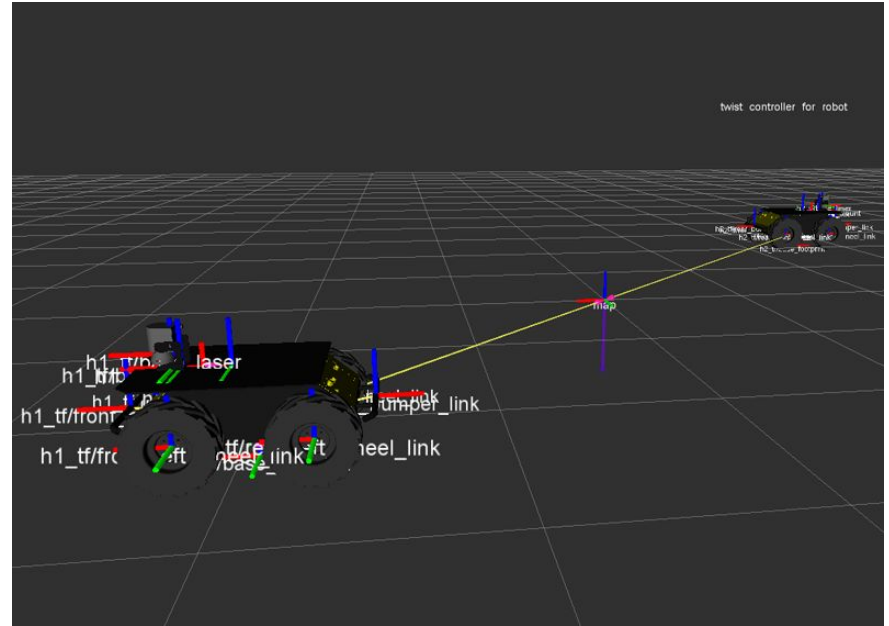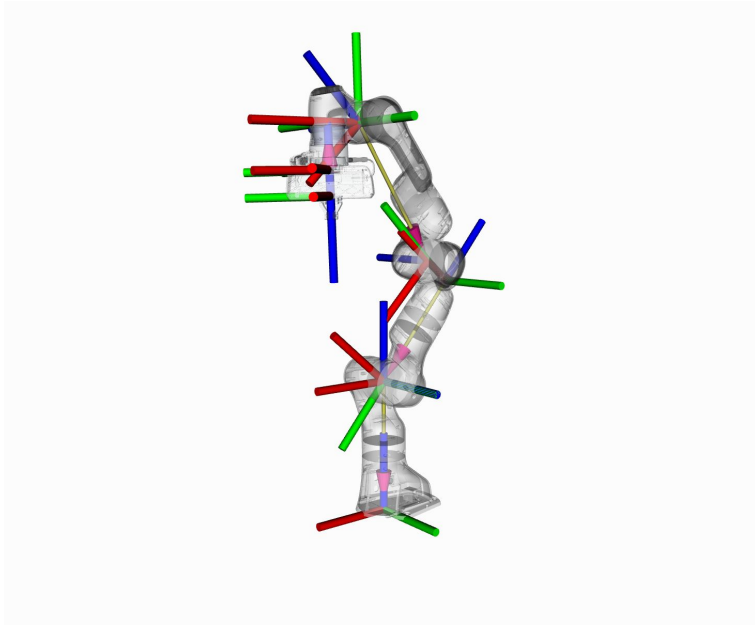# ENGR 4421:Robotics II

Transforms

02/03/2022

Outline

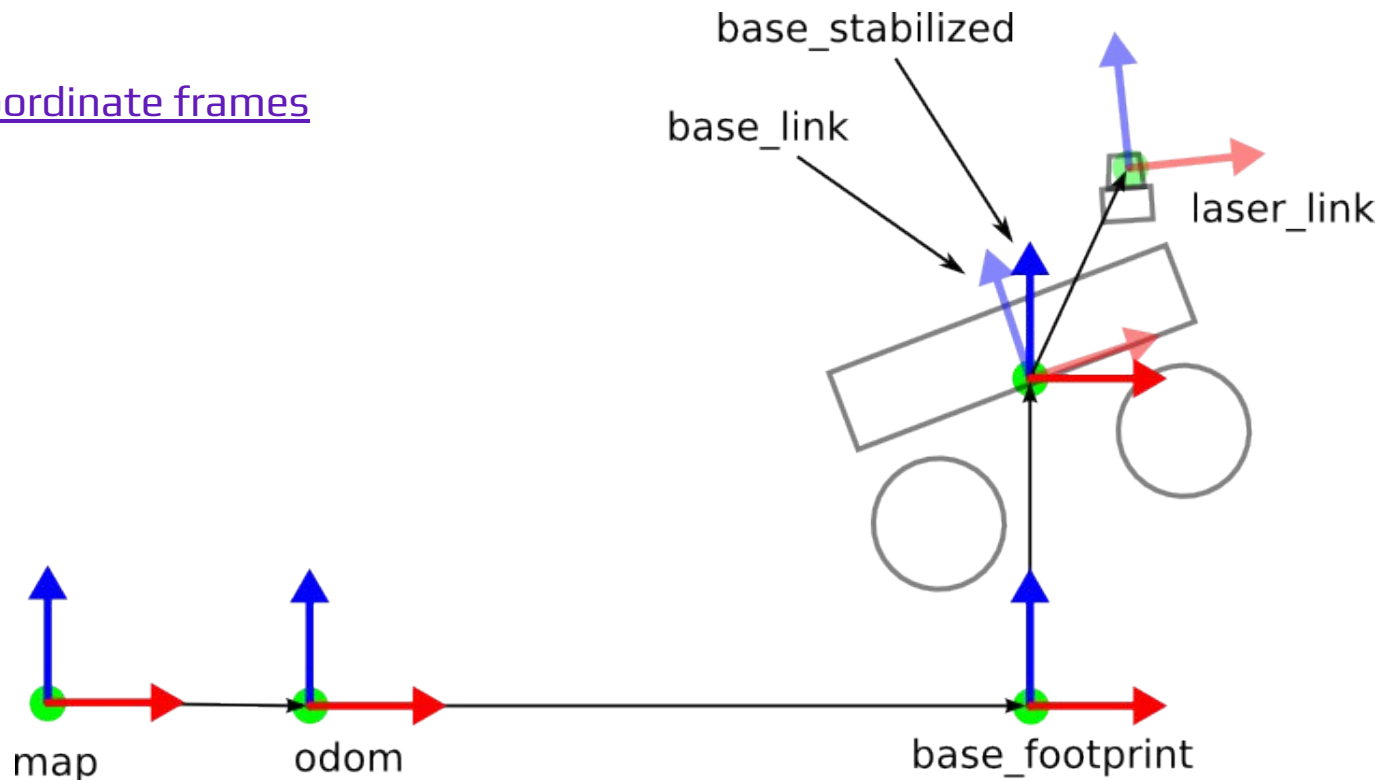- Introduction to Transformation
- Conventions of Rotation
- ROS Tutorials

Why Transformations

Frames for Navigation

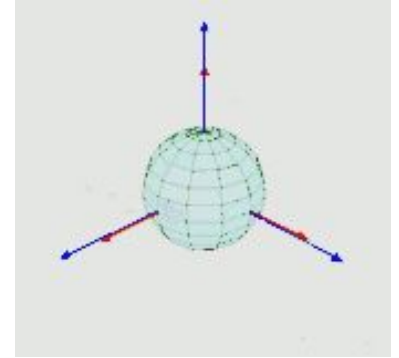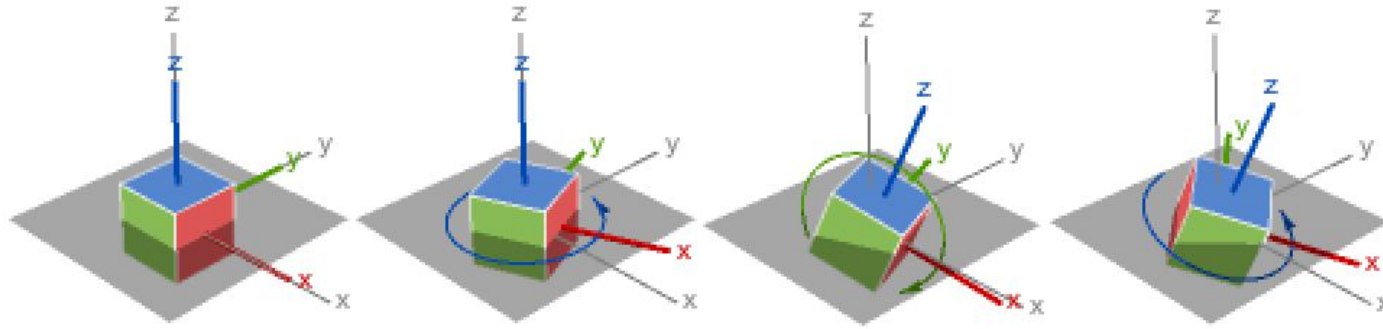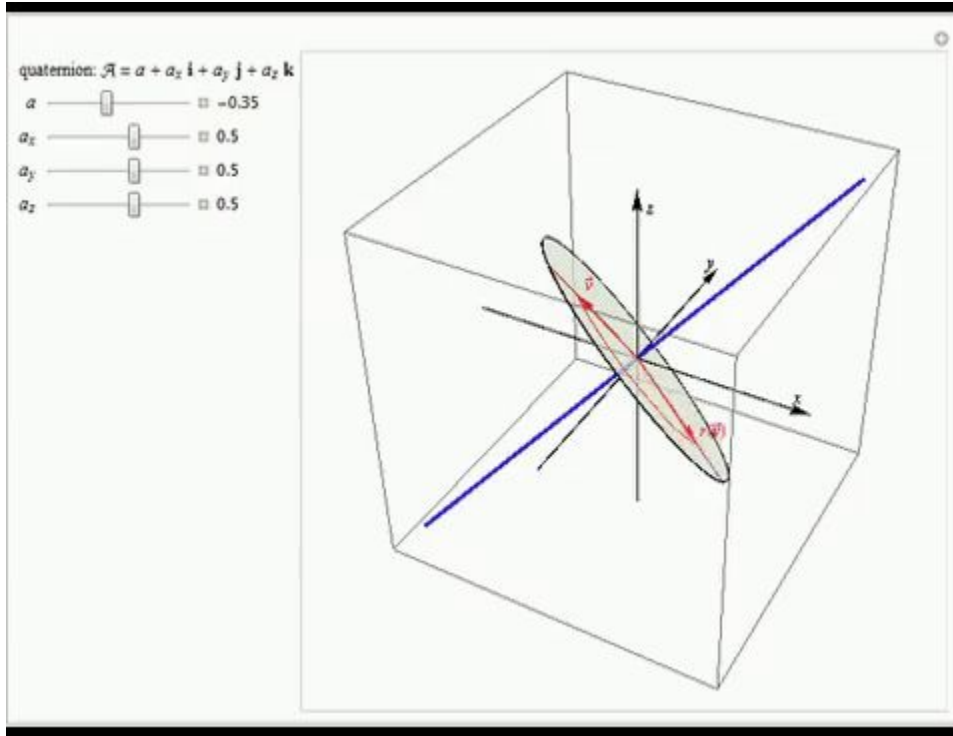- [ROS Rep for coordinate frames](#)

Euler Angle

All Euler Angles: https://reference.wolfram.com/language/ref/EulerAngles.html

Gimbal Lock

Wiki:
https://en.wikipedia.org/wiki/Gimbal_lock

Quaternion

Wiki:
https://en.wikipedia.org/wiki/Quaternions_and_spatial_rotation

TF2 Get Started

https://docs.ros.org/en/galactic/Tutorials/Tf2/Introduction-To-Tf2.html