

Presentation: Box Dimension

The goal of the presentation is to explain what Box Counting Dimension is. A good starting point is to read the entry on “Box-counting dimension” and the entry on “Fractal dimension” at www.wikipedia.org. Your presentation should include

- A description of what the box counting dimension is.
- Explain the difference between the upper box dimension and the lower box dimension and observe that it is possible that they are different (you do not need to give an example).
- Calculate the box dimension for either the Koch Snowflake, the Sierpinski triangle or the Cantor set. Is it the same as the scaling dimension we covered in class?
- Observe that the scaling dimension we defined in class and the box dimension are not always the same (you do not need to give an example).
- At LEAST one of
 - The history of box dimension.
 - A second calculation of the box dimension of a fractal (you must also calculate the scaling dimension).
 - A discussion/definition of the Hausdorff dimension.

You should also feel free to expand on the above in any directions you would like (so long as they are related to the topic).

If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman.