

Logistic Map – From MathWorld

<http://mathworld.wolfram.com/LogisticMap.html>

A careless list of papers on period-doubling bifurcation. The last paper is mine. In the introduction, you can find a number of papers on this topic written before my paper was published.

1. Small M, Yu DJ, Harrison RG Observation of a period doubling bifurcation during onset of human ventricular fibrillation INT J BIFURCAT CHAOS 13 (3): 743-754 MAR 2003
2. Mosekilde E, Lading B, Yanchuk S, et al. Bifurcation structure of a model of bursting pancreatic cells BIOSYSTEMS 63 (1-3): 3-13 NOV-DEC 2001
3. Lu HT Chaotic attractors in delayed neural networks PHYS LETT A 298 (2-3): 109-116 JUN 3 2002
4. Kamo M, Sasaki A The effect of cross-immunity and seasonal forcing in a multi-strain epidemic model PHYSICA D 165 (3-4): 228-241 MAY 15 2002
5. Jing ZJ, Jia ZY, Wang RQ Chaos behavior in the discrete BVP oscillator INT J BIFURCAT CHAOS 12 (3): 619-627 MAR 2002
6. Tateno T Noise-induced effects on period-doubling bifurcation for integrate-and-fire oscillators PHYS REV E 65 (2): Art. No. 021901 Part 1 FEB 2002
7. J.B. Gao, S.K. Hwang, and J.M. Liu, When can noise induce chaos? Phys. Rev. Lett. V82: 1132-1135 (1999).

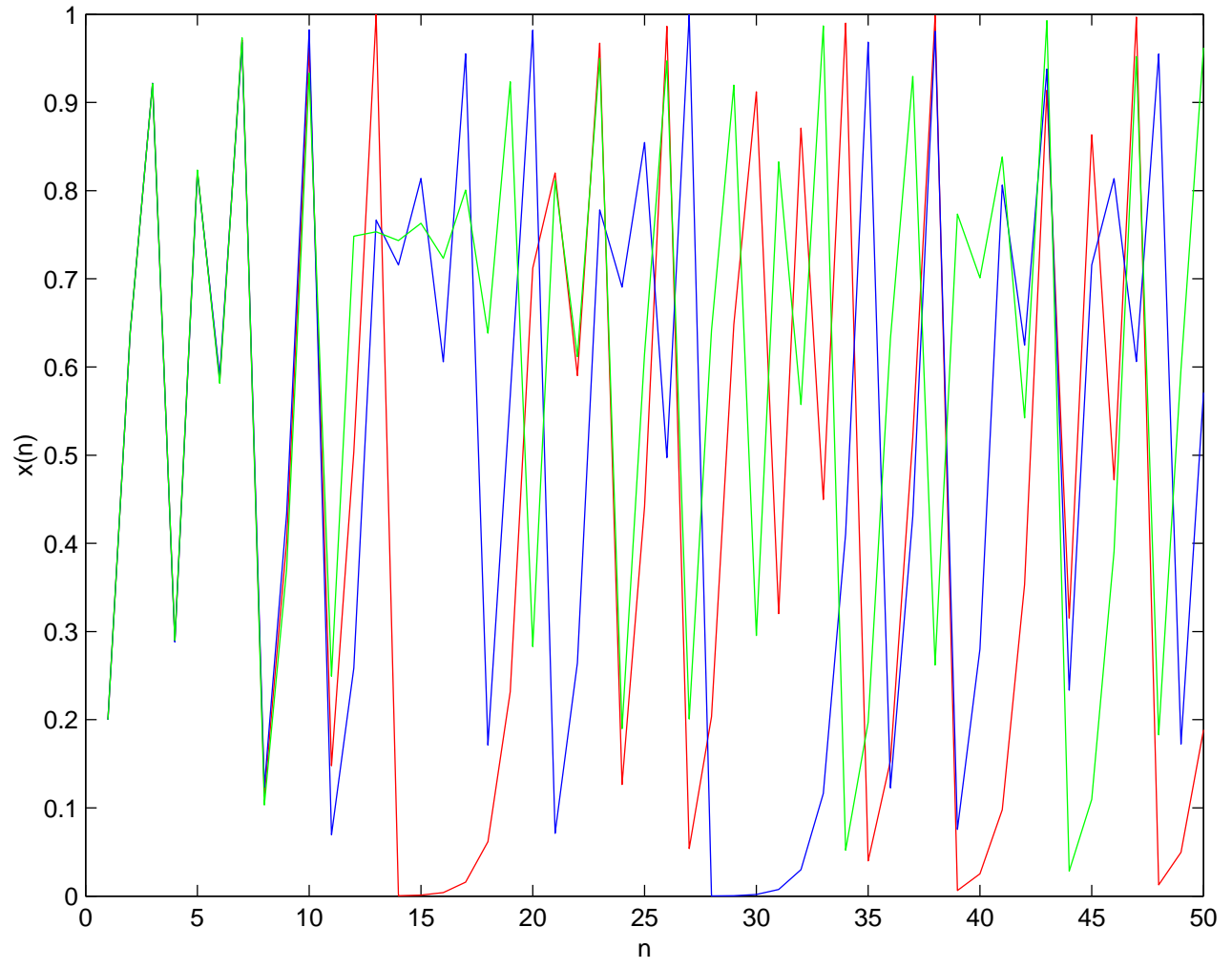


Figure 1: $x(n)$ vs. n for three initial conditions $x(0) = 0.2$ (red), $x(0) = 0.19999$ (blue), and $x(0) = 0.20001$ (green)

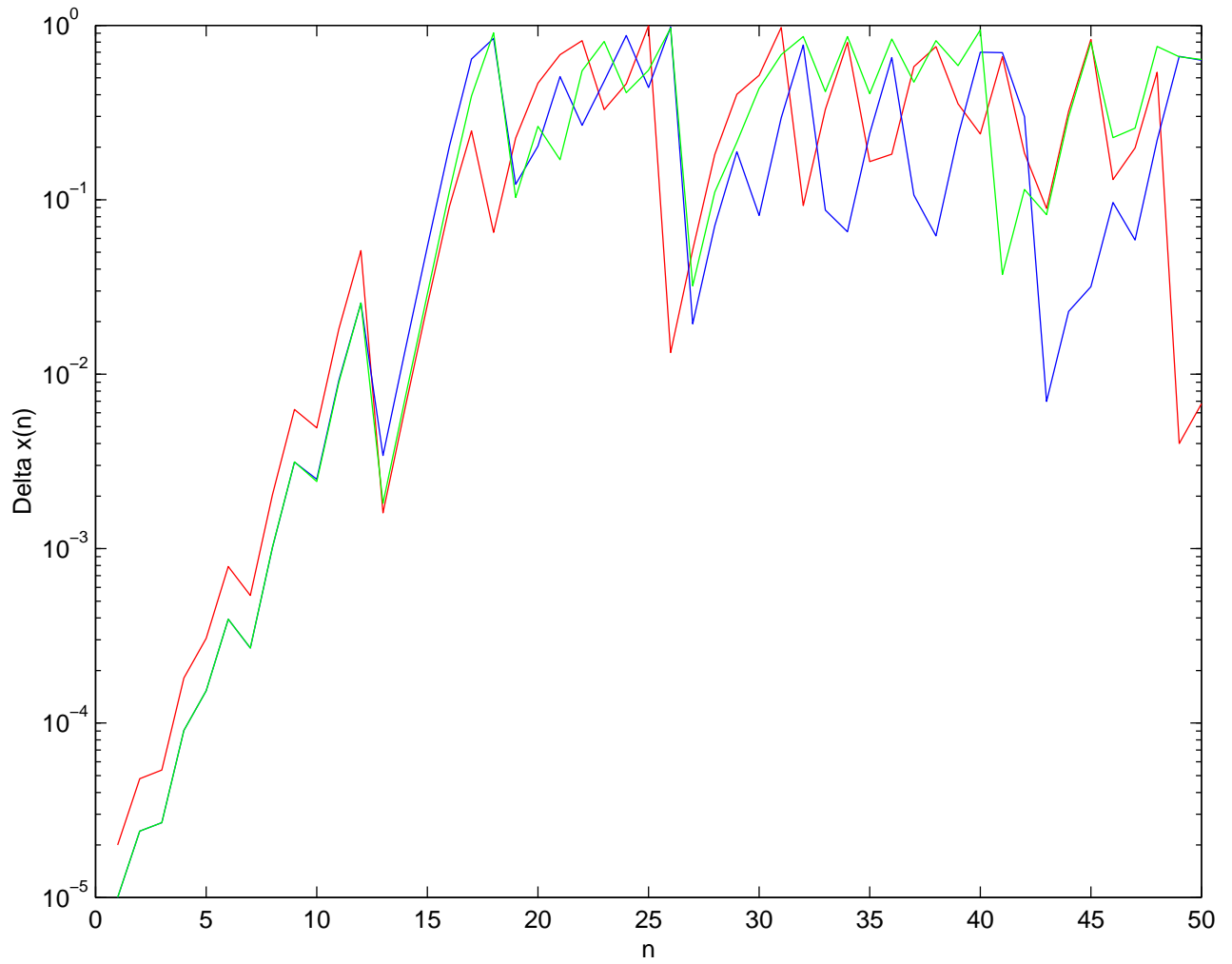


Figure 2: Semi-log of $\Delta x(n)$ vs. n for three initial conditions. $\Delta x(n)$ is defined as $|x_i(n) - x_j(n)|$, where $i, j = 1, 2, 3$ correspond to the three initial conditions

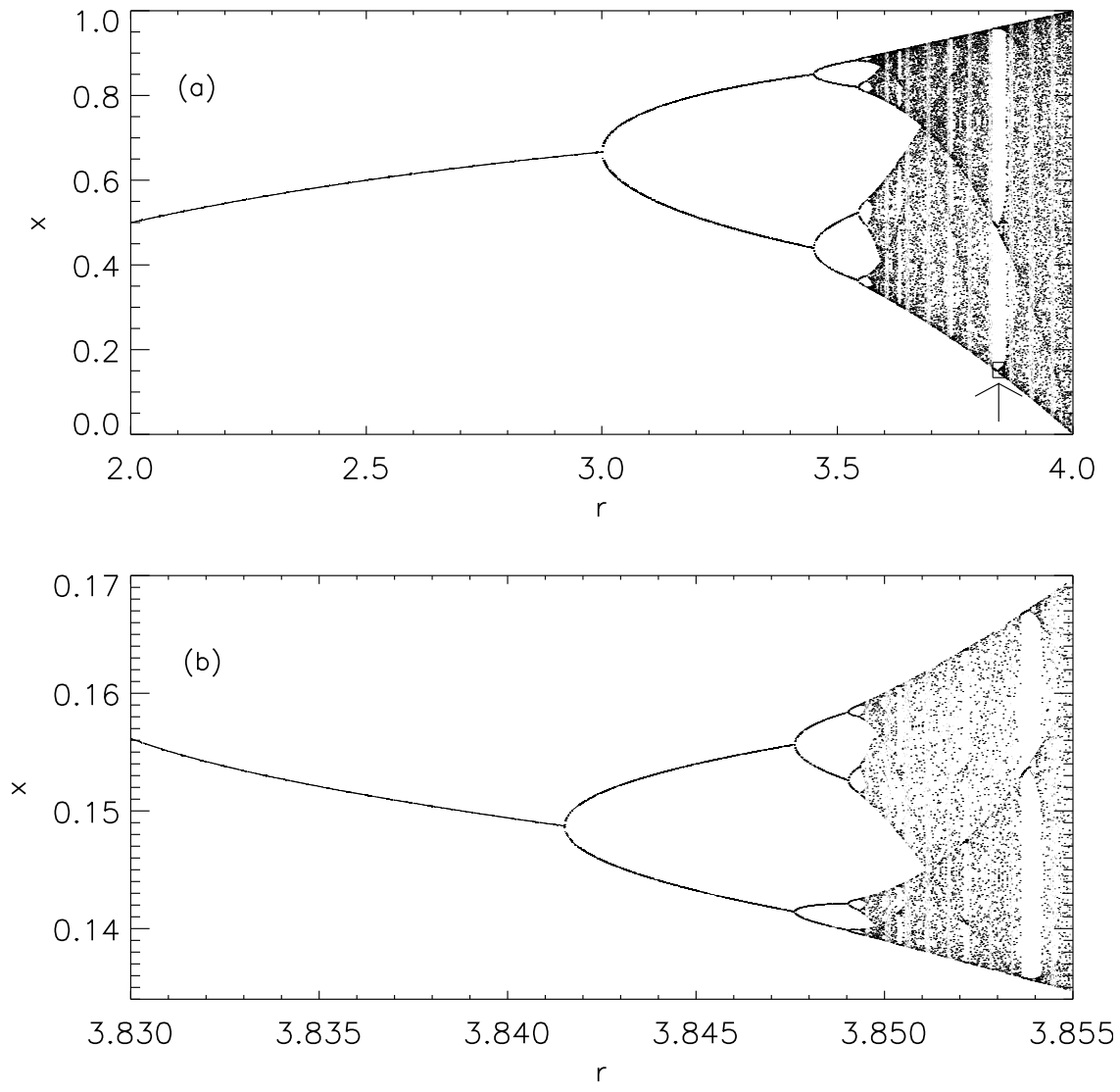


Figure 3: Bifurcation diagram for the logistic map; (b) is an enlargement of the little rectangular box indicated by the arrow in (a).