Whats going on in MATLAB?

The only two files that really matter are Rendezvous3D and RendezvousNOCRASH. The 3D rendezvous file is set up to handle any amount of dimensions that you want to look at for consensus, right now it’s graphed in 3D as x y and z positions. It runs a MXP and MNP protocol as well as Discrete Time Average Consensus. Each one runs through all of the drones in an array and does the algorithm as described in the paper.

RendezvousNOCRASH is just 1 dimensional at this point, but adds a bit to the rendezvous protocol. It looks at the next position a drone should be at, and if it’s going to be too close to another drone it keeps its current state instead of updating. It terminates the algorithm once all agents are either unable to move because they are too close to one another, or once all agents are within a certain range of the consensus value. This should algorithm should be combined with Rendezvous3D when you write it in python for the actual drones to use, so that they crash less. There is one problem with the algorithm currently. When 2 drones both predict their next state to be too close to each other, there is no way to prevent a crash. Since they only compare their predicted next state against other drone’s current states no their neighbors predicted states they can crash. However, if you update fast enough this shouldn’t be an issue.