# Comments on chapter 4: Multidimensional maps.

p. 92, l. 1: $\lambda_1 > 0$

p. 117, l. 3: $d_2 = |\delta \mathbf{x}(2T)|$

Eq. (4.39): $M \to \infty$

p. 139, sect. 4.7.1:
The first paragraph deals with flows while corresponding fomulas for a map are given in the last paragraph. A better start of this paragraph would be:
For a map, if $\tilde{h}_k = \tilde{h}_{k+1}^{\dagger}$ is complex, we may write $\tilde{h}_k = |\tilde{h}_k| \exp(i\phi)$. Then Eq. (4.52) goes over into, ...

Exercise 4.3:
Consider a trajectory which can be parametrised as

$$\mathbf{x}(t) = \mathbf{x}(\phi_1(t), \phi_2(t)), \quad \begin{cases} \phi_1 = \omega_1 t \\ \phi_2 = \omega_2 t \end{cases}, \tag{1}$$

Such a trajectory is quasi-periodic if $\omega_1/\omega_2$ is irrational, while it becomes periodic if $\omega_1/\omega_2 = p/q$, where $p$ and $q$ are integers with no common factors. Determine the period in this case. Answer the same question for a trajectory of a map,

$$\mathbf{x}(j) = \mathbf{x}(\phi(j)), \quad \phi = 2\pi\alpha j,$$

in the case when $\alpha = p/q$.

Exercise 4.8:
Express the Lyapunov exponent for a stable fixed point ...