

Name:

Worksheet: L15 – Handout: Velocity Kinematics

CSCI-534: Robot Planning & Manipulation

Spring 2020

<http://www.neil.dantam.name/rpm/B15-velocity.pdf>



1. **Fully-determined Linear System:** Construct the matrices for linear system:

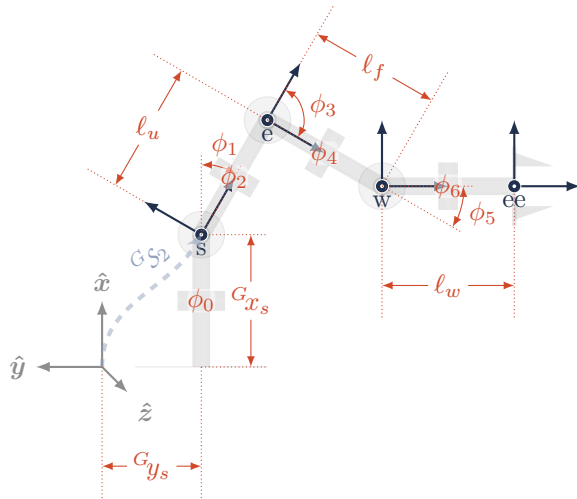
$$\phi_1 + \phi_2 + \phi_3 = 1$$

$$2\phi_1 + 3\phi_3 = 2$$

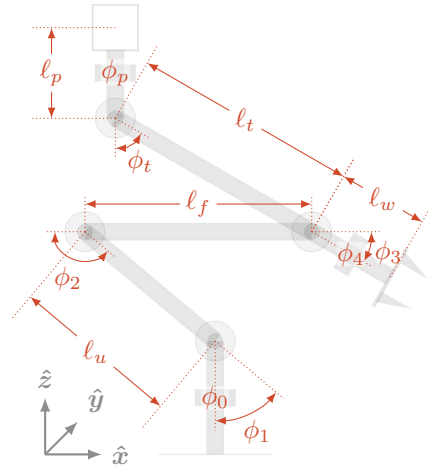
$$4\phi_2 = 3$$

2. **Schunk LWA4D Jacobian:** Construct the Jacobian matrix for the Schunk LWA4D manipulator (see Figure 1a).

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(a) Schunk LWA4D



(b) EOD 510 Packbot

3. **EOD 510 Packbot Jacobian:** Construct the Jacobian matrix for the EOD 510 Packbot manipulator (see Figure 1b).