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**Dipartimento di Matematica per le Scienze economiche, finanziarie ed attuariali**

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# «BORDER COLLISION BIFURCATIONS OF CHAOTIC ATTRACTORS IN 1D MAPS WITH MULTIPLE DISCONTINUITIES»


**a cura della**

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**Abstract**: The current research was induced by past investigations concerning dynamics of a simple asset-pricing model with heterogeneous speculators, which aimed for providing a possible explanation of the intricate bull and bear behaviour of financial markets. The mentioned economic model was represented by a 1D piecewise linear map with two discontinuity points and displayed rather rich dynamics, including novel bifurcations for chaotic attractors. Until recently, bifurcations of chaotic attractors in 1D maps were mainly associated with homoclinic bifurcations of repelling fixed points or cycles. However, recent studies showed that in 1D maps with multiple discontinuities, a chaotic attractor may also undergo a border collision bifurcation (BCB), leading to a sudden change in its structure. We describe three types of such bifurcations, among which two first---exterior and interior BCBs---are of codimension one, while the last one---expansion BCB---is of codimension two.


Tutti gli interessati sono invitati a partecipare.