ssh -X yourusername@alan.mit.edu

and then your password.

You should then be in your home folder on alan. We have a working version of disperse installed in /scratch/libs/disperse/bin

mse is the executable that does the complex calculation.

I’m attaching you matlab and wrapper script that make calling disperse easier. Unfortunately, in the current form, it’s not very well documented, but essentially works like this:

disperse.sh is just a shell script which you should call instead of mse. It first sets up some system parameters that are needed, otherwise disperse will not run. Usage is identical to the mse executable of dispers, i.e. you should use disperse.sh with the same command line arguments as you’d use mse (see disperse homepage for tutorial).

skelconv.sh is another shell script which executes disperse’s skelconv command, again making sure everything system-related is first initialized. It expects the same command line arguments as skelconv. Once you run disperse.sh (i.e. mse), it will dump the complex into a binary format. skelconv.sh converts this into a text file that can be parsed using matlab.

parseNDskl.m: This is the matlab function that parses the text output of skelconv containing the Morse-Smale-complex. It will return a matlab struct which can be analyzed later. Since this can take some time, it makes sense to store the struct as a matlab .mat file and just read it back in later for analysis.

analyze\_MSC.m: This does some example analysis of the Morse-Smale complex, assuming the complex was parsed and stored in a .mat file.

data\_preparation\_disperse.m: This is a helper matlab script to be run directly on alan. I use it to call disperse on a folder structure containing images for different parameters. The script just goes through all folders and then calls disperse.sh on each of them, followed by skelconv.sh and parseNDskl. So after running this script on alan, I basically get all my .mat-converted Morse-Smale complexes, stored neatly in the original file /folder structure.

I typically then just copy those .mat files to my local computer to analyze them (like is done in analyze\_MSC.m for some properties of the complex).If you have the X11 window system installed on your computer, the above way to login to alan using the -X will allow you to call matlab on alan and have it displaying the GUI on your own machine, so you can easily interact with it. It’s a bit slow but it works good enough.