1077-37-678 **Sergey Tikhomirov*** (sergey.tikhomirov@gmail.com), Arnimallee 3, 14195 Berlin, Germany.
Holder shadowing on finite intervals.

We study the Holder shadowing property for diffeomorphisms of a compact manifold. We proved that if any d-pseudotrajectory of diffeomorphism f can be d^α shadowed by an exact trajectory on intervals of length $1/d^\alpha$ for $\alpha > 1/2$ then f is in fact structurally stable.

We discuss connections of this problem with Katok's question: "Does any diffeomorphism Holder conjugated to Anosov must be Anosov by itself?" and Hammel-Grebogi-Yorke conjecture on shadowability of Henon map.

The main technique is consideration of inhomogeneous linear equation

$$v_{k+1} = A_k v_k + w_{k+1},$$

where A_k are differential of the diffeomorphism along an exact trajectory and w_k is an arbitrarily bounded sequence. (Received September 09, 2011)