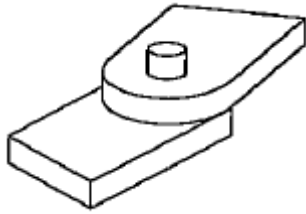


MEC 529

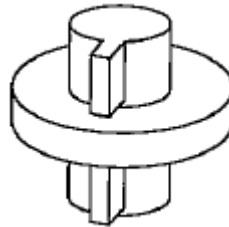
Introduction to Robotics: Theory and Applications

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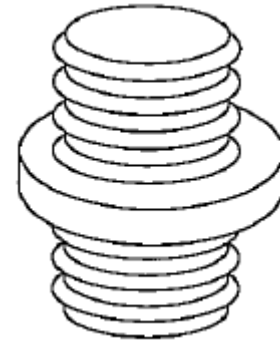
Common Joints in Robots



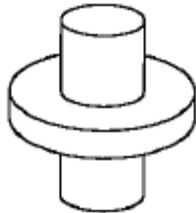
Revolute



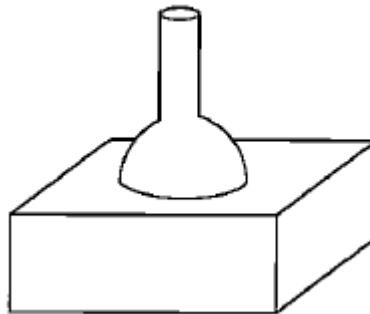
Prismatic



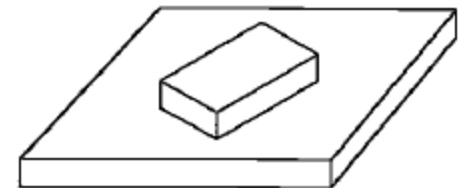
Screw



Cylindrical

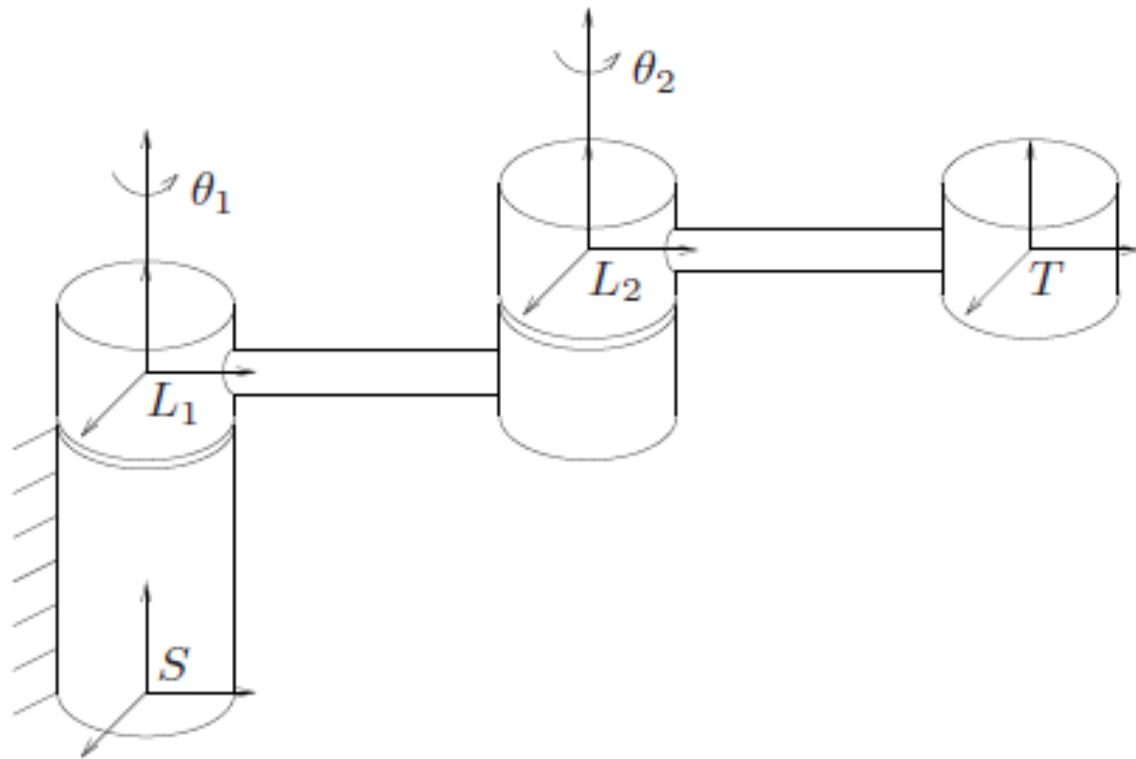


Spherical

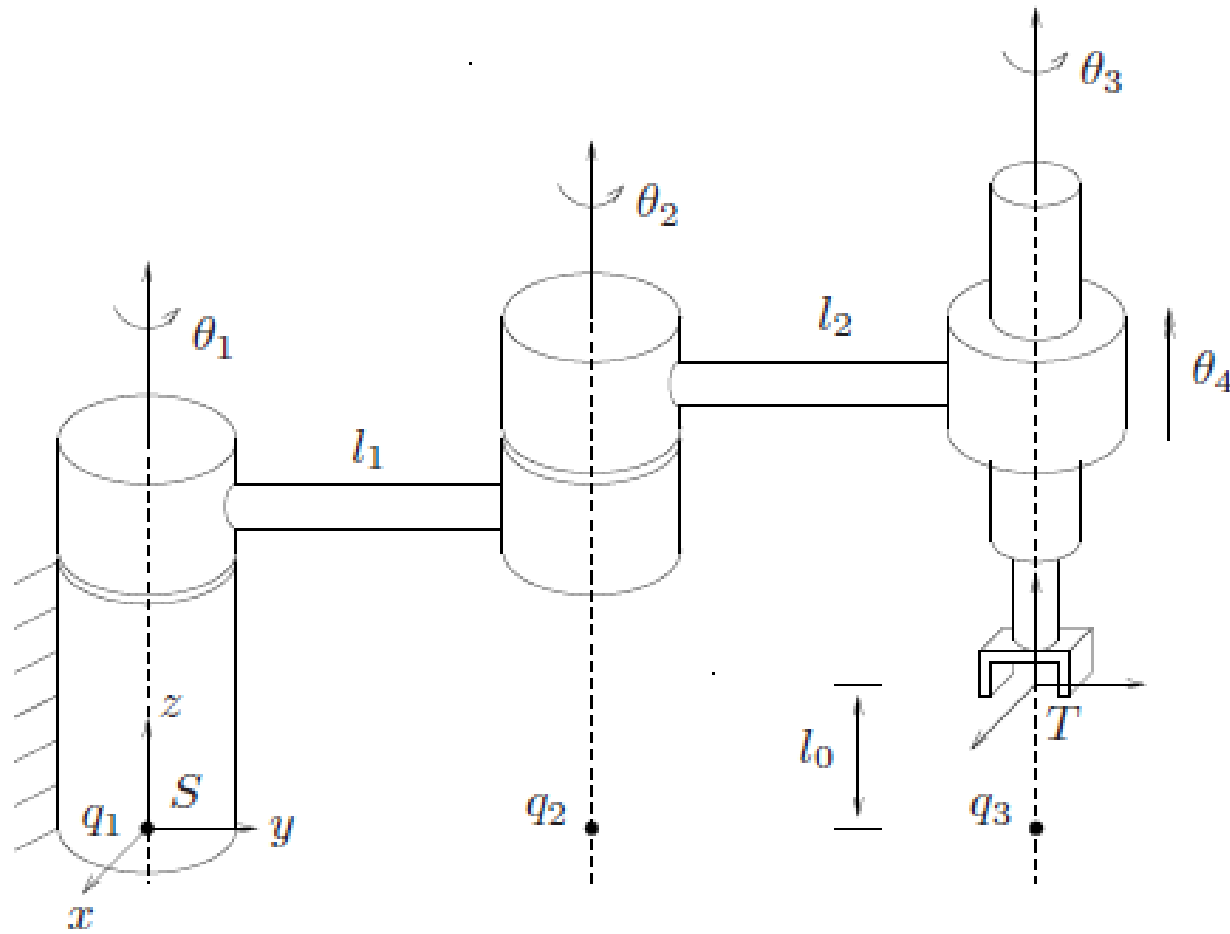


Planar

2R Robot

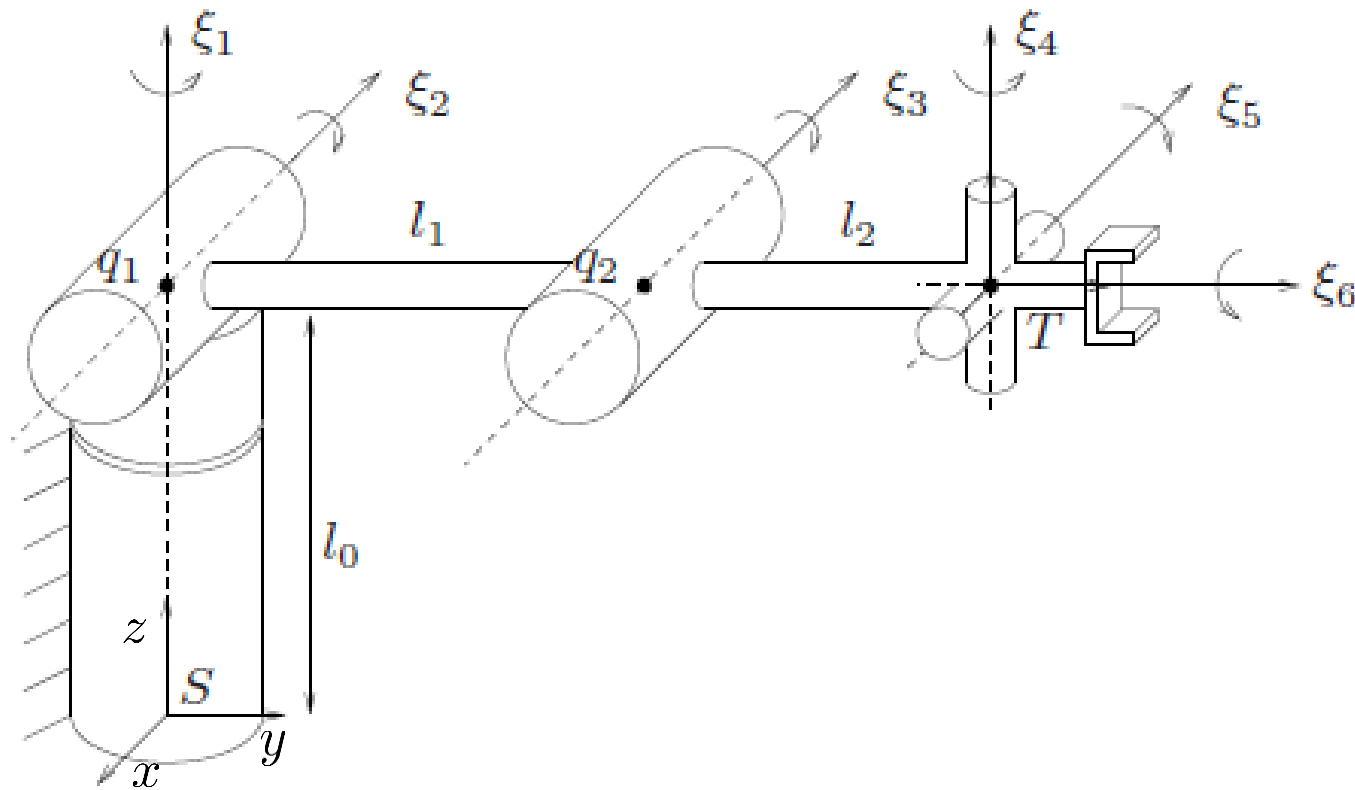


SCARA Manipulator in Reference Configuration

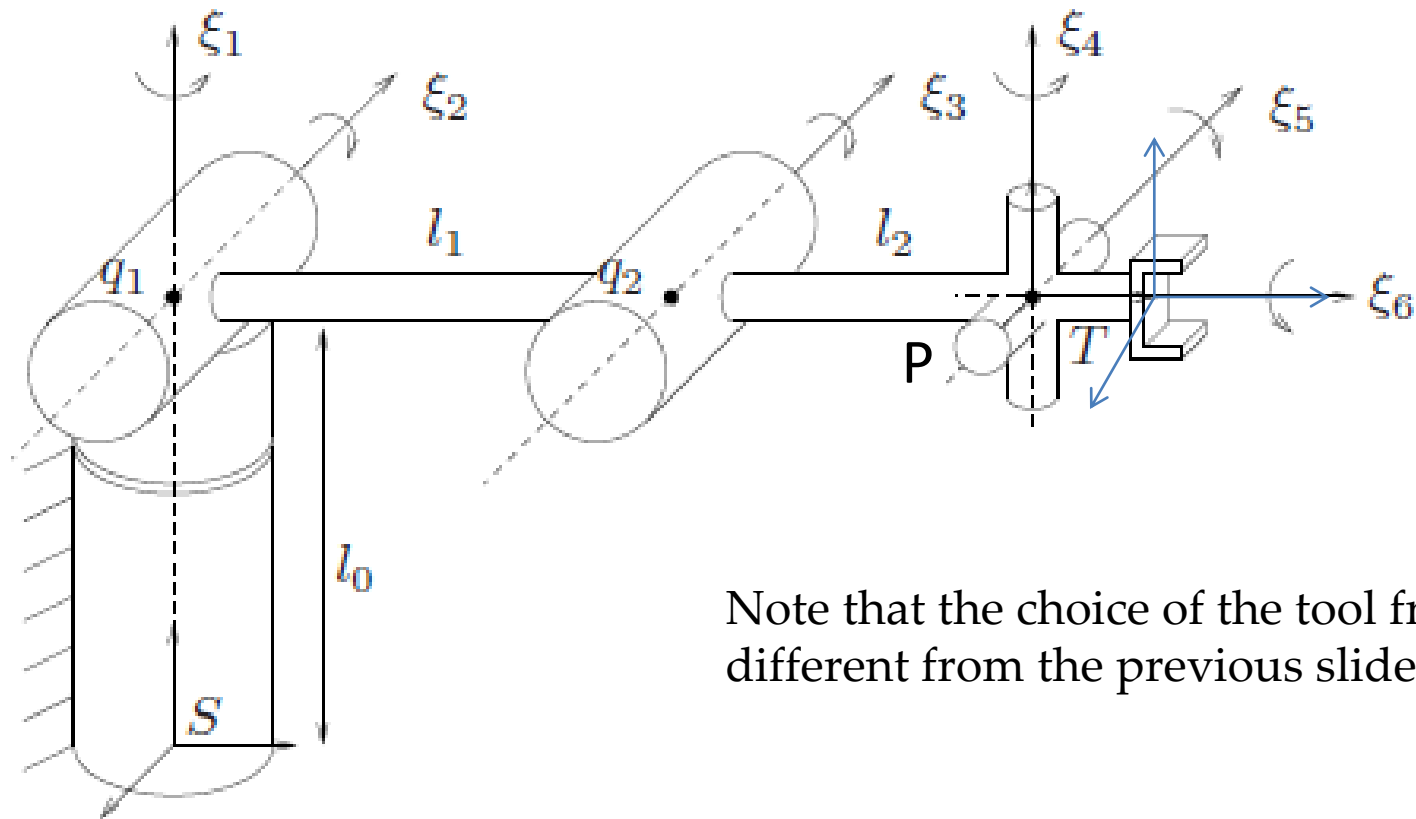


SCARA: Selective Compliant Articulated Robot for Assembly

Elbow Manipulator in Reference Configuration

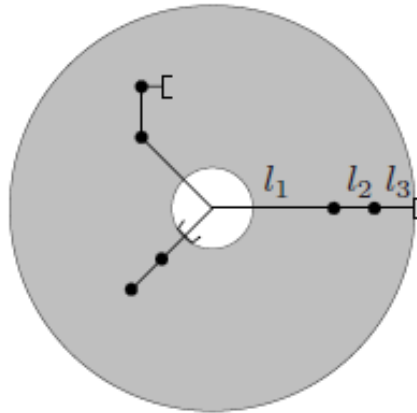
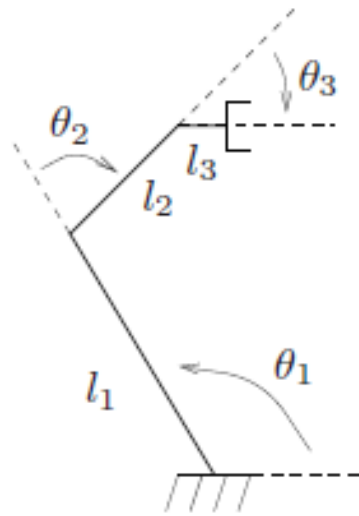


Elbow Manipulator in Reference Configuration

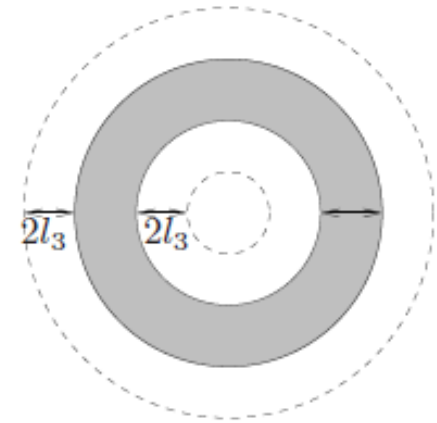


Note that the choice of the tool frame is different from the previous slide.

Manipulator Workspace



Reachable Workspace:
Set of all points that can be reached.



Dexterous Workspace:
Set of all points that can be reached in all end effector orientations.