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Controlling Chaos in Cardiac Arrhythmia

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In order to investigate controlling abnormal heart behaviors with chaotic pattern, fixed-points which are interpreted as desired interbeat intervals are imposed on the logistic map via a control law. An adaptive control approach based on delayed feedback control methodology is presented to stabilize the imposed fixed-points. Simulation results are provided to show the effectiveness of the proposed method. Finally advantages of the controller are mentioned.

Keywords: Chaotic behavior, Delayed feedback control, Stabilization, Inerbeat interval.