

Mini-Project I

(due: Thursday, March 2, 10:00 am)

(presentations in class, slides in your `~/share.dir/` and give read permission)

Goal of this Mini-Project I is to give you a free hand for your creativity and to get practice with scientific talks.

1. Use a working program for the DLA model. You may use all of the inclass solution programs:

`~kvollmay/share.dir/inclass2023.dir/classfractal*.py`

Specifically, `classfractal8.py` is the complete DLA program. In case you would like to measure the fractal dimension you may use `classfractal9c.py` (read permission will be given at the end of today's class).

For this mini-project **you do some variation** on

either the DLA model
and/or
the analysis.

Examples for Variation on DLA Model:

For example you might change the rules of the DLA model such as incorporating wind, or you might use different neighbors, **or any other change of your choice.**

Examples for Variation on Analysis:

For example you might like to count the number of neighbors each particle has, or you might measure `RMAX` as function of `npart` or any other variation on our analysis.

DLA model: [T. A. Witten Jr, L. M. Sander, Phys. Rev. Lett. 47, 1400 (1981)]

2. Run your program and do some analysis. If you like, you could determine for example whether your change of the model influences the fractal dimension. And/or you could look at the resulting fractal patterns.

4. Prepare a mini **talk** (3 min each student) which describes the model you used, if you did some variation on the model, describe the variation, and describe your analysis and show your result(s). Try to interpret your result(s). Prepare one or two slides and practice what you will say. You can find on our webpage links to the "How To Give Talks" and exemplary talks. Make sure that you can get to your presentation/slides on the computer, which I usually use, so the computer which is connected to the projector in RCHM009. If you plan to show a movie, practice ahead of time, that you can get the movie working quickly.

5. Put the python program(s) with your variation into your `/share.dir/` and change read permissions with `chmod a+r ~/share.dir/*`

Upcoming Deadlines:

- March 2: Mini-Project Talks
- March 7: Main Project Talks
- March 9: Final Version of Flow Chart for Main Project
- March 21: 1st Version of Program for Main Project (I will be at a conference March 9 & 10)
- March 28: 2nd Version of Program for Main Project