SEMINARIO

Jesús Dueñas Pamplona

Universidad de Valladolid

D-concave nonautonomous scalar bifurcation theory and applications in critical transitions

Abstract: We present some one-parametric bifurcation problems of dissipative nonautonomous scalar ordinary differential equations with concave derivative (d-concave). Saddle-node, transcritical and pitchfork bifurcation points of minimal sets are found in the skewproduct formalism for this kind of differential equations. Critical transitions are sudden and abrupt changes in the state of a complex system which occur on account of small variations on external parameters. The described bifurcations provide adequate critical transitions models in complex systems.

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