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Simple chaotic flows with a line equilibrium. (English) Zbl 1355.37056

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Summary: Using a systematic computer search, nine simple chaotic flows with quadratic nonlinearities were found that have the unusual feature of having a line equilibrium. Such systems belong to a newly introduced category of chaotic systems with hidden attractors that are important and potentially problematic in engineering applications.

MSC:

37D45 Strange attractors, chaotic dynamics of systems with hyperbolic behavior
34C28 Complex behavior and chaotic systems of ordinary differential equations
34C05 Topological structure of integral curves, singular points, limit cycles of ordinary differential equations
37M05 Simulation of dynamical systems

Cited in **2** Reviews
Cited in **134** Documents

Keywords:

line equilibrium; quadratic nonlinearity; hidden attractor

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