Nonlinear Dynamics: Mathematical and Computational Approaches

Lead instructor: Liz Bradley

Quiz scores are NOT recorded.

- You may come back to quizzes and take them as many times as you like
- When you are finished, clicking the "Score" button at the bottom of the test will show you the correct responses.

Question 1

Say you use delay-coordinate embedding to reconstruct the dynamics of a system from a scalar time series composed of measurements from that system, and assume that the system, the data, the measurement procedure, and the embedding parameters satisfy **all** of the conditions of the embedding theorems.

(a)

Will the reconstructed dynamics always have the same geometry as the true dynamics?

- A. Yes
- ✔ B. No

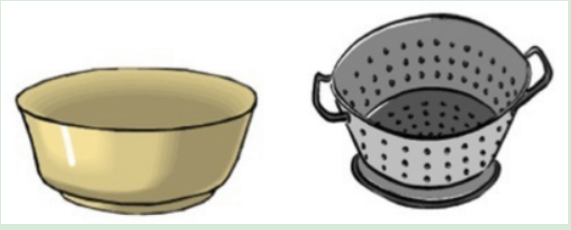
(b)

Will the reconstructed dynamics always have the same topology as the true dynamics?

- ✔ A. Yes
- B. No

Question 2

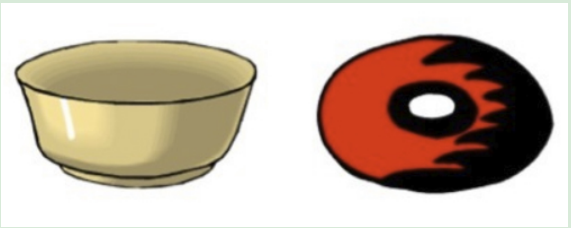
These two shapes have similar geometry:



- ✔ A. True
- B. False

Question 3

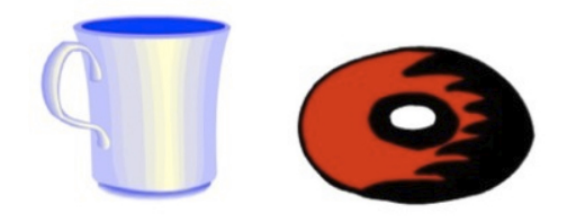
These two shapes have the same topology:



- A. True
- ✔ B. False

Question 4

These two shapes have the same topology:

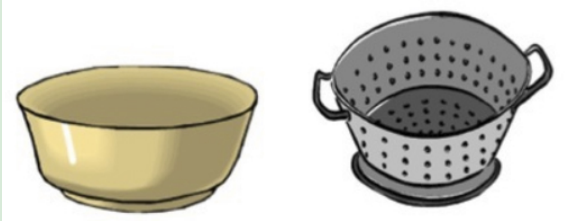


✔ A. True

B. False

Question 5

These two shapes have the same topology:



A. True

✔ B. False

Question 6

You need to have direct, untransformed measurements of at least one state variable for delay-coordinate embedding to work.

✖ A. True

B. False

You got 6 out of 7 questions correct Reset