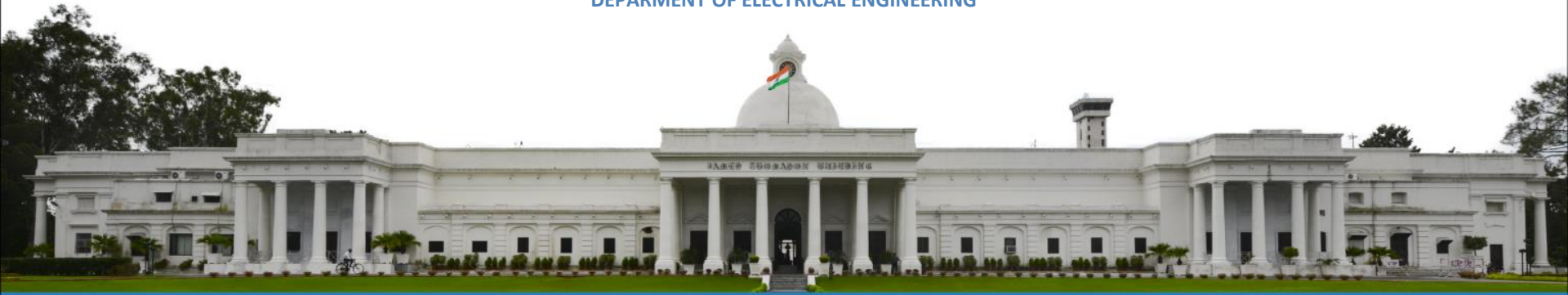
IIT ROORKEE

NPTEL ONLINE
CERTIFICATION COURSE

Prof. FELIX ORLANDO MARIA JOSEPH

DEPARMENT OF ELECTRICAL ENGINEERING



Simulation of Robot Manipulators

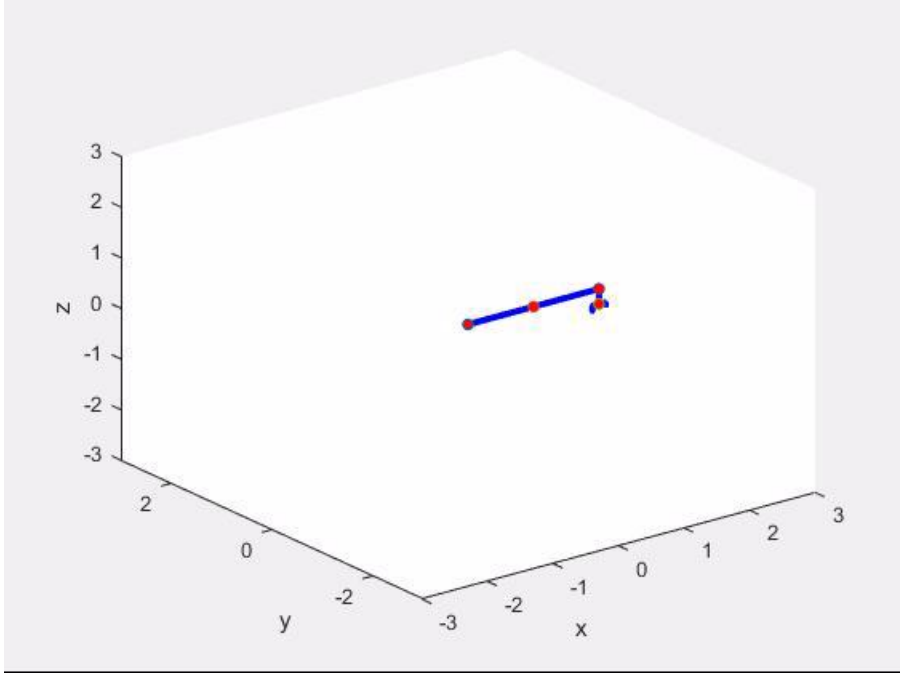
Outline

1. Kinematics

2. Control

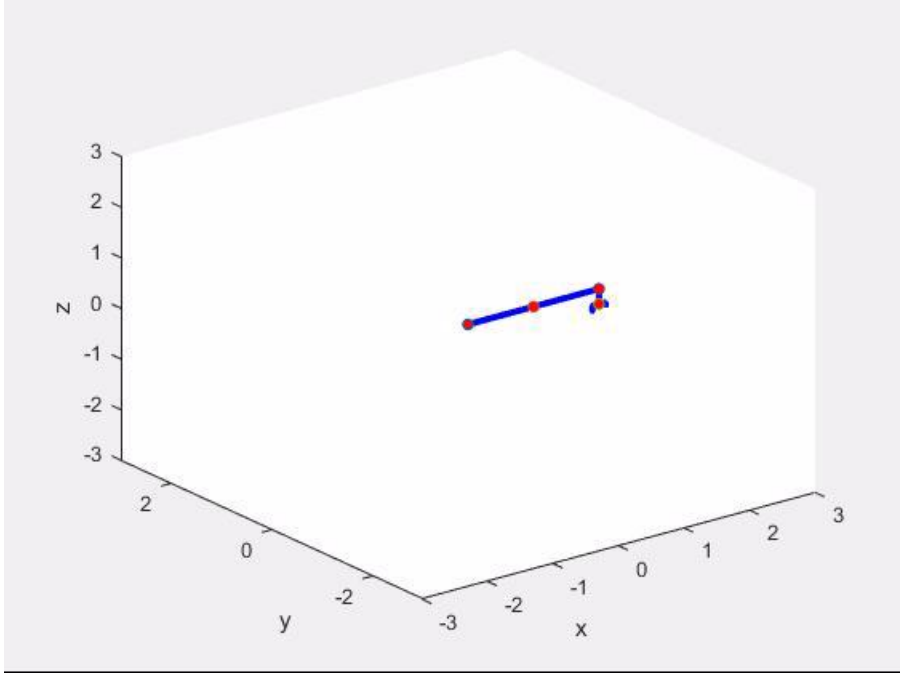
Forward Kinematics

SCARA Manipulator



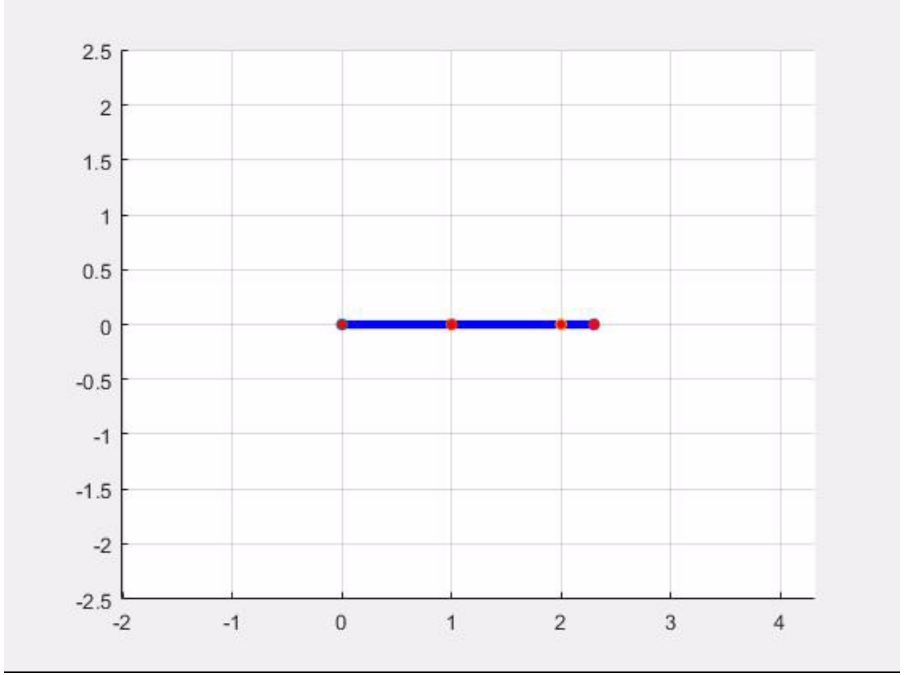
Forward Kinematics

SCARA Manipulator



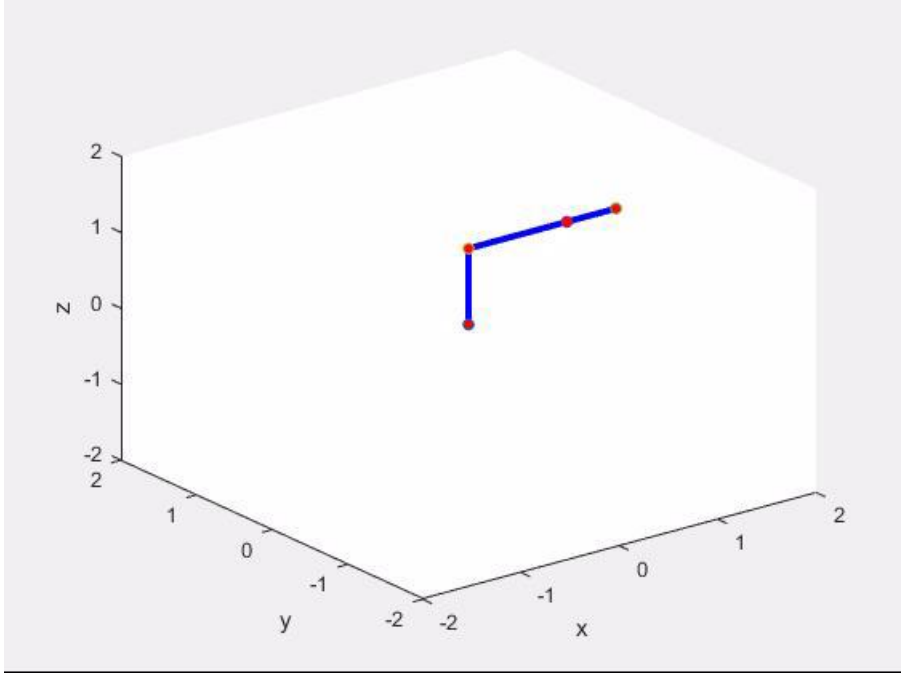
Forward Kinematics

3 Link Manipulator



Forward Kinematics

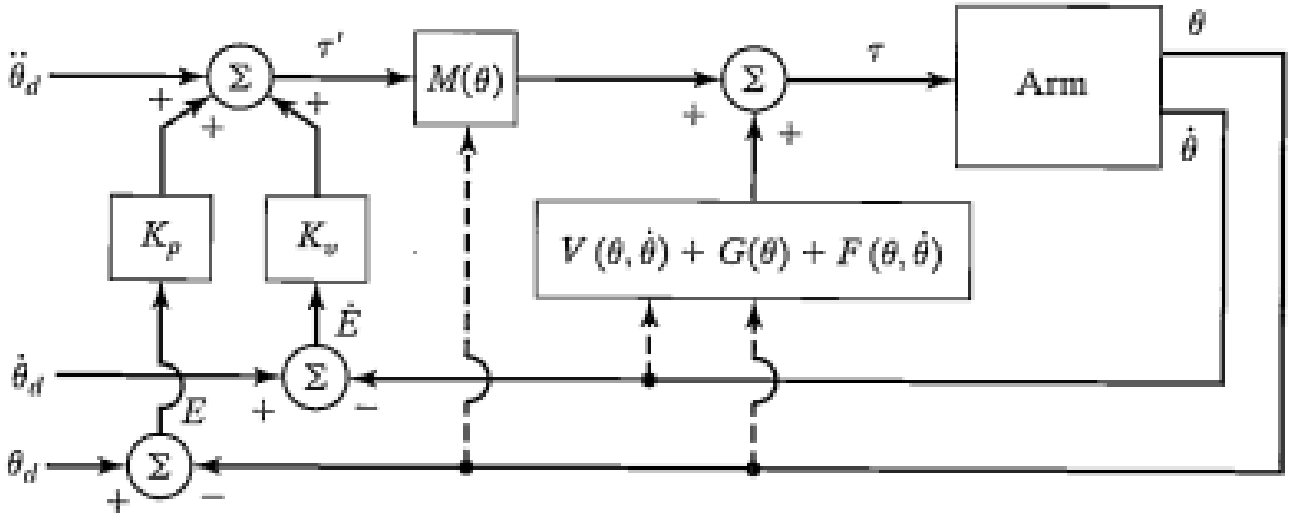
3 Link Non-Planar Manipulator



Inverse Kinematics

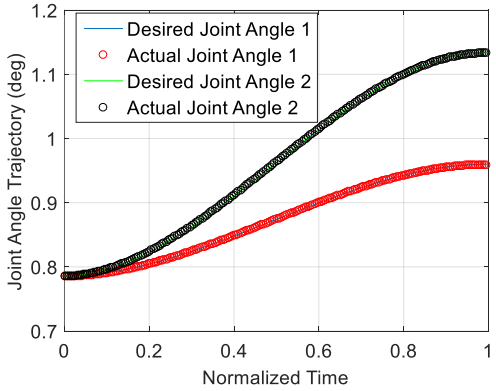
Dynamic Model Based Control (cont'd)

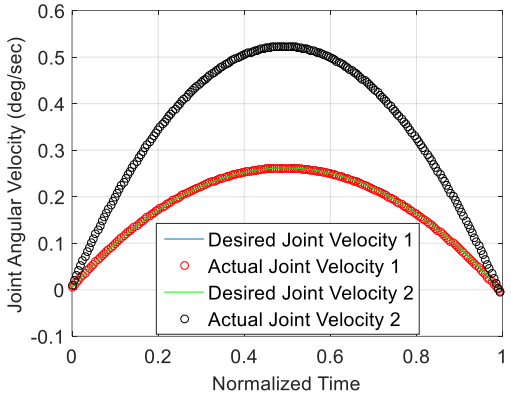
Block Diagram:

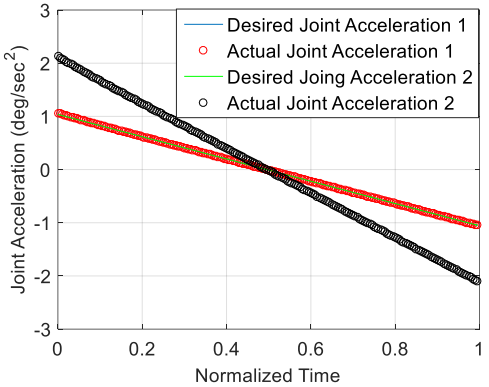


Dynamic Model Based Control (cont'd)

Results for 2R planar manipulator:







Thank You!