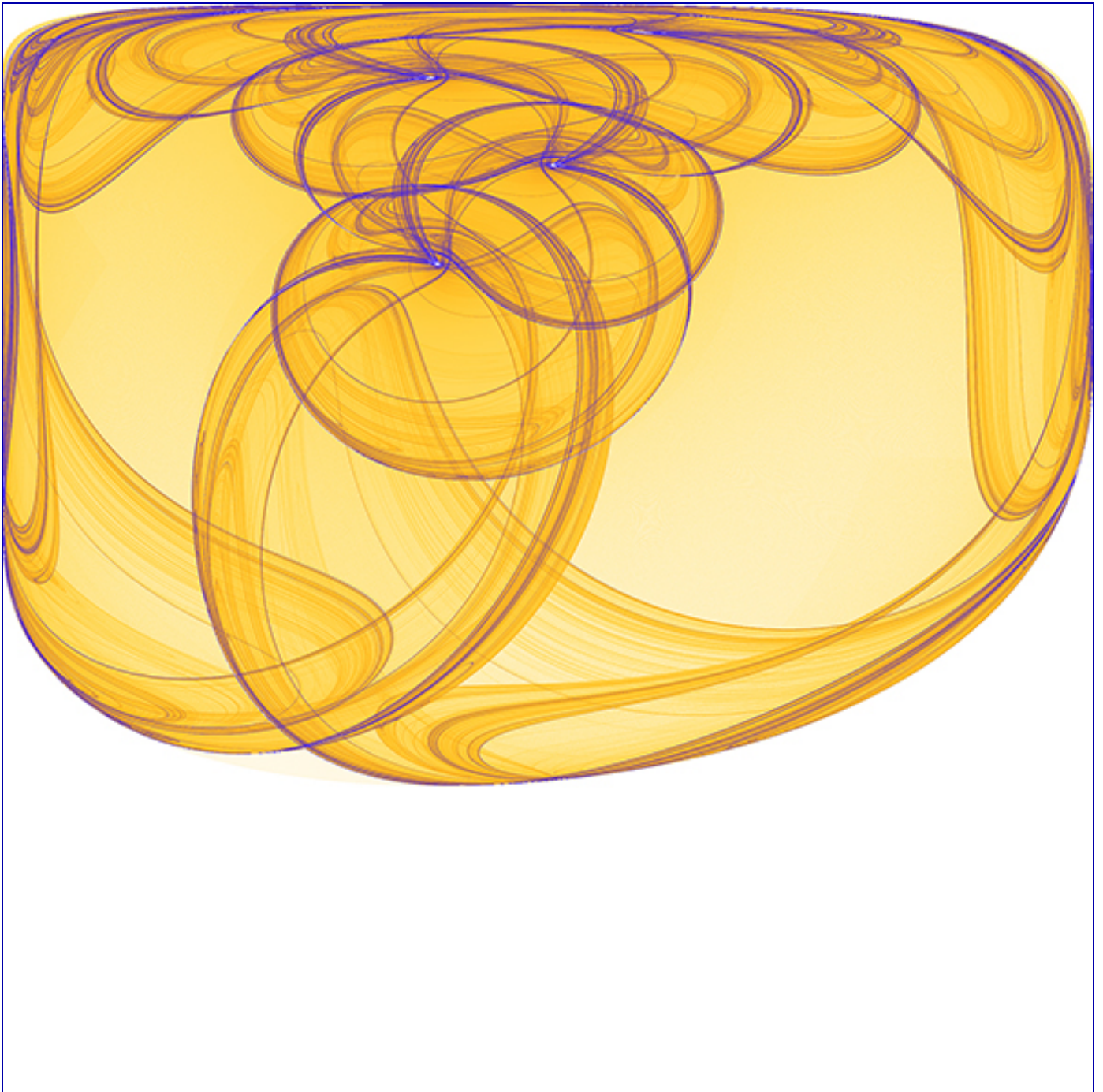


Simone attractor

Written by **Paul Bourke**

February 2024

Inspired by Simone Conradi



$a = 3.69$, $b = 4.51$

The images here are visualisations of the behaviour of the series below for different initial values (x_0, y_0) on the plane.

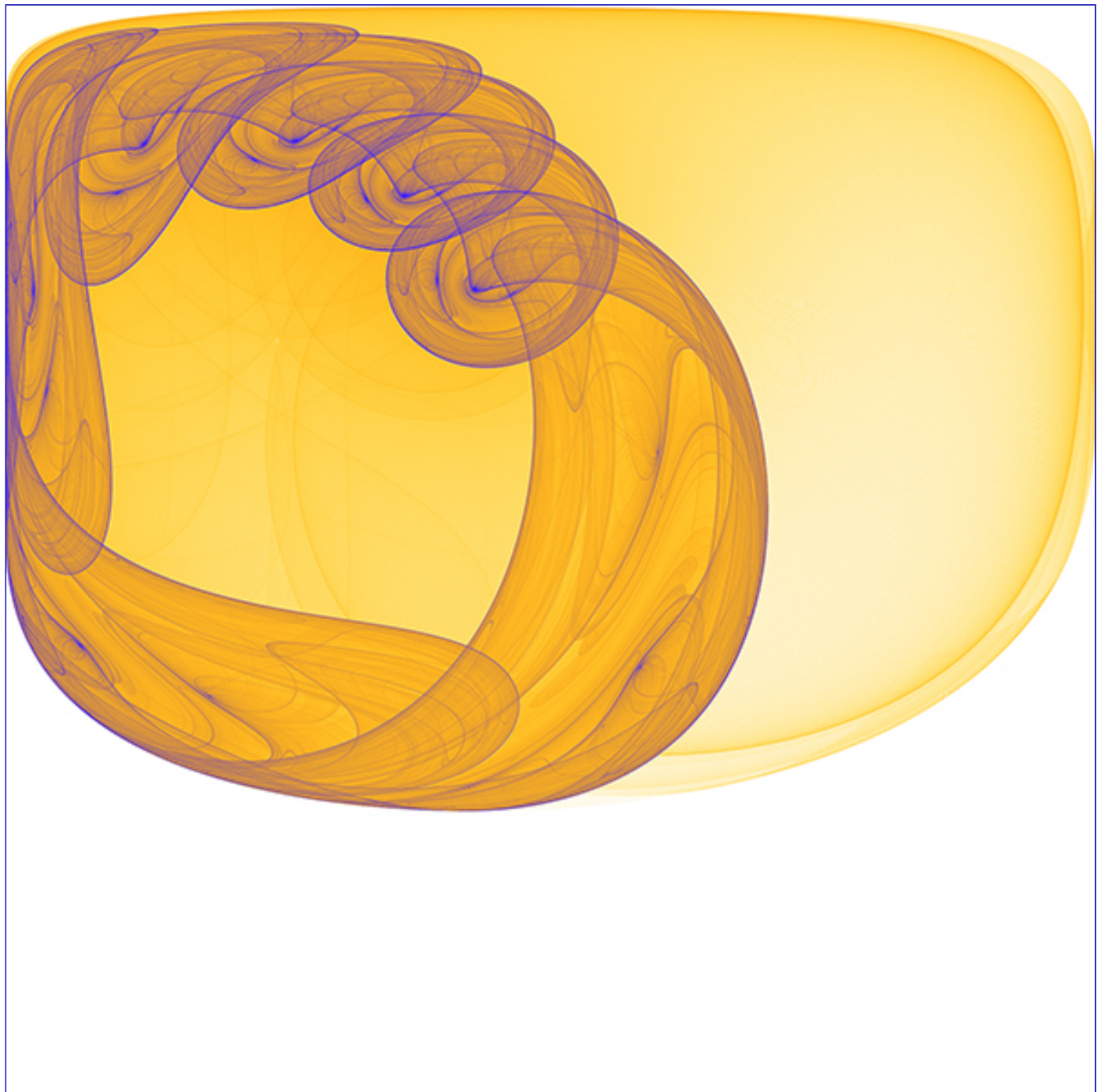
$$x_{n+1} = \sin(x_n^2 - y_n^2 + a)$$

$$y_{n+1} = \cos(2x_n y_n + b)$$

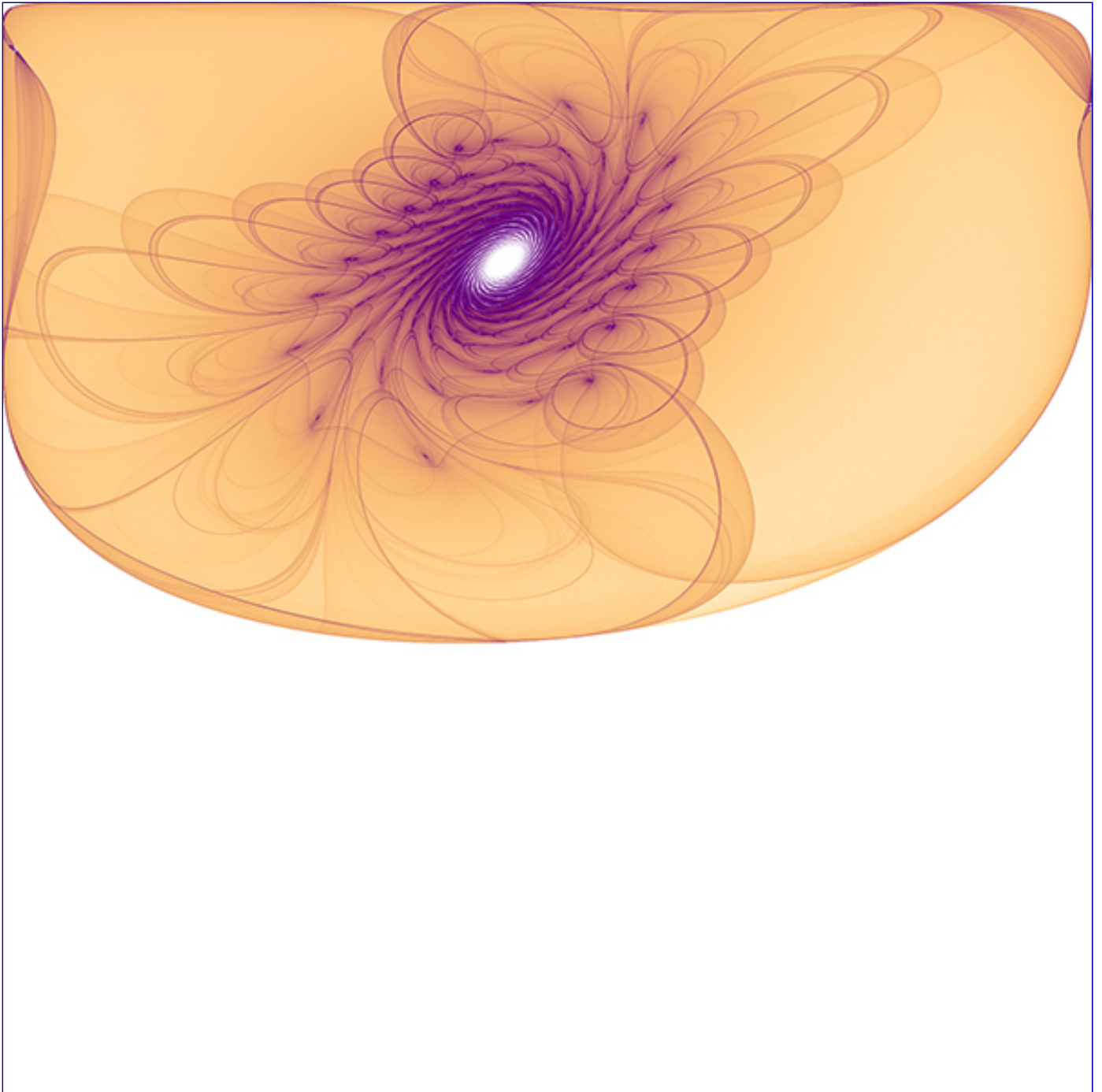
Given the sine and cosine terms, the result is bounded by -1 to 1 in both x and y.



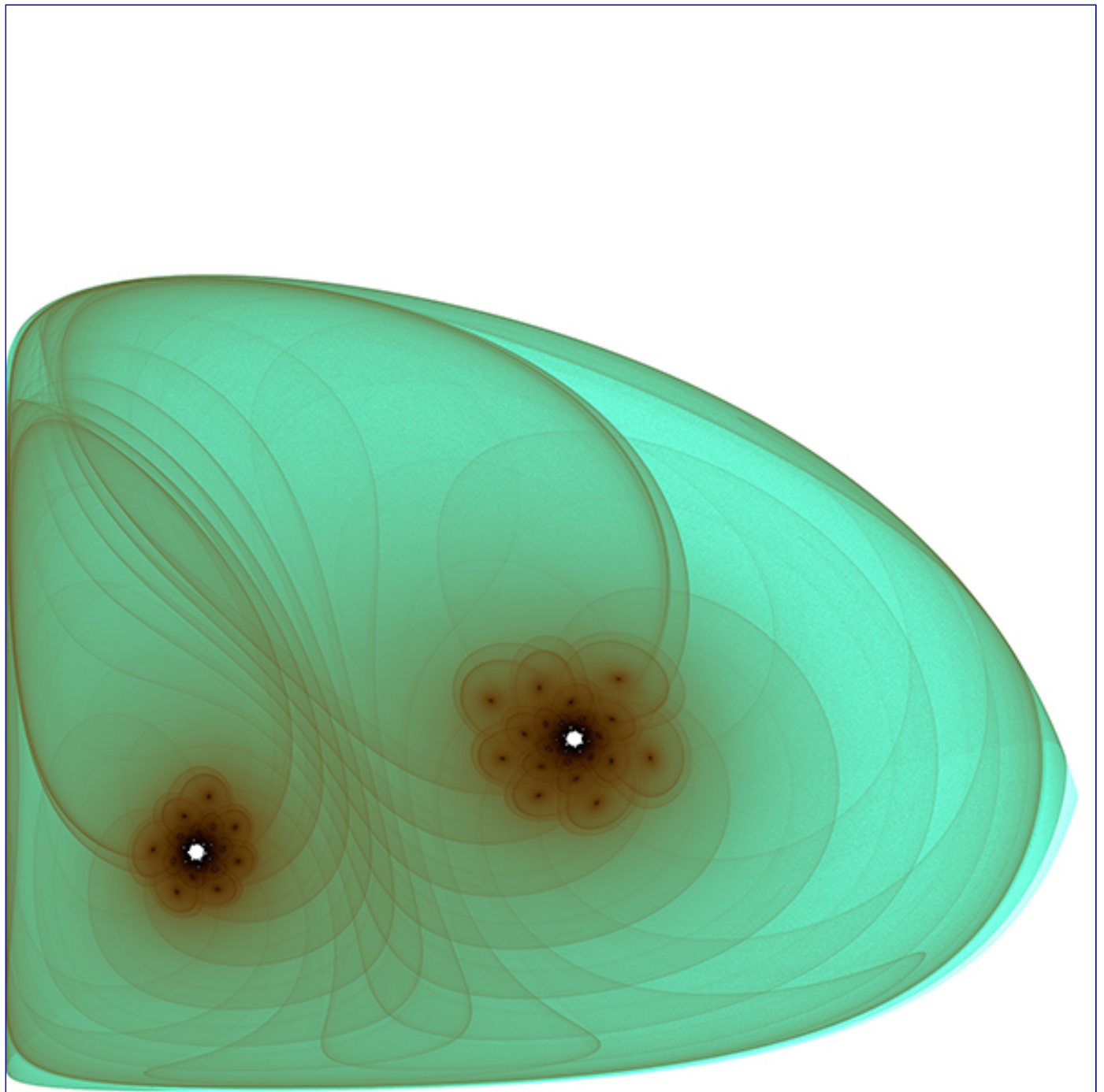
$$a = 5.51, b = 4.84$$



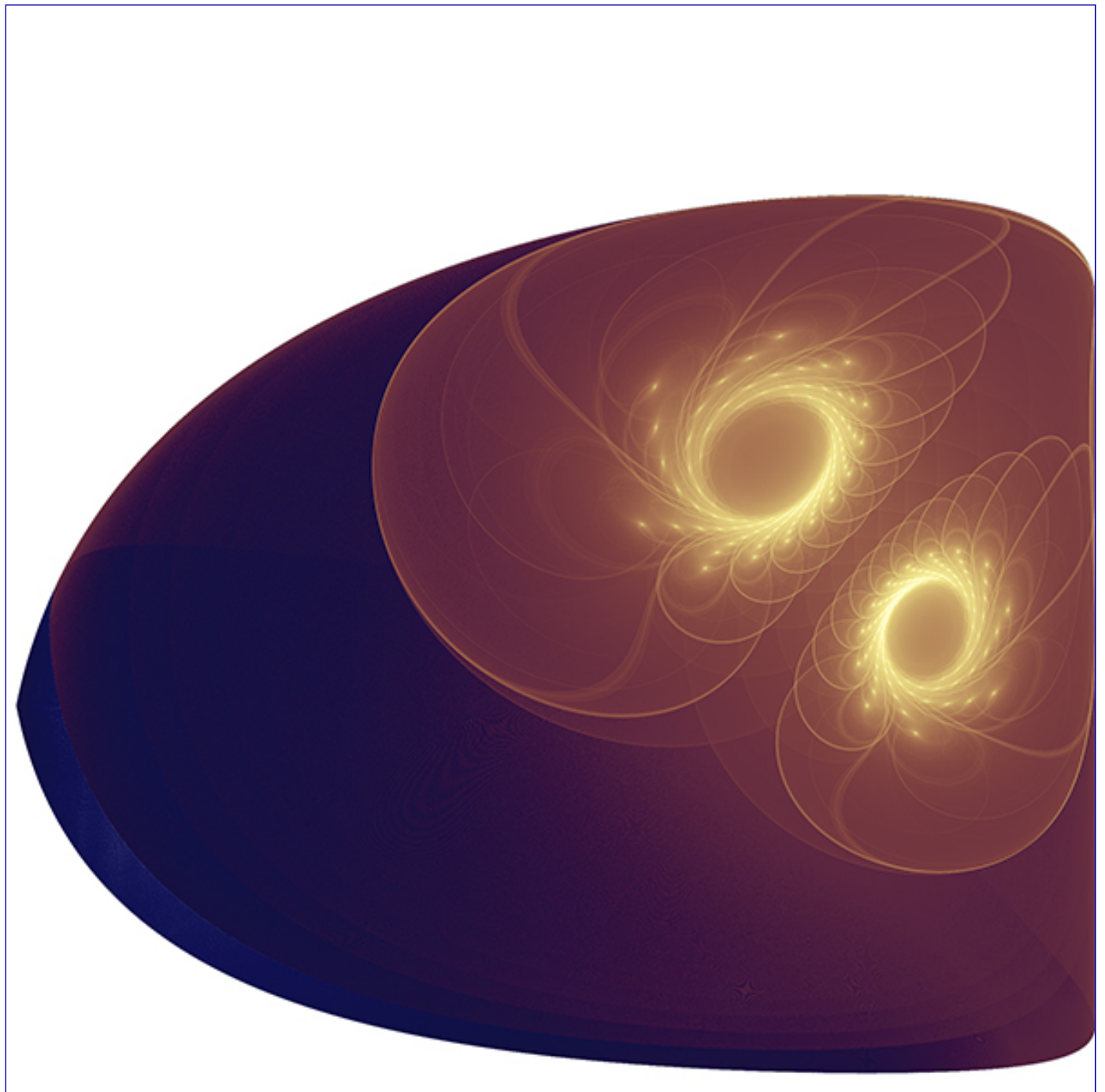
$a = 3.64, b = 1.71$



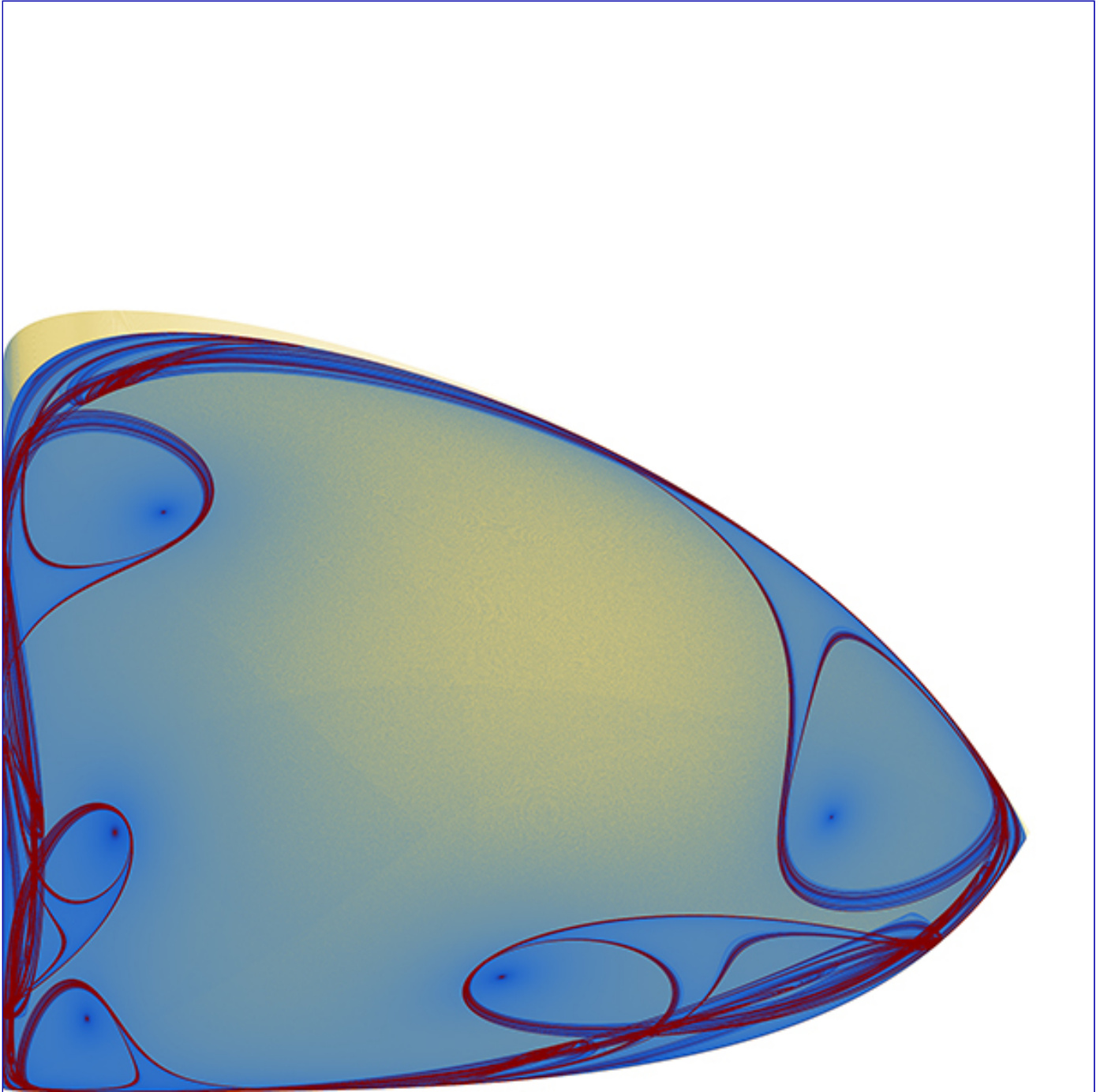
$a = 5.46, b = 4.55$



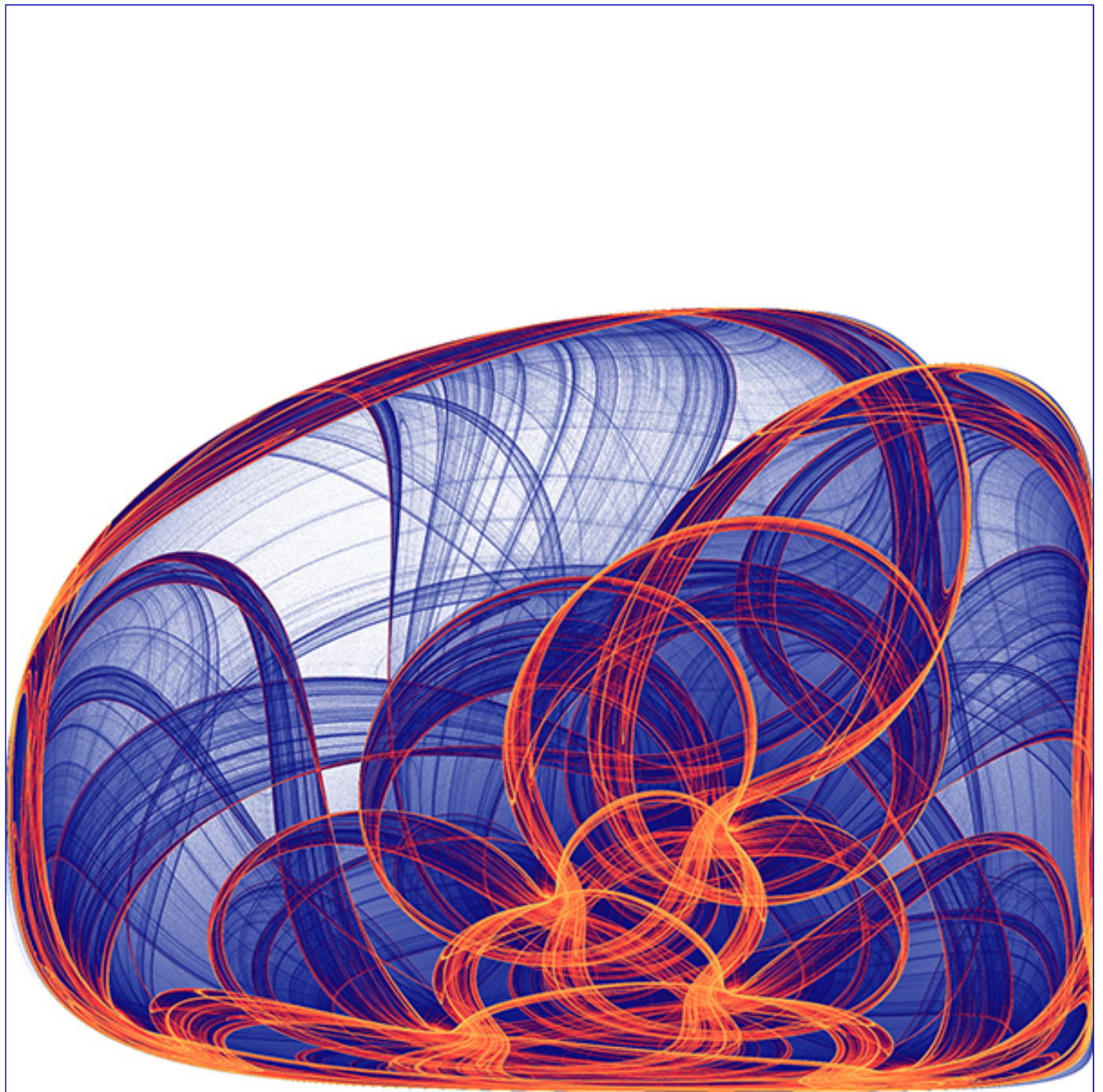
$a = 0.47, b = 2.25$



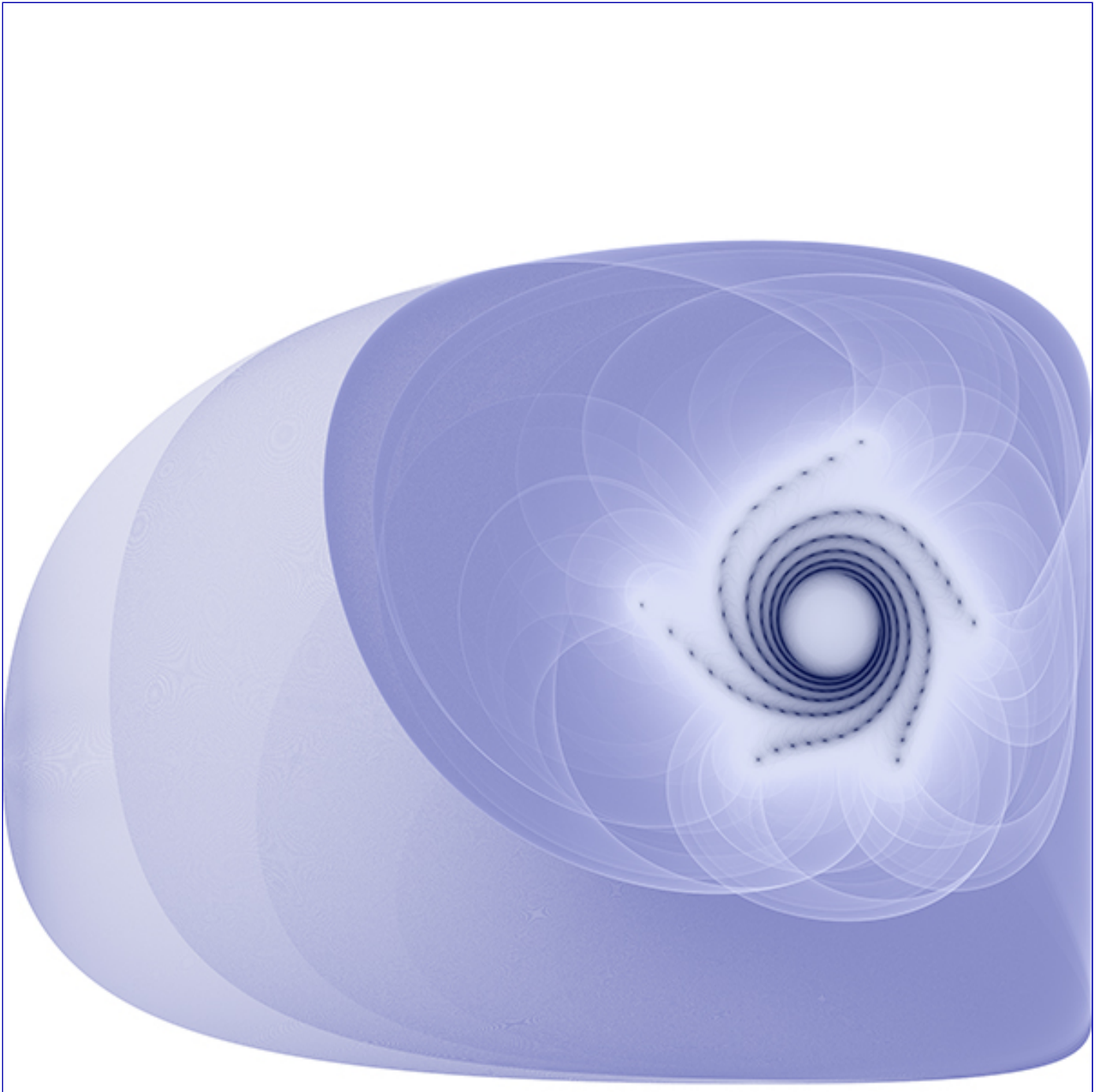
$a = 0.29, b = 0.95$



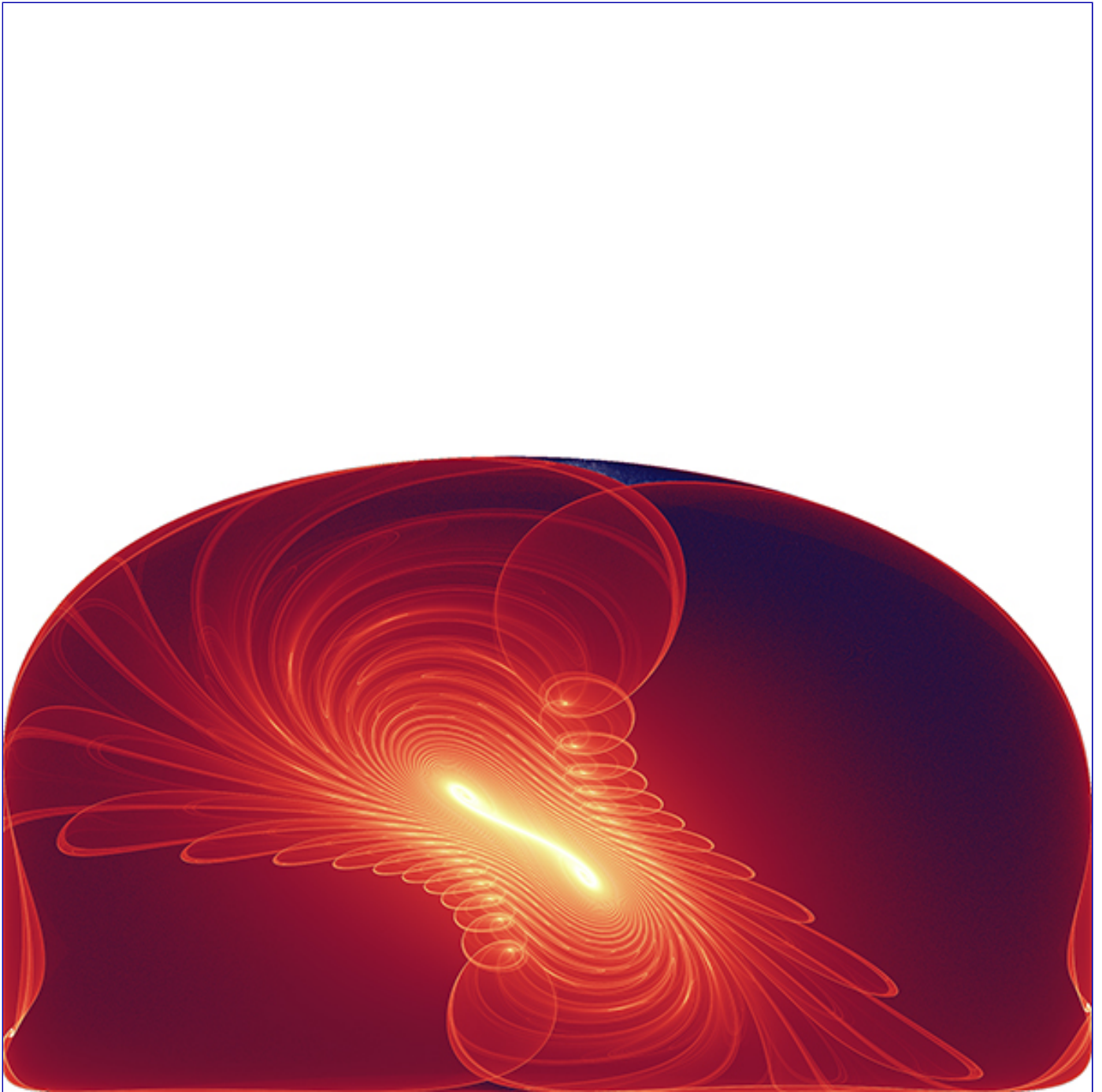
$a = 2.59, b = 2.49$



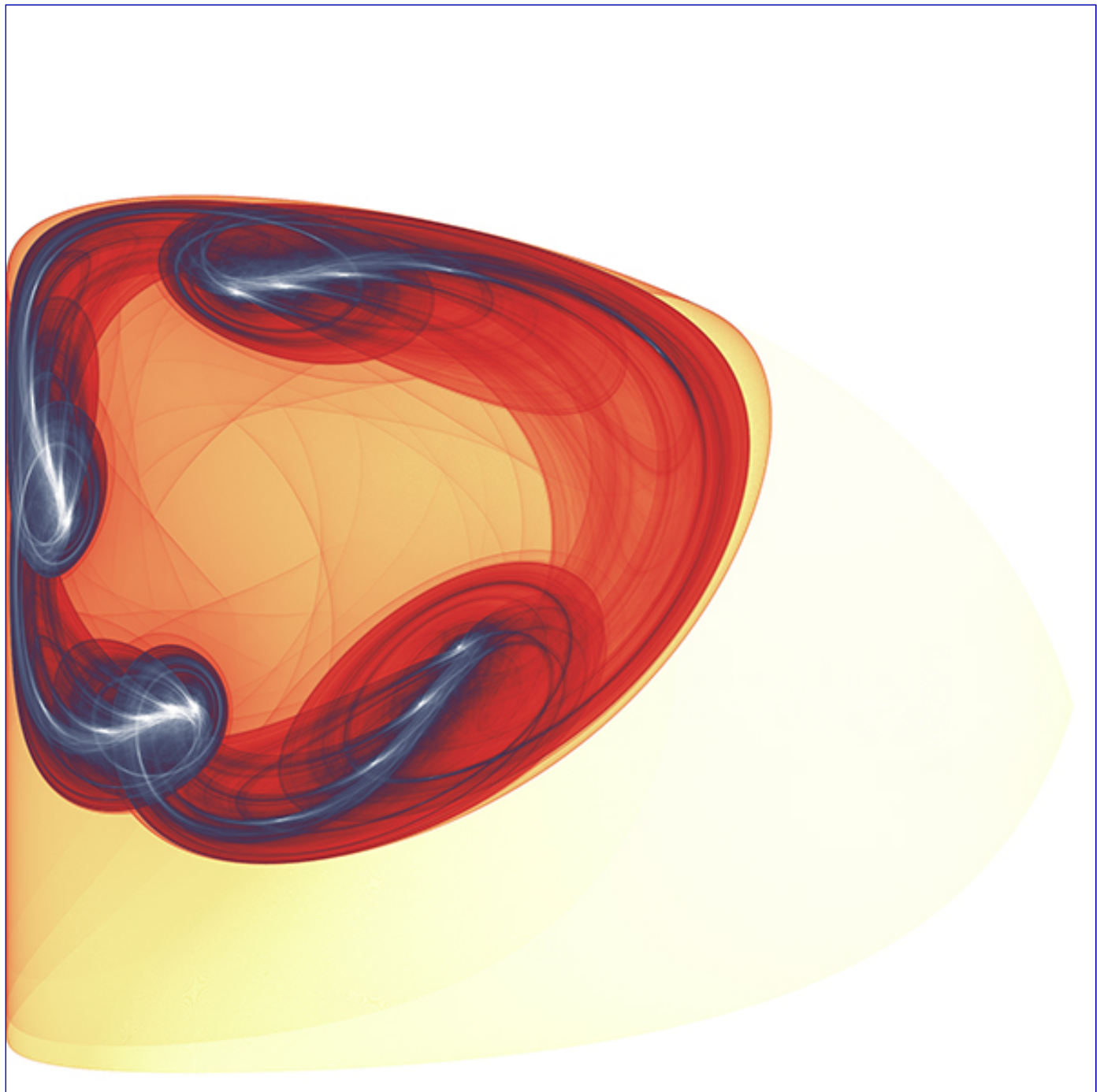
$a = 0.54, b = 1.23$



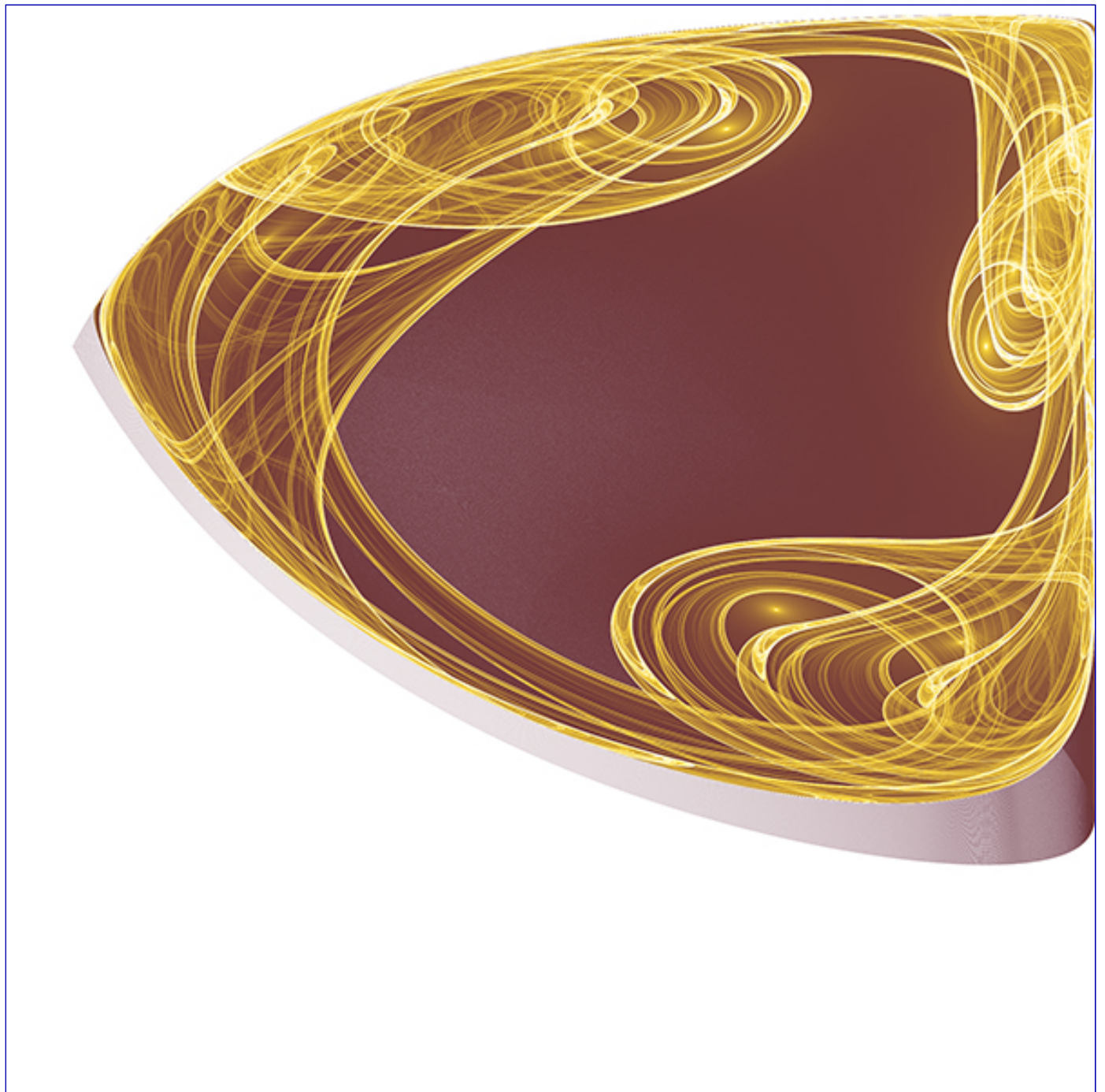
$a = 0.4, b = 5.11$



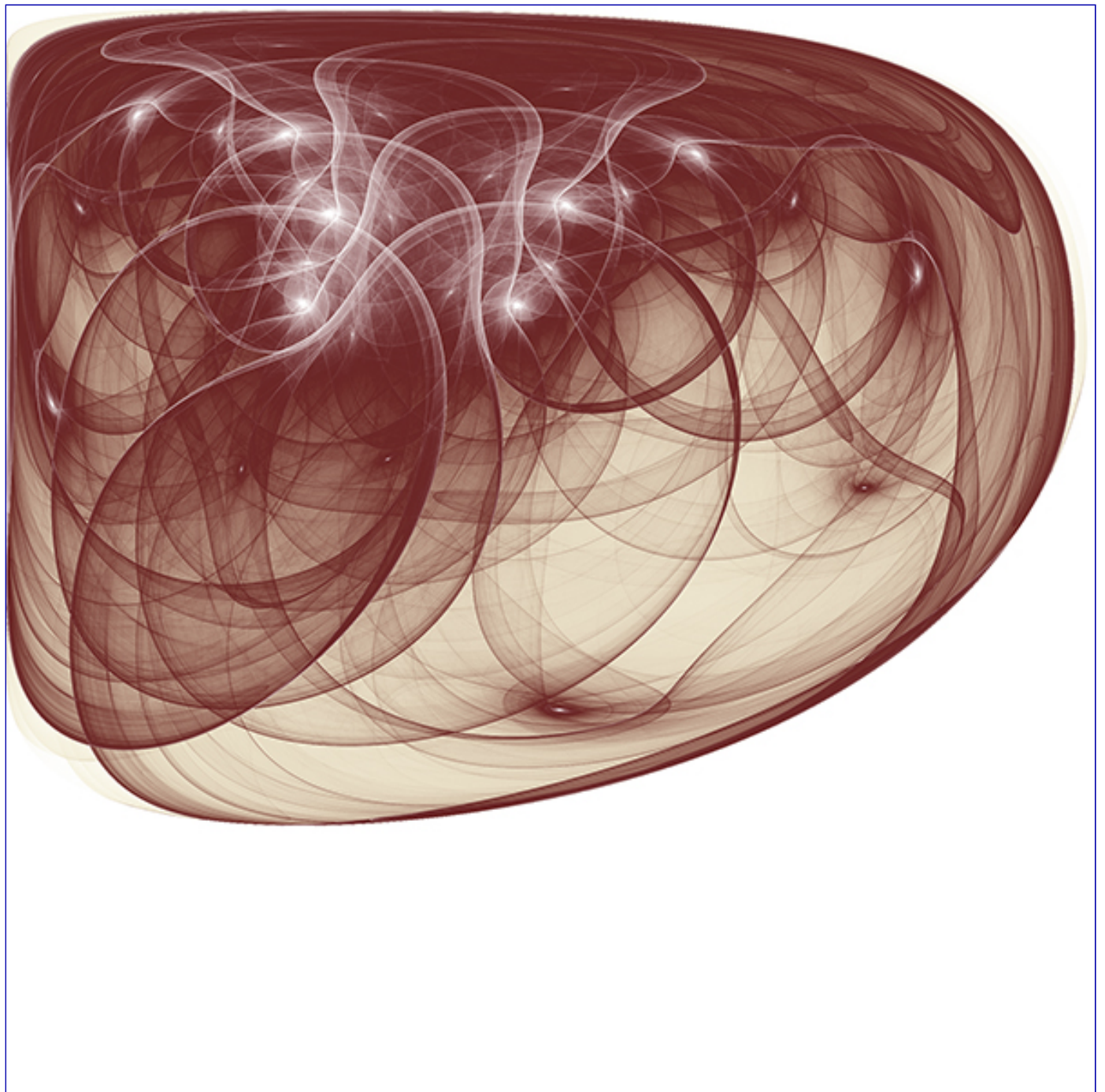
$a = 2.31, b = 1.64$



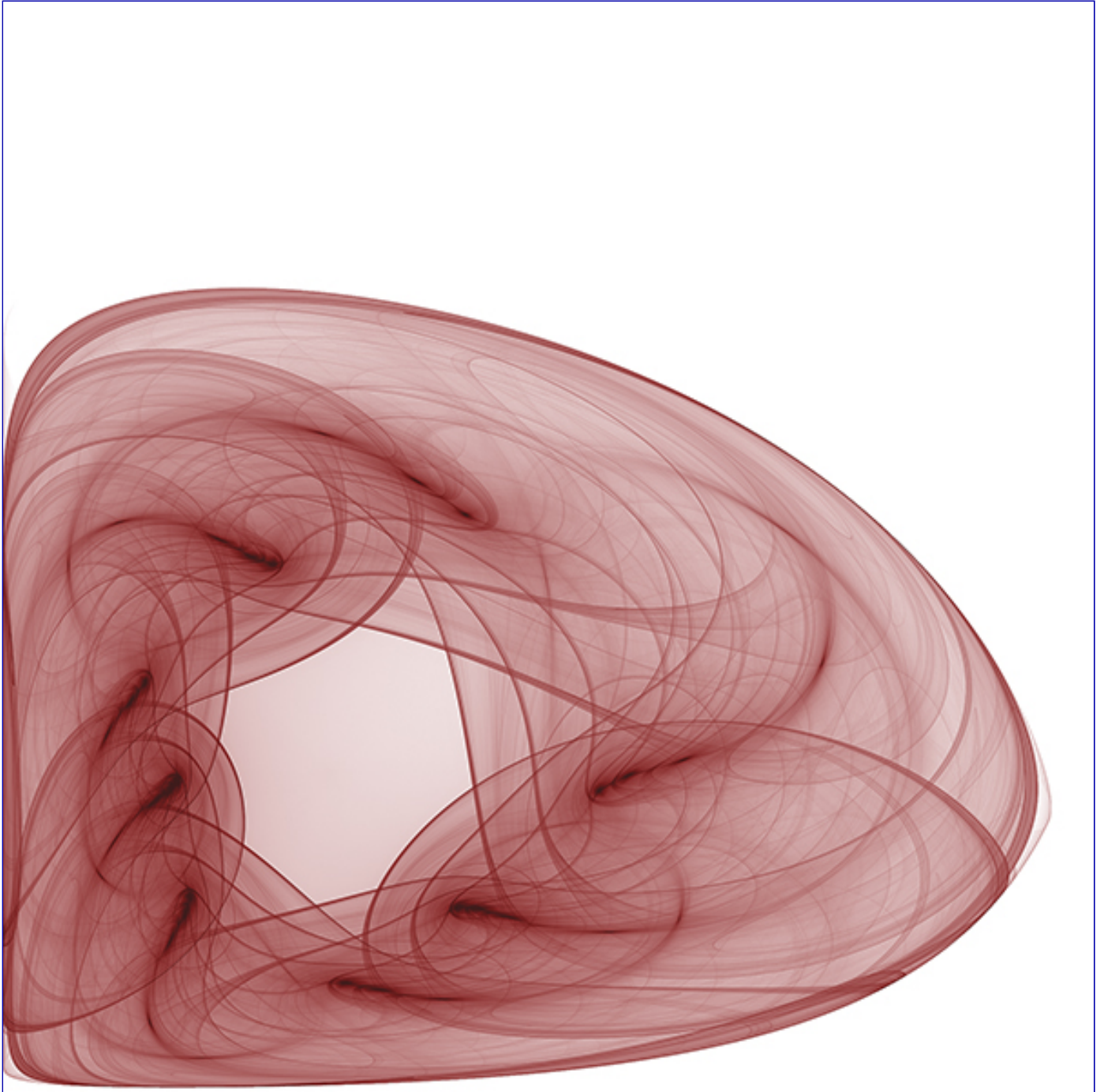
$a = 0.29, b = 4$



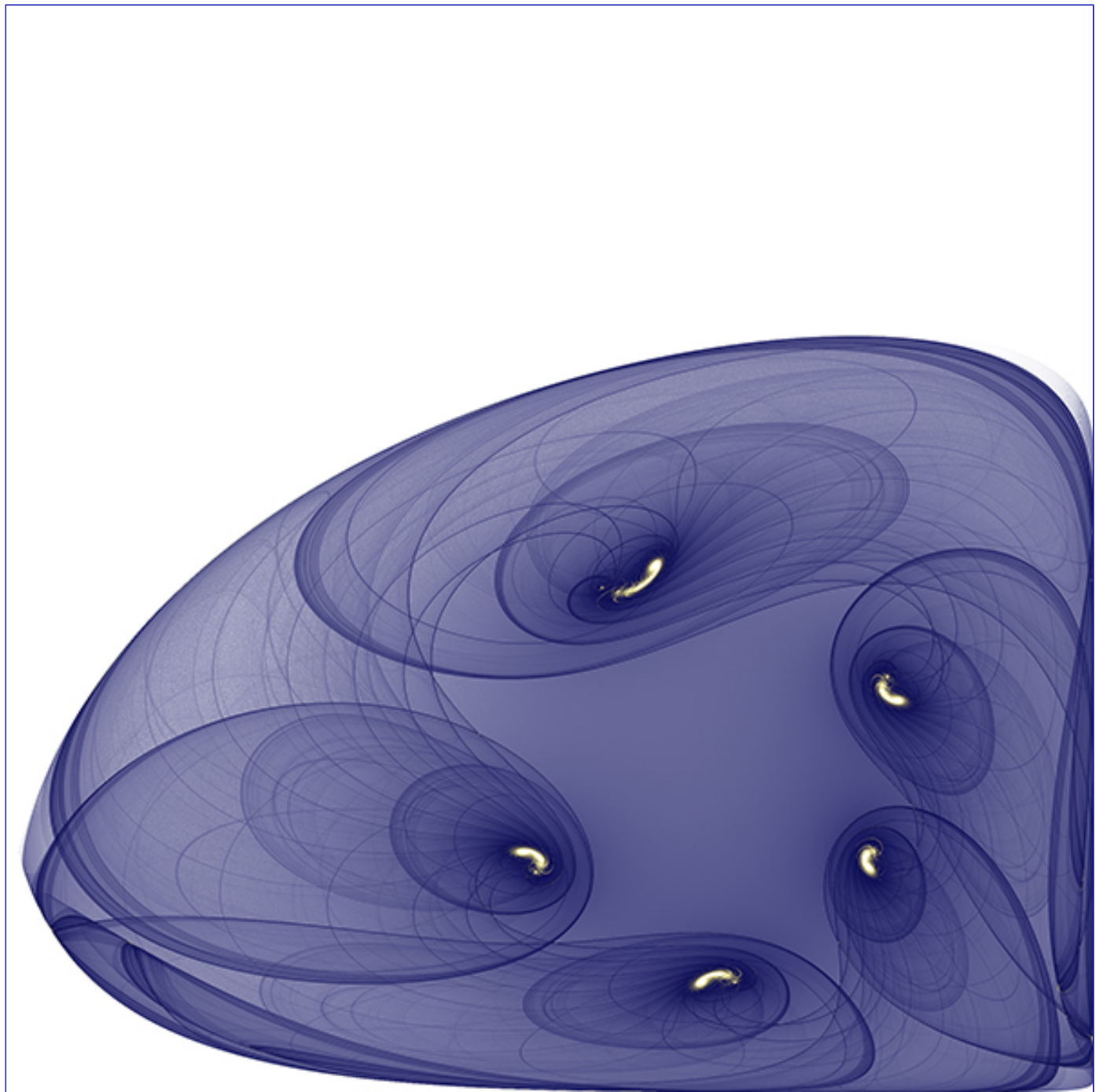
$a = 5.9, b = 5.64$



$a = 3.61, b = 4.24$



$a = 2.7, b = 2.32$



$a = 2.55, b = 0.93$