Cashen Chikmoroff March 31, 2018

ATW User Manual

Compilation

I compiled using g++ in cygwin because it provides a unix like environment. To follow the compilation steps I suggest using cygwin, but it is not required.

1. Navigate to the directory where the .cpp and .h files are.
2. Use the command: "g++ -o ATW.exe -Wall Main.cpp Simulation.cpp"
3. A new executable called "ATW .exe" is now available to be run.

Usage

Again using cygwin, and in the same directory as the output .exe from above:

1. Run using the command ./ATW.exe <full path to directory to save files, or 'cd'>
    a. Entering 'cd' means the current directory will be used.
2. Once running, use the 'help' command to see runtime commands.
3. Something to be aware of: each time a simulation is run the data is stored in memory (but not sent to a file yet), and you are given a new simulation to configure, which has the previous simulations parameters.

Testing

The program was tested quite extensively using the following values:

1. 8 Stations
2. 3 Active stations
3. All possible starting levels
4. 1000 scenario runs
5. The basic algorithm was tested against the advanced algorithm both using a random starting level, and the optimal level the advanced algorithm would use.

Obvious cases such as all stations active, only one single station active, and only one station total were tested and succeeded. Various other cases were tested randomly and they appeared to give valid results. Testing was also done on non power of 2 total station values. The results appear to also be valid for these tests, but they were not validated exhaustively.