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Chaotic dynamics in systems with hysteresis

We consider a dynamical system with hysteresis. The system is motivated by general-equilibrium macroeconomic models that attempt to capture risks and memory dependence of realistic economic agents. Global dynamics and bifurcations of this system are studied depending on two parameters. We show that for a certain open set of parameter values, the system exhibits chaotic behavior. To understand the nature of this type of chaos, we introduce a map, which we call the Saw map, and discuss its properties.

SCIENTIFIC SEMINAR
"DIFFERENTIAL GEOMETRY AND APPLICATIONS"

headed by Academician of RAS Anatoly T. Fomenko

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