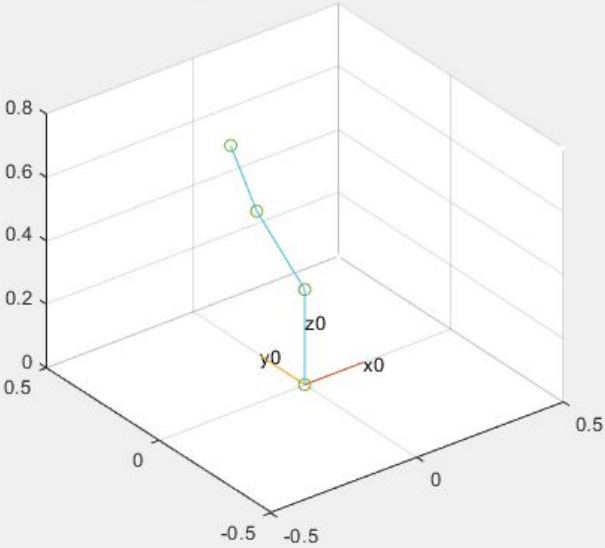


DESCRIPTION

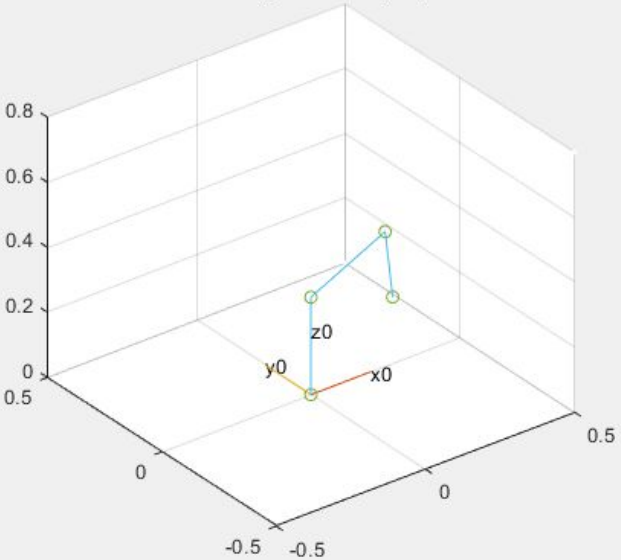
This assignment demonstrates forward and inverse kinematics using Denavit-Hartenberg parameters for a 3D 3-DOF robot arm model. I implemented two functions DHA and invKin. DHA returns a matrix that generates the Denavit-Hartenberg forward kinematics rotation matrix, and invK returns a theta value based on Denavit-Hartenberg parameters. Then, I compared the results of the invK function original inputs.

GRAPHICS

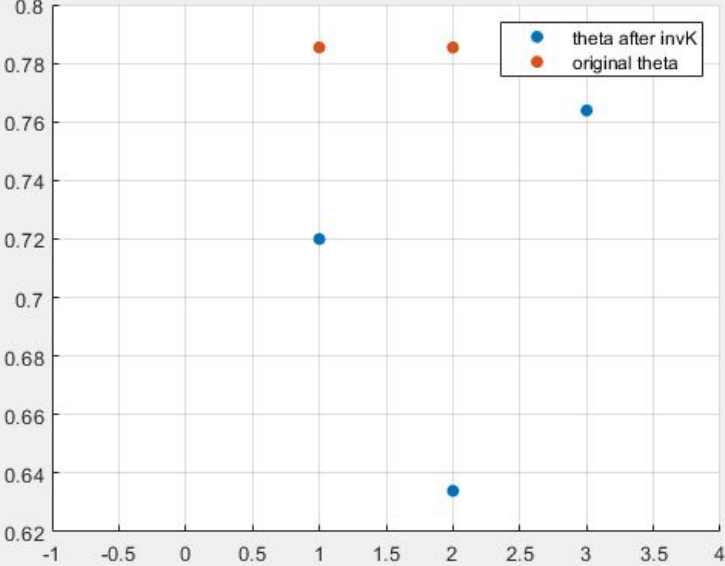
Figure with q=[80, 20, 20]



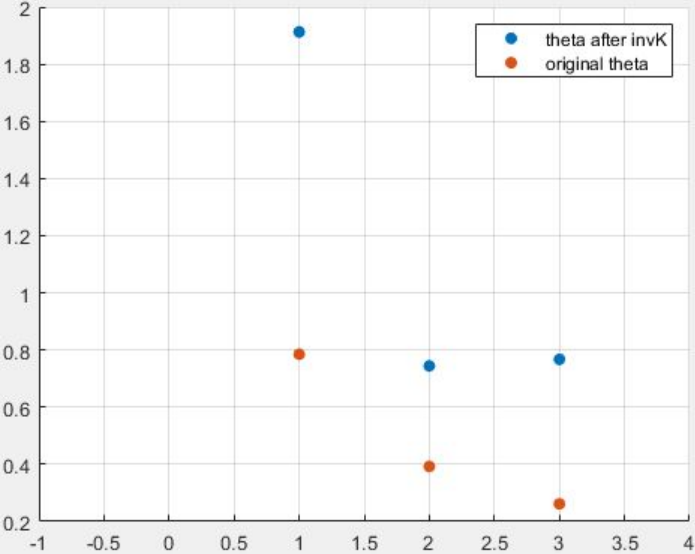
MOV=(pi/4:0.08:3*pi/4)



Problem a result Plot



Problem b result Plot



Notes

- Figure with $q=[80,20,20]$ showed the result as expected. The second plot showed a nonlinear elliptical trajectory from linear sets of q sets during its motion. Refer to the hw3_MOV.mp4 for a detailed animation.
- As a result of implementing inverse kinematics function, the result plot can be seen above. The result of both part a and b had a significant deviation from the original theta inputs
- Problem b “jumped” but quiet did not rotate on a singular point.