KINOVA

SOLUTION

Modeling

Last update: 2021-04-21

Gen3 lite Cursus

KINOVA

Table of content

Manipulations

Part 1: Characterization of the electrical motor

1.1

These numbers were given by the manufacturer of our electrical motors. Exact values may vary slightly from unit to unit.

$K_{t2} = K_{t3} = 0.0398$
$K_{t5} = 0.0251$

Part 2: Implementation of the dynamic model

2.1 - 2.4

See associated .m files

Part 3: Validation with the robot

3.1

Validate that the student script works properly

3.2

The general shape of the curves should be very similar, but on average non-moving actuators should be under-estimated by the robot, while moving actuators should be overestimated due to the contribution of internal friction.

3.3

Plausible errors include the effect of friction, the effect of gear efficiency, imperfections to the geometrical model, imperfections to the inertial model and -to a more negligible extent- numerical errors.

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