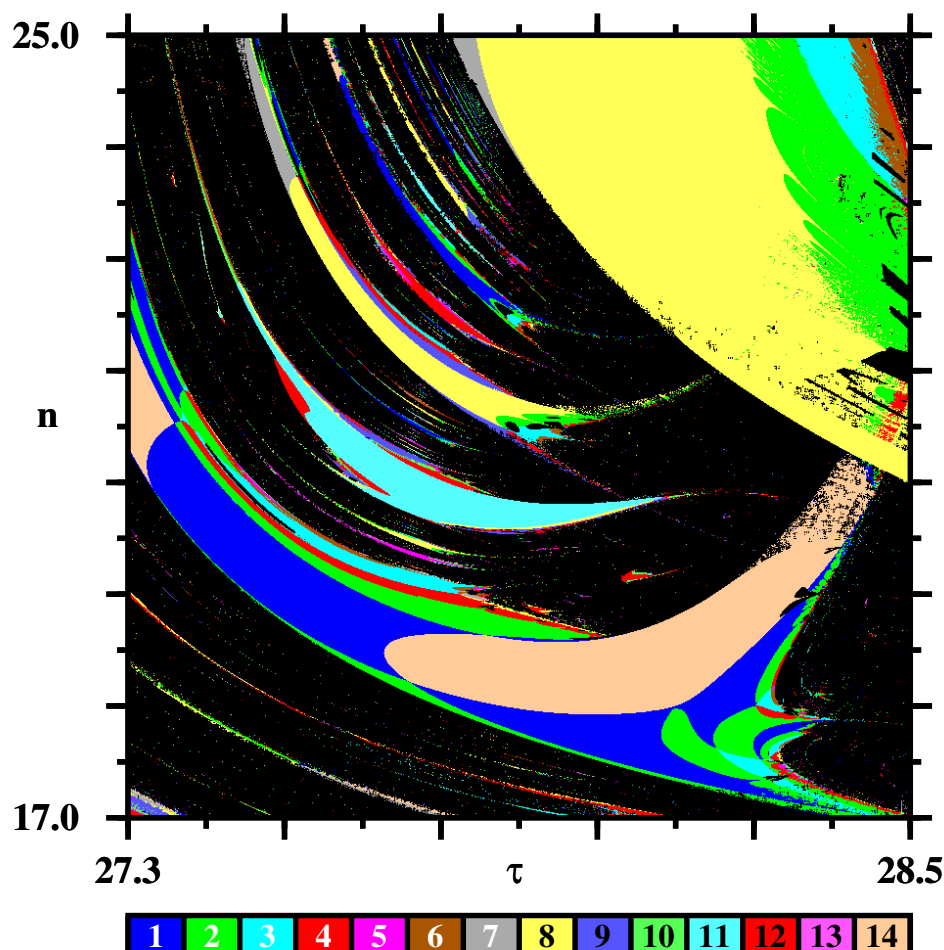


Mosaic Routes to Chaos in the Distribution of Stable Oscillations in Feedback Systems

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We describe remarkable bifurcations observed in feedback systems modeled by delay-differential equations. Periodic solutions of such equations display *continuous deformations* which create and destroy peaks in their oscillatory patterns. Such peaks result in more rich and intricate bifurcation cascades which are combinations of the familiar period-adding and period-doubling bifurcations, and which produce a highly complex mosaic of stability domains in control parameter space. We also point the fact that the periodic functions that composes this complex domains can be constructed by the composition of some fundamental set of sub-functions.