

Erratum: Spatial chaos of traveling waves has a given velocity [Phys. Rev. E 80 025203 (2009)]

Bastien Fernandez, Beatriz Luna and Edgardo Ugalde

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The source code employed to generate numerical results in the paper contained a technical error. Consequently, the conclusion that we drew from numerical evidence in the figures needs to be corrected: uniqueness of the velocity associated with positive traveling wave (TW) entropy only holds for intermediate velocities $0 < v < 1$, and not for all velocities $0 \leq v \leq 1$ as claimed in the paper. In particular, chaos of fixed points and chaos of TW pattern with given positive velocity may coexist provided that the parameters are suitably chosen, see corrected version of Fig. 1 here.

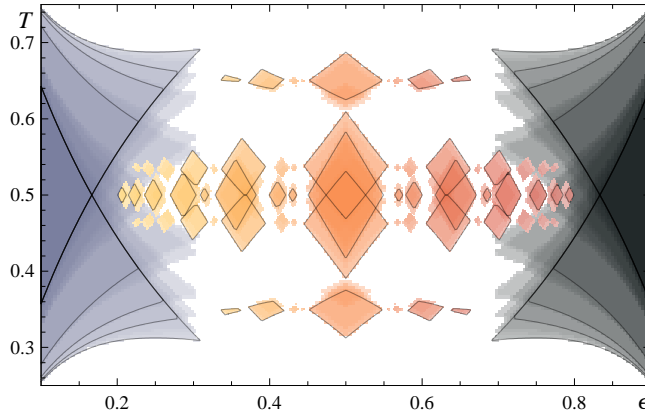


FIG. 1: (Color online) Entropy-velocity diagram of stable TW in (ϵ, T) -space for $a = 0.8$. Painted points code for the numerical TW entropy $\frac{\log P_{19,v}}{19}$ (the period $L = 19$ is chosen large enough for robustness). Gray levels (colors) correspond to velocities v , from 0 – left (light gray, blue) to 1 – right (dark gray, black) and including $\frac{1}{7}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{2}{7}, \frac{1}{3}, \frac{2}{5}, \frac{3}{7}, \frac{1}{2}$ and symmetric values (from light gray, orange to dark gray, brown). Intensity is proportional to entropy (maximal values along the axis $T = 0.5$). Clearly, some domains with small (resp. large) velocity overlap with domains with velocity 0 (resp. 1) indicating that a chaos of fixed points (resp. chaos of TW with $v = 1$) may coexist with a chaos of patterns with intermediate velocity. Curves delimit regions where TW symbolic sequences – with arbitrary pattern in a given chaotic set and given velocity – were analytically proved to solve the equation (3), see text.

The mentioned error has no effect on analytic results in the paper, especially on the parameter domains of existence of pattern families with positive entropy. For completeness, we also provide a corrected version of Fig. 2.

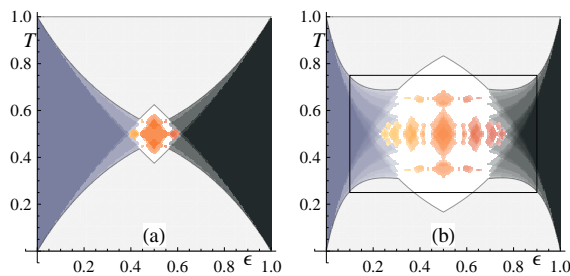


FIG. 2: (Color online) Entropy-velocity diagram in the (ϵ, T) -square and complementary domains where the entropy is analytically shown to cancel (outer light gray regions). (a) $a = 0.4$ and (b) $a = 0.8$; the rectangle delimits the region displayed in Fig. 1.

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