

1. Items done this session:

In this lab session, we started to implement `calc_theta.m` file, which is a m file that calculate Thetas through the equation derived last lab given collected X , V and time from simulation in the previous lab or real-world link robot in the future lab.

We didn't sure how to calculate H_{bar} and F_{bar} last time. After few trials, we'd figured out how to use `trapz` function to calculate integral of a matrix and finally got H_{bar} and F_{bar} numerical value in the `calc_theta.m` file.

After completed the `calc_theta.m`, we run the simulation built previously and collect 10,800 data points, then use these data to calculate Thetas. Comparing to the Thetas we calculated in the simulation, it is very close to it.

2. Items for next session:

Double check the calculation for Thetas is correct given data collected from simulation, using different parameters, such as q_1 , \dot{q}_1 , q_2 , \dot{q}_2 and various voltage.

After confirming the calculation of Thetas is correct, we'll move on building another simulation model to collect data from real-world robot.

3. Problems / Concerns:

Just running one scenario of initial parameters in simulation, hence we don't have 100% confidence for today's result.