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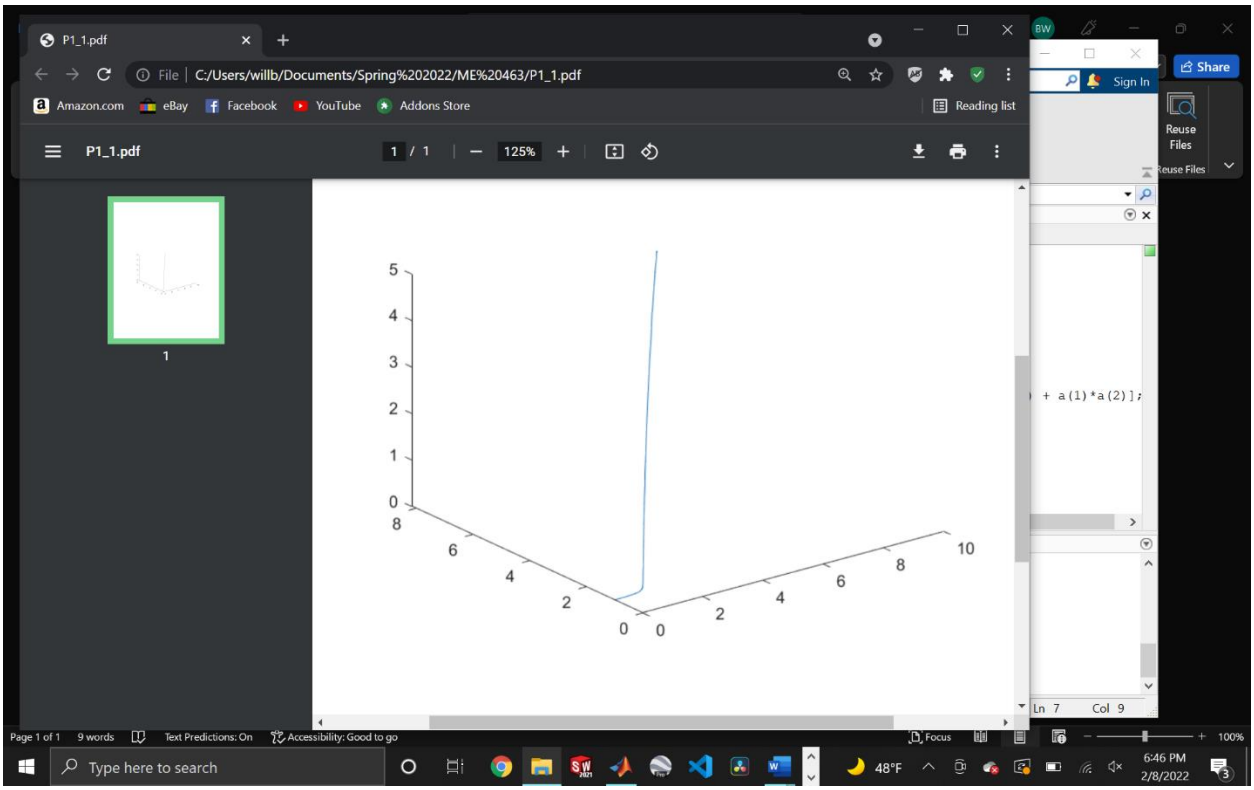
ME 463

2/8/2022

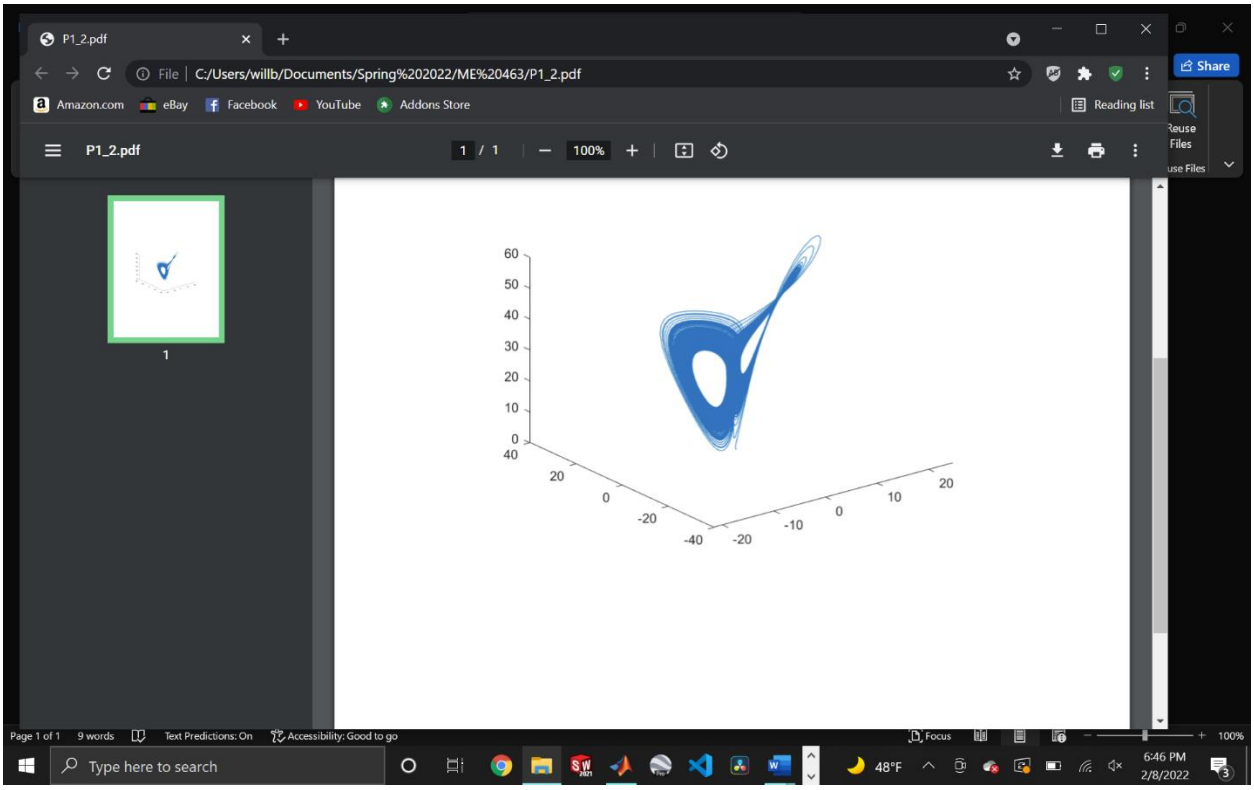
Project 1: Lorentz Systems

Iteration 1:



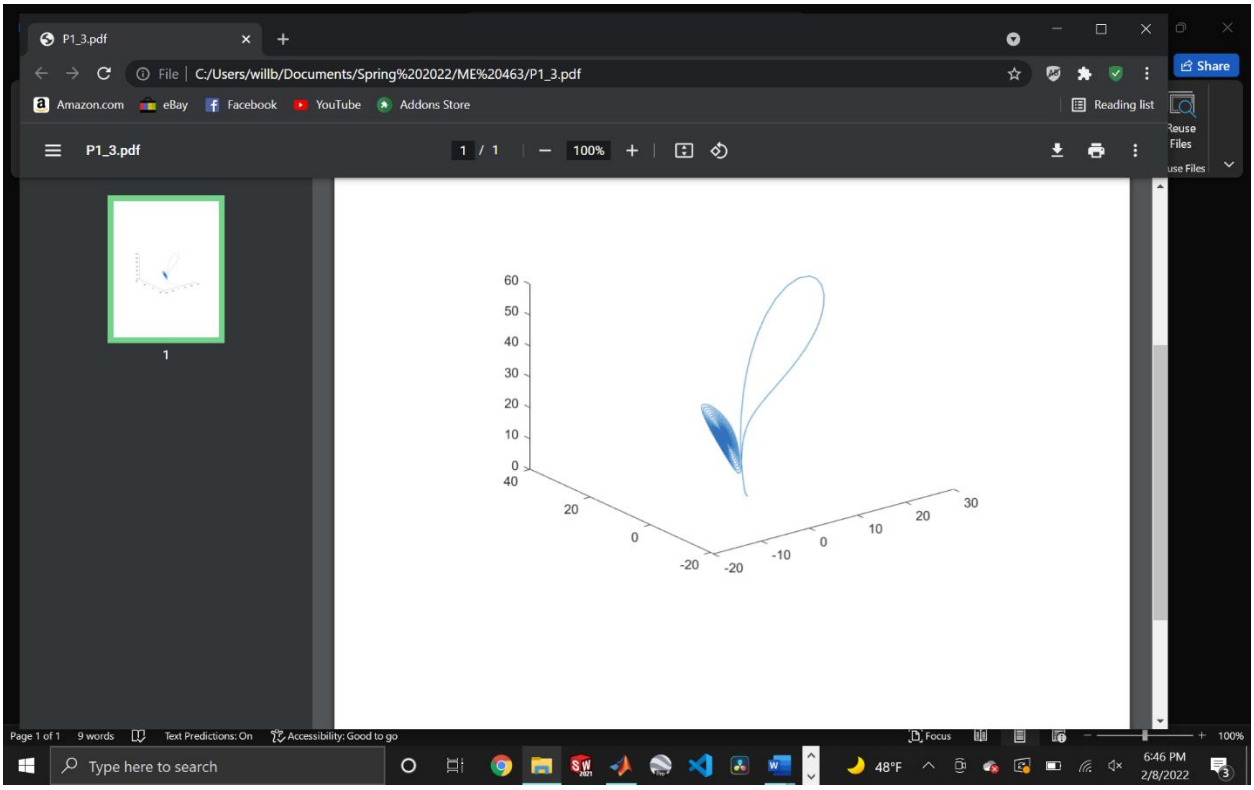
With a high beta, low rho & sigma. A rather boring graph is produced, this is however interesting given the non-linear behavior of the system resulting in often very complex graphs it is noteworthy when the system has a “boring” output.

Iteration 2:



With a rho higher than 27, low beta and playing with the sigma can create some very interesting graphs. According to the Wikipedia page, when rho is lower than 27, the system is somewhat stable. Therefore, when rho is higher, the system is unstable and produces graphs like that above.

Iteration 3:



This graph was produced by adjusting the parameters slightly from the previous iteration maintaining a high rho to keep the system unstable to create a different, but interesting graph. It interests me that the system seems to begin rather stable to end up spiraling into chaos.

Q. 2:

So far, I have enjoyed the class immensely and I feel that Prof. Chakraborty has held a very consistent pace, spent plenty of time answering questions and solving practice problems. I would just hope that as the first exam nears, he continues to be as concise and clear in preparing us.