

Guckenheimer, John; Holmes, Philip**Nonlinear oscillations, dynamical systems, and bifurcations of vector fields.** (English)

Zbl 0515.34001

Applied Mathematical Sciences, 42. New York etc.: Springer-Verlag. XVI, 453 p., 206 figs. (1983).For a scan of this review see the [web version](#).**MSC:**

- 34-02 Research exposition (monographs, survey articles) pertaining to ordinary differential equations
- 34C15 Nonlinear oscillations and coupled oscillators for ordinary differential equations
- 37-XX Dynamical systems and ergodic theory
- 70H05 Hamilton's equations
- 34C25 Periodic solutions to ordinary differential equations
- 34D20 Stability of solutions to ordinary differential equations
- 34C29 Averaging method for ordinary differential equations

Cited in **26** Reviews
Cited in **3834** Documents**Keywords:**

attracting motions; strange attractors; chaos; Van der Pol oscillators; Duffing's equation; Lorenz equations; bouncing ball problem; local bifurcation; center manifold; Hopf bifurcations; averaging; perturbation; Kolmogorov-Arnold-Moser theory; Hamiltonian systems; Poincare maps; global bifurcations; rotation numbers; Lorenz attractor

Software:

MACSYMA

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