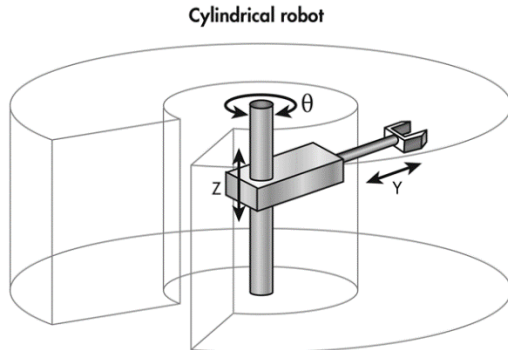# Homework 3

[S21] Advanced Robotics

Robot – Cylindrical robot or Tripteron from previous Homework's

Cylindrical robot

Modeling assumptions for Cylindrical robot:
- Joints stiffness is equal $[1\ 2\ 0.5\ ] \cdot 10^6$ N/m
- Links are rigid
- FK: Tz(l1)Rz(q1)Tz(q2)Ty(q3)Ty(l3)
- l1 = 0.4 m, l3 = 0.1 m

Tasks:
1. Matlab / Python code [1], [2]
2. Generate experimental data for 30 experiments;
3. Identify compliance parameters of joints for experimental data and compare results with the original one;
4. Implement error compensation technique, compare efficiency of calibrated and non-calibrated robots.

Report requirements:

- Robot model
- Tables with estimated and real parameters
- Figures with trajectories before and after calibration
- Analysis of obtained results
- Link to the project on https://github.com/

Submit only report to moodle. Later submission policy -20% per week.

[1] Cheat penalty: 0 for Homework.

[2] It is better to use Google Collab notebook or MATLAB Live Script