# Erratum: Persistence Images: A Stable Vector Representation of Persistent Homology

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An incorrect definition of the linked twist map was written in Section 6.4.1 of the original manuscript. This error can easily lead to erroneous implementations that show unexpected outputs (See Fig. 1). In particular, the original manuscript defined a map on the torus, $\mathbb{T}^2 := [0,1]^2/\sim$ (with $(x,0) \sim (x,1)$ for each $x \in [0,1]$ and $(0,y) \sim (1,y)$ for each $y \in [0,1]$), by

$$
\begin{aligned}
x_{n+1} &= x_n + ry_n(1-y_n) \mod 1 \\
y_{n+1} &= y_n + rx_n(1-x_n) \mod 1,
\end{aligned}
\tag{1}
$$

where $r$ is a positive parameter.

An accurate description of the linked twist map is that of a composition of two maps on the torus $F, G : \mathbb{T}^2 \to \mathbb{T}^2$, given by

$$
\begin{aligned}
F(x,y) &= (x + h(y), y) \mod 1 \\
G(x,y) &= (x, y + h(x)) \mod 1
\end{aligned}
$$

where $h(y) = ry(1-y)$, and $r$ is a positive parameter. Iterates of the linked twist map are then defined by

$$
(x_{n+1}, y_{n+1}) := G(F(x_n, y_n)).
\tag{2}
$$

Although the equations defining the linked twist map are incorrect in the original manuscript, the implementations used in the study and the data and figures they generated were based on the correct formulation.
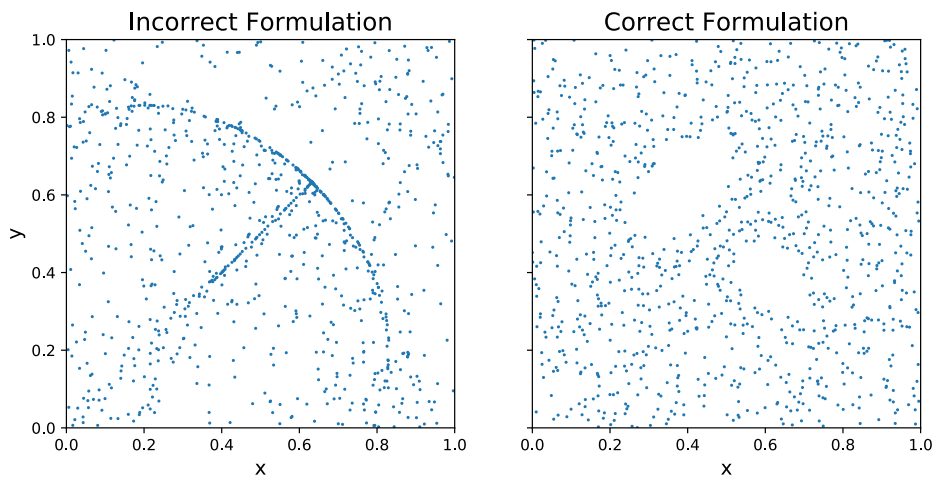


Figure 1: (Left) The first 1000 iterations of the map defined in Eq. (1), as given in the original manuscript, and (Right) the first 1000 iterations of the linked twist map correctly defined here in Eq. (2). Both maps were specified with the parameter value $r = 4.3$ and start from the same randomly chosen initial condition drawn from $\mathbb{T}^2$.

## Acknowledgements