing theory devoted to quantitative and probabilistic aspects of shadowing.